GODAVARI MARATHWADA IRRIGATION DEVELOPMENT CORPORATION, CHHATRAPATI SAMBHAJINAGAR

(A GOVERNMENT OF MAHARASHTRA UNDERTAKING)

B - 1 TENDER

VOLUME – I

TENDER DOCUMENTS

Name of work :- Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

CHIEF ENGINEER & CHIEF ADMINISTRATOR

COMMAND AREA DEVELOPMENT,
CHHATRAPATI SAMBHAJINAGAR

SUPERINTENDING ENGINEER,
UPPER PENGANGA PROJECT CIRCLE,
NANDED

EXECUTIVE ENGINEER,
UPPER PENGANGA PROJECT DIVISION NO. 8,
NANDED

Godavari Marathwada Irrigation Development Corporation

CHIEF ENGINEER & CHIEF ADMINISTRATOR COMMAND AREA DEVELOPMENT, CHHATRAPATI SAMBHAJINAGAR

SUPERTENDING ENGINEER,
UPPER PENGANGA PROJECT CIRCLE, NANDED

EXECUTIVE ENGINEER UPPER PENGANGA PROJECT DIVISION NO.8, NANDED

Name of Work:

Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Cost Put To Tender (Without GST): Rs. 1639.95 Lakhs (Rs. 163994857/-)

Tender Cost (With GST): Rs. 1932.42 Lakhs (Rs. 193242021/-)
'Draft Tender Papers Submitted for Approval'

Sub- Divisional Officer **Upper Penganga Project** **Subdivision No. – 19** **Mudkhed**	**Divisional Accounts Officer,** **Upper Penganga Project** **Division No.8** **Nanded**	**Executive Engineer,** **Upper Penganga Project** **Division No.8** **Nanded**

Superintending Engineer,
Upper Penganga Project Circle,
Nanded

'Tender papers approved by'

Chief Engineer & Chief Administrator,
Command Area Development,
Chhatrapati Sambhajinagar.

INDEX

Sr.No	Particulars.	Page No.	
		From	To
SECTION–I			
1.1	Press Notice	5	7
1.2	Detailed Tender Notice	8	10
1.3	Disclaimer	11	17
1.4	Definitions	18	20
SECTION–II			
2.1	e – Tendering Instructions to Bidders	22	27
2.2	Manner of Online Submission of e - tender & its accompaniments for Post Qualification.	27	31
2.3	Eligibility & Post Qualification Criteria	31	34
2.4	Issue of Blank tender forms on website	34	35
2.5	Revision or Amendment of e-tender documents	35	35
2.6	Additional instructions for submission of Technical & Eligibility Envelopment No.1	36	41
2.7	Additional Instructions for submission of Financial Envelopment No.2	41	42
2.8	Corrections	42	42
2.9	Signing of Tender Documents.	42	43
2.10	Acceptance of Tender	43	44
2.11	Validity of Tender	44	44
2.12	Completions of Tender Documents	44	44
2.13	Language	44	44
2.14	License under Contract Labour	44	45
2.15	Submission of e-Tender	45	45
2.16	Online opening of Tenders	45	46
2.17	Payment of Stamp Duty	46	46
	Certificates" A"	47	47
SECTION-III (ANNEXTURE A)			
3.1	Scope of work	49	49
3.2	Work Details	49	49
3.3	Information about work site	50	50
3.4	Period of Completion & Construction Programme of work	50	50
3.5	Royalty Charges	50	51
3.6	Details of work	51	55
3.7	Price variation Information	55	55
SECTION–IV			
	'B 1' Tender form, Tender for works, Memorandum	57	63
SECTION–V			
5.1	Schedule "B"	65	67
5.2	Work Programme	68	69
5.3	Schedule showing items of work & applicable specifications.	70	71

SECTION–VI Appendices & Forms			
6.1	APPENDIX-A Details of Technical Personnel with the Contractor	73	73
6.2	APPENDIX-B Details of Plants & Machinery Immediately available with the Tenderer for use on this work.	74	74
6.3	APPENDIX-C Affidavit in Truth	75	75
6.4	APPENDIX-D Undertaking About Signing of Drawings	76	76
6.5	APPENDIX-E Declaration of the Contractor	77	77
6.6	APPENDIX-F Declaration of the Contractor	78	78
6.7	APPENDIX-G Bank Guarantee Bond	79	80
6.8	APPENDIX-I Professional Tax Clearance Certificate	81	81
6.9	APPENDIX-J Agreement	82	83
6.10	APPENDIX-K Undertaking	84	84
6.11	APPENDIX-L Undertaking	85	85
6.12	APPENDIX-M	86	86
6.13	Form (1) -Basic Information of Bidder	87	88
6.14	Form (2)-Details of Quantity executed and amount of work	89	90
6.15	Form 2(a) Details of the work completed	91	92
6.16	Form 2(b) Details of the work in Hand	93	94
6.17	Form 2 © Proforma for Work done Certificate by Engineer in Charge	95	96
6.18	Form (3) Similar Type of Work	97	97
6.19	Appendix N-Statement of Verification of bid capacity of the Contractor	98	100
6.20	Letter of Transmittal	102	102
6.21	Undertaking-1	103	103
6.22	Undertaking-2	104	104
6.23	Undertaking-3	105	105
6.24	Certificate of Acceptance of all terms & Conditions	106	106
SECTION–VII			
	Conditions of Contract	108	138
SECTION–VIII			
	Special Conditions of Contract	140	175

SECTION - I
PRESS NOTICE
DETAILED TENDER NOTICE
DISCLAIMER &
DEFINITIONS

महाराष्ट्र शासन
जलसंपदा विभाग
गोदावरी मराठवाडा पाटबंधारे विकास महामंडळ, छत्रपती संभाजीनगर
कार्यकारी अभियंता, ऊर्ध्व पैनगंगा प्रकल्प विभाग क्र. ८, नांदेड
ई—मेल- eeuppdivin**8**@gmail.com

ई-निविदा सूचना क्र. ०१, सन २०२६-२७

कार्यकारी अभियंता, ऊर्ध्व पैनगंगा प्रकल्प विभाग क्र. ८, नांदेड, जलसंपदा विभाग, महाराष्ट्र शासन हे सक्षम कंत्राटदाराकडून ब-1 नमुन्यातील ई-निविदा प्रणालीद्वारे (ऑनलाईन) निविदा मागवीत आहेत. निविदा कागदपत्रे शासनाचे संकेतस्थळ https//mahatenders.gov.in येथून डाउनलोड करण्यात यावीत. तसेच निविदा स्वीकारण्याचा अथवा नाकारण्याचा अधिकार सक्षम अधिकारी यांनी राखून ठेवलेला आहे. अट असलेली निविदा स्वीकारली जाणार नाही. निविदेची संपूर्ण माहिती खालील संकेतस्थळावर उपलब्ध आहे.

कामाचे नाव :- १) करखेली शाखा कालव्यावरील उजवी वितरीका क्र. १ सा. क्र. २५२० मी. व उजवी वितरीका क्र. २ सा. क्र. २८६० मी. व त्यावरील वितरण व्यवस्थेचे अस्तरीकरणाचे काम, करखेली शाखा कालव्यावरील डावा लघु कालवा क्र. १ ते ४, उजवी लघु कालवा क्र. १ ते ४ व अंत्य लघु कालवा व त्यावरील वितरण व्यवस्थेचे अस्तरीकरणाचे काम.

जिल्हा :- १) नांदेड.

निविदा किंमत :- १) रु. **1639.95** लक्ष

ई निविदा उपलब्ध कालावधी :- १) दिनांक- ०६/०५/२०२६ ते दिनांक- २०/०५/२०२६

ई निविदा उघडणे दिनांक : १) दिनांक- २२/०५/२०२६ (शक्य झाल्यास)

खालील ठिकाणी ई—निविदा बाबत सर्व माहिती उपलब्ध आहे.

1. संकेतस्थळ **https//mahatenders.gov.in**
   (सदर निविदा सूचनेमध्ये काही बदल होत असल्यास वरील संकेत स्थळावर कळविण्यात येईल.)
2. कार्यकारी अभियंता, ऊर्ध्व पैनगंगा प्रकल्प प्रकल्प विभाग क्र. ८, नांदेड कार्यालयातील सूचना फलक.

जा.क्र.उपेप्रविक्र.८/लेखा-१/ दिनांक :- / /२०२६
कार्यकारी अभियंता यांचे कार्यालय
ऊर्ध्व पेनगंगा प्रकल्प,
विभाग क्र. ८, नांदेड.

स्वाक्षरीत/-

कार्यकारी अभियंता,
ऊर्ध्व पेनगंगा प्रकल्प विभाग क्र. ८,
नांदेड.

GOVERNMNT OF MAHARASHTRA

Water Resources Department

Godavari Marathwada Irrigation Development Corporation,

Chhatrapati Sambhajinagar

Executive Engineer, Upper Penganga Project Division No.8, Nanded.
E-mail : eeuppdivin**8**@gmail.com

E - Tender Notice No. 01 of 2026-27

Executive Engineer, Upper Penganga Project Division No.8, Nanded Water Resources Department, Government of Maharashtra is inviting tender from eligible contractors in B-1 format from E-Tender process (Online). Tender documents should be downloaded from government website **https://mahatenders.gov.in**. Tender's acceptance or rejection right has been reserved by Competent Authority. Tender with Conditions will not be accepted.

Name of work :- **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.**

1) District :- 1) Nanded
2) Amount put to tender :- 1) Rs. **1639.95** lakhs**.**
3) Bid Document available period :- 1) Date : 06/05/2026 to Date : 20/05/2026
4) Technical Bid Opening Date :- 1) Date : 22/05/2026 (If possible)

All information about E-tender is available on the below website

1. Website **https://mahatenders.gov.in** (Any change in tender will be updated on this website.)
2. Office notice board of Executive Engineer Upper Penganga Project Division No.8, Nanded

O.N. UPPDn.8 /AB-1/ Date:- / /2026

Office of the,
Executive Engineer
Upper Penganga Project Division No.8,
Nanded

Sd/-
Executive Engineer
Upper Penganga Project Division No.8,
Nanded

Godavari Marathwada Irrigation Development Corporation,
Chhatrapati Sambhajinagar
Executive Engineer, Upper Penganga Project Project Division No.8, Nanded
E-mail : eeuppd**ivn**8@gmail.com Tel. No 02462/299447

E-Tender Notice No 01 of 2026-27

KEY DATES

As Per Online Schedule

Sr. No.	Particular	DD	MM	YYYY	Hrs.	Mins.
1	Publishing Date	05	05	2026	09	45
2	Document Sale Start Date	06	05	2026	09	45
3	Submitting Pre bid queries online to www.mahatenders.gov.in on seek clarification.	Up to 13/05/2026 (For work as applicable)				
4	Submitting reply to Pre bid queries online to www.mahatenders.gov.in on seek clarification.	Up to 16/05/2026 (For work as applicable)				
5	Document Sale End Date	20	05	2026	18	15
6	Bid Submission Start Date	06	05	2026	09	45
7	Bid Submission End Date	20	05	2026	18	15
8	Tech. Bid Opening Date (if possible)	22	05	2026	18	15
9	Fin. Bid Opening Date (if possible)	As per online schedule				

If any assistance is required regarding e-Tendering (upload & download) please contact NIC-procurement Toll Free Number (24x7) – 180030702232

Sd/-
Executive Engineer
Upper Penganga Project Division No.8,
Nanded

Government of Maharashtra

GODAVARI MARATHWADA IRRIGATION DEVELOPMENTCORPORATION, CHHATRAPATI SAMBHAJINAGAR

Executive Engineer, Upper Penganga Project Project Division No.8, Chaitanya Nagar, Nanded.

Email Id- eeuppdivn8@gmail.com

E-TENDER NOTICE NO. 01 FOR YEAR 2026-27

DETAILED TENDER NOTICE

1. Online electronic bid basis tender in 'B 1' form for the below mentioned works are invited by Executive Engineer, Upper Penganga Project Division No.8, Nanded on behalf of Godavari Marathwada Irrigation Development Corporation, Jalna Road, Chhatrapati Sambhajinagar from bidders fulfilling criteria as mentioned in Qualification criteria. Main Tender Documents are available for online bid preparation & Submission on website from Date:
2.

Sr. No.	Name of Work	Estimated Cost Put to Tender Rs. In Lakhs	Earnest Money Amount Rs.in Lakhs	Security Deposit	Time Limit for completion (Month)	Cost of blank tender form	Class of Contractor
1	2	3	4	5	6	7	8
1	**Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.**	1639.95 (Without GST)	8.20	2 % of Tender Cost (1% initial and 1% to be deducted from RA bill)	24 Months	5000+ GST	All eligible bidders who can fulfill the terms and condition of contract

3. The Post Bid qualification is applicable for this tender work as per above Notice.
4. The forms of Main Tender documents are available on the website **https://www.mahatenders.gov.in**. The aspiring bidders have to purchase tender documents online by paying appropriate fee.
5. The Bidder has to fill in online format and upload information.
6. Scanned copy of original document only will be accepted. Scanned copy from other than original documents will not be accepted.
7. While submitting the duly filled Tender Documents the Bidder is required to Deposit Tender fee amount and E.M.D. through e-payment gateway.
8. The Bidder has to prepare & submit Main Tender Documents online as per schedule.
9. Above/ below will be done on **PART- 1** of Schedule B.
10. Royalty Charges Part-II, Insurance, GST will be paid separately after submission of relevant documents. Bidder should quote their offer keeping this in mind.
11. The Bidder shall submit online two separate Envelope, Cover - 1& Cover- 2 online.
12. The Bidder shall upload Envelope-1 along with qualification information, prescribed forms and other documents.
13. The bidder shall give affidavit on Rs.500 stamp paper regarding truthfulness of all documents uploaded in Envelope – 1 as per WRD GR. No. Tender 0417/(CN. 247/17) / MP – 1 Dt 18 Oct, 2023 Appendix D, E, J & K should be on Rs.500 stamp paper other Appendix should be submitting with Relevant necessary data otherwise bid will not be opened.
14. 'Financial Bid' i.e. Envelope - 2 is to be filled online with offer of the Bidder.
15. The Bidder shall upload the documents in readable form, He shall take trial of uploads by taking printout. The unreadable documents will be treated as null & void. The remaining documents will be evaluated. The decision of opening Authority regarding this will be binding to all contractors.
16. All rights are reserved to reject any or all main tender documents without assigning any reason by the competent authority.
17. If any assistance is required regarding E-Tendering (upload & download) please refer the Website and it's helpdesk no. 0120-4200462/0120-4001002.
18. All tender documents should be digitally signed by the bidder failing to which his bid liable to be rejected.
19. Pre-Bid conference with the bidders shall not be held as per WRD GR. No. Tender 0417/(CN. 247/17) / MP – 1 Dt 18 Oct, 2023

20. The contractor has to inspect overall site to get acquainted to the quantum of work, availability of material, transport facilities etc.

21. 1.The bidder shall study in depth about the scope of work, get acquainted with project site, information in tender and other important locations. Contractor or his authorized representative shall visit the complete site, important locations and ascertain the availability, sufficiency, suitability of necessary quality and quantity of minor minerals and materials, other construction materials, availability of labours, freight distances, etc. required to complete this work in given time before quoting the offer. Contractor shall be solely responsible for proper assessment of the site and work.

2.No additional Liability or Claims shall be entertained against insufficiency and unavailability of good quality and quantity of minor minerals and materials, unavailability of labour, additional extra lead due to additional freight, non-availability of construction materials, etc.

22. The tenderer or his representative should be present at divisional office on the date & time of tender opening as published on the web-site.

23. Time schedule for various bidding process is as follow:

Sr. No.	Particular	DD	MM	YYYY	Hrs.	Mins.
1	Publishing Date	05	05	2026	09	45
2	Document Sale Start Date	06	05	2026	09	45
3	Submitting Pre bid queries online to www.mahatenders.gov.in on seek clarification.	Up to 13/05/2026 (For work as applicable)				
4	Submitting reply to Pre bid queries online to www.mahatenders.gov.in on seek clarification.	Up to 16/05/2026 (For work as applicable)				
5	Document Sale End Date	20	05	2026	18	15
6	Bid Submission Start Date	06	05	2026	09	45
7	Bid Submission End Date	20	05	2026	18	15
8	Tech. Bid Opening Date (if possible)	22	05	2026	18	15
9	Fin. Bid Opening Date (if possible)	As per online schedule				

Sd/-
Executive Engineer,
Upper Penganga Project Division No.8,
Nanded

1.3 D I S C L A I M E R

1. Detailed Time Table for the various activities to be performed in e-tendering process by the tenderer for quoting his offer as given in Detailed Tender Notice under "Time Schedule ". Contractor should carefully note down the cut-off dates for carrying out each e-tendering process / activity.
2. Every effort is being made to keep the website up to date and running smoothly 24 x 7 by the Government and the Service Provider. However, Government/Corporation takes no responsibility and will not be liable for the website being temporarily unavailable due to any technical issue at any point of time.
3. In that event, Water Resources Department will not be liable or responsible for any damages or expenses arising from any difficulty, error, imperfection or inaccuracy with this website. It includes all associated services or due to such unavailability of the website or any part thereof or any contents or any associated services.
4. Bidders must follow the time table of e-tendering process and get their activities of e-tendering processes well in advance so as to avoid any inconvenience due to unforeseen technical problem if any.
5. Water Resources Department will not be responsible for any incomplete activity of e-tendering process of the tenderer due to technical error / failure of website and it cannot be challenged by way of appeal, arbitration and in the Court of Law. Contractors must get done all the e-tendering activities well in advance.
6. **Terms and Conditions for Online-Payments**

   The Terms and Conditions contained herein shall apply to any person "User" using the services of Water Resources Department of Maharashtra Govt. here in after referred to as "Merchant", for making Tender fee and Earnest Money Deposit (EMD) payments through an online Payment Gateway Service ("Service") offered by SBI in association with e-Tendering Service provider and Payment Gateway Service provider through Water Resources Department of Maharashtra govt. website i.e. **https://mahatenders.gov.in** Each User is therefore deemed to have read and accepted these Terms and Conditions.
7. **Privacy Policy**

   The Merchant respects and protects the privacy of the individuals that access the information and use the services provided through them. Individually identifiable information about the User is not willfully disclosed to any third party without first receiving the User's permission, as covered in this Privacy Policy.

This Privacy Policy describes Merchant's treatment of personally identifiable information that Merchant collects when the User is on the Merchant's website. The Merchant does not collect any unique information about the User (such as User's name, email address, age, gender etc.) except when you specifically and knowingly provide such information on the Website. Like any business interested in offering the highest quality of service to clients, Merchant may, from time to time, send email to the User and other communication to tell the User about the various services, features, functionality and content offered by Merchant's website or seek voluntary information from The User.

Please be aware, however, that Merchant will release specific personal information about the User if required to do so in the following circumstances:

a) In order to comply with any valid legal process such as a search warrant, statute, or court order, or available at time of opening the tender

b) If any of User's actions on our website violate the Terms of Service or any of our guidelines for specific services, or

c) To protect or defend Merchant's legal rights or property, the Merchant's site, or the Users of the site or;

d) To investigate, prevent, or take action regarding illegal activities, suspected fraud, situations involving potential threats to the security, integrity of Merchant's website/ offerings

8. General Terms and Conditions For E-Payment

i. Once a User has accepted these Terms and Conditions, he/ she may register on Merchant's website and avail the Services.

ii. Merchant's rights, obligations, undertakings shall be subject to the laws in force in India, as well as any directives/ procedures of Government of India, and nothing contained in these Terms and Conditions shall be in derogation of Merchant's right to comply with any law enforcement agencies request or requirements relating to any User's use of the website or information provided to or gathered by Merchant with respect to such use. Each User accepts and agrees that the provision of details of his / her use of the Website to regulators or police or to any other third party in order to resolve disputes or complaints which relate to the Website shall be at the absolute discretion of Merchant.

iii. If any part of these Terms and Conditions are determined to be invalid or unenforceable pursuant to applicable law including, but not limited to, the warranty

disclaimers and liability limitations set forth herein, then the invalid or unenforceable provision will be deemed superseded by a valid, enforceable provision that most closely matches the intent of the original provision and the remainder of these Terms and Conditions shall continue in effect.

iv. These Terms and Conditions constitute the entire agreement between the User and Merchant. These Terms and Conditions supersede all prior or contemporaneous communications and proposals, whether electronic, oral, or written, between the User and Merchant. A printed version of these Terms and Conditions and of any notice given in electronic form shall be admissible in judicial or administrative proceedings based upon or relating to these Terms and Conditions to the same extent and subject to the same conditions as other business documents and records originally generated and maintained in printed form.

v. The entries in the books of Merchant and/or the Payment Gateway Service Providers kept in the ordinary course of business of Merchant and /or the Payment Gateway Service Providers with regard to transactions covered under these Terms and Conditions and matters therein appearing shall be binding on the User and shall be conclusive proof of the genuineness and accuracy of the transaction.

vi. Refund for Charge Back Transaction: In the event there is any claim for/ of charge back by the User for any reason whatsoever, such User shall immediately approach Merchant with his/ her claim details and claim refund from Merchant alone. Such refund (if any) shall be effected only by Merchant via payment gateway or by means of a demand draft or such other means as Merchant deems appropriate. No claims for refund/ charge back shall be made by any User to the Payment Gateway Service Provider(s) and in the event such claim is made it shall not be entertained.

vii. In these Terms and Conditions, the term “Charge Back” shall mean, approved and settled credit card or net banking purchase transaction(s) which are at any time refused, debited or charged back to merchant account (and shall also include similar debits to Payment Gateway Service Provider's accounts, if any) by the acquiring bank or credit card company for any reason whatsoever, together with the bank fees, penalties and other charges incidental thereto.

viii. Refund for fraudulent/duplicate transaction(s): The User shall directly contact Merchant for any fraudulent transaction(s) on account of misuse of Card/ Bank details by a fraudulent individual /party and such issues shall be suitably addressed by Merchant alone in line with their policies and rules.

ix. Server Slow Down/Session Timeout: In case the Website or Payment Gateway Service Provider's webpage, that is linked to the Website, is experiencing any server related issues like 'slow down' or 'failure' or 'session timeout', the User shall, before initiating the second payment, check whether his/ her Bank Account has been debited or not and accordingly resort to one of the following options:

a). In case the Bank Account appears to be debited, ensure that he/ she does not make the payment twice and immediately thereafter contact Merchant via e-mail or any other mode of contact as provided by Merchant to confirm payment.

b). In case the Bank Account is not debited, the User may initiate a fresh transaction to make payment. However, the User agrees that under no circumstances the Payment Gateway Service Provider shall be held responsible for such fraudulent / duplicate transactions and hence no claims should be raised to Payment Gateway Service Provider No communication received by the Payment Gateway Service Provider(s) in this regard shall be entertained by the Payment Gateway Service Provider.

9. Limitation of Liability

i. Merchant has made this Service available to the User as a matter of convenience. Merchant expressly disclaims any claim or liability arising out of the provisions of this service. The User agrees and acknowledges that he/she shall be solely responsible for his/ her conduct and that Merchant reserves the right to terminate the rights to use of the Service immediately without giving any prior notice thereof.

ii. Merchant and/or the Payment Gateway Service Providers shall not be liable for any inaccuracy, error or delay in, or omission of (a) any data, information or message, or (b) the transmission or delivery of any such data, information or message; or (c) any loss or damage arising from or occasioned by any such in accuracy, error, delay or omission, non-performance or interruption in any such data, information or message. Under no circumstances shall the Merchant and/or the Payment Gateway Service Providers, its employees, directors, and its third party agents involved in processing, delivering or managing the Services, be liable for any direct, indirect, incidental, special or consequential damages, or any damages Whatsoever, including punitive or exemplary arising out of or in any way connected with the provision of or any inadequacy or deficiency in the provision of the Services or resulting from unauthorized access or alteration of transmissions of data or arising from suspension or termination of the Services.

iii. The Merchant and the Payment Gateway Service Provider(s) assume no liability

whatsoever for any monetary or other damage suffered by the User on account of:

(a) the delay, failure, interruption, or corruption of any data or other information transmitted in connection with use of the Payment Gateway or Services in connection there to; and/ or

(b) Any interruption or errors in the operation of the Payment Gateway.

iv. The User shall indemnify and hold harmless the Payment Gateway Service Provider(s) and Merchant and their respective officers, directors, agents, and employees, from any claim or demand, or actions arising out of or in connection with the utilization of the Services.

The User agrees that Merchant or any of its employees will not be held liable by the user for any loss or damages arising from your use of, or reliance upon the information contained on the Website, or any failure to comply with these Terms and Conditions where such failure is due to circumstance beyond Merchant's reasonable control.

10. Miscellaneous Conditions:

i. Any waiver of any rights available to Merchant under these Terms and Conditions shall not mean that those rights are automatically waived.

ii. The User agrees, understands and confirms that his/ her personal data including without limitation details relating to debit card/ credit card transmitted over the Internet may be susceptible to misuse, hacking, theft and/ or fraud and that Merchant or the Payment Gateway Service Provider(s) have no control over such matters.

iii. Although all reasonable care has been taken towards guarding against unauthorized use of any information transmitted by the User, Merchant does not represent or guarantee that the use of the Services provided by/ through it will not result in theft and/or unauthorized use of data over the Internet

iv. The Merchant, the Payment Gateway Service Provider(s)and its affiliates and associates shall not be liable, at any time, for any failure of performance, error, omission, interruption, deletion, defect, delay in operation or transmission, computer virus, communications line failure, theft or destruction or unauthorized access to, alteration of, or use of information contained on the Website.

v. The User may be required to create his/ her own User ID and Password in order to register and / or use the Services provided by Merchant on the Website. By accepting these Terms and Conditions the User agrees that his/ her User ID and Password are

very important pieces of information and it shall be the User's own responsibility to keep them secure and confidential. In furtherance here of, the user agrees to;

a. Choose a new password, whenever required for security reasons.

b. Keep his/ her User ID & Password strictly confidential.

c. Be responsible for any transactions made by User under such User ID and Password.

The User is hereby informed that Merchant will never ask the User for the User's password in an unsolicited phone call or in an unsolicited email. The User is hereby required to sign out of his/ her Merchant account on the Website and close the web browser window when the transaction (s) has been completed. This is to ensure that others cannot access the User's personal information and correspondence when the user happens to share a computer with someone else or is using a computer in a public place like a library or Internet café.

11. Debit/ Credit Card, Bank Account Details

i. The User agrees that the debit/credit card details provided by him/ her for use of the a foresaid Service(s) must be correct and accurate and that the User shall not use a debit/ credit card, that is not lawfully owned by him/ her or the use of which is not authorized by the lawful owner thereof. The User further agrees and undertakes to provide correct and valid debit/credit card details.

ii. The User may make his/ her payment (Tender Fee/Earnest Money deposit) to Merchant by using a debit/credit card or through online banking account. The User warrants, agrees and confirms that when he/ she initiates a payment transaction and/or issues an online payment instruction and provides his/ her card / bank details:

a. The User is fully and lawfully entitled to use such credit / debit card, bank account for such transactions;

b. The User is responsible to ensure that the card/ bank account details provided by him/ her are accurate;

c. The User is authorizing debit of the nominated card/bank account for the payment of Tender Fee and Earnest Money Deposit

d. The User is responsible to ensure sufficient credit is available on the nominated card/ bank account at the time of making the payment to permit the payment of the dues payable or the bill(s) selected by the User inclusive of the applicable Fee.

iii. **Personal Information** - The User agrees that, to the extent required or permitted by law, Merchant and/ or the Payment Gateway Service Provider(s) may also collect,

use and disclose personal information in connection with security related or law enforcement investigations or in the course of co-operating with authorities or complying with legal requirements.

iv. The User agrees that any communication sent by the User vide e-mail, shall imply release of information therein/ therewith to Merchant. The User agrees to be contacted via e-mail on such mails initiated by him/her.

v. In addition to the information already in the possession of Merchant and/ or the Payment Gateway Service Provider(s), Merchant may have collected similar information from the User in the past. By entering the Website the User consents to the terms of Merchant's information privacy policy and to our continued use of previously collected information. By submitting the User's personal information to us, the User will be treated as having given his/her permission for the processing of the User's personal data as set out herein.

vi. The User acknowledges and agrees that his/ her information will be managed in accordance with the laws for the time in force.

12. Payment Gateway Disclaimer

The Service is provided in order to facilitate payment of Tender Fees/Earnest Money Deposit online. The Merchant or the Payment Gateway Service Provider(s) do not make any representation of any kind, express or implied, as to the operation of the Payment Gateway other than what is specified in the Website for this purpose. By accepting / agreeing to these Terms and Conditions, the User expressly agrees that his/ her use of the aforesaid online payment service is entirely at own risk and responsibility of the User

13. Tenders are being processed on the Electronic Tender Management System of Government of Maharashtra as per Indian Information Technology Act, 2000. So all the provisions contained in Indian Information Technology Act, 2000 will be applicable to the tenders processed by Water Resources Department Before using his DSC for quoting offer the tenderer should carefully study whole of the tender document i.e. All the terms, conditions and specifications uploaded on the e-tendering portal and get himself convinced. Ones the tenderer submits his offer by using his DSC, it will be presumed that he has accepted all the terms & conditions included in the tender document and the same will be binding on him.

1.4 DEFINITIONS & INTERPRETATIONS

In this tender document, the following terms shall have the meanings hereby assigned to them, except where the context otherwise requires.

a. GMIDC

GMIDC shall mean the Godavari Marathwada Irrigation Development Corporation, Chhatrapati Sambhajinagar acting through its Executive Director, as defined in Maharashtra Act XXIII of 1998.

General Information of GMIDC

Godavari Marathwada Irrigation Development Corporation, Chhatrapati Sambhajinagar is a body corporate constituted under the Maharashtra Act XXIII of 1998 and has been established by the Notification published in the Gazette of Irrigation Department, Government of Maharashtra, dated 17-08-1998. The Headquarters of the Godavari Marathwada Irrigation Development Corporation, Chhatrapati Sambhajinagar (GMIDC Chhatrapati Sambhajinagar or GMIDC for short and hereinafter referred to only as Corporation) is at Chhatrapati Sambhajinagar.

The official postal address for correspondence is

The Office of the Executive Director,

Godavari Marathwada Irrigation Development Corporation,

Sinchan Bhavan, Jalna Road, Chhatrapati Sambhajinagar.

Phone : (0240) 2342097

Fax : (0240) 2332426

The functions and powers of the Corporation have been listed in the Maharashtra Act No. XXIII of 1998. In general, it has been entrusted with the work of investigation, planning, designing of projects, maintenance of completed projects, construction of projects and irrigation management of the Major, Medium and Minor projects (Command Area more than 600 ha.) in the Godavari Basin.

The projects comprises of irrigation and hydroelectric projects along with the command area development and multipurpose schemes. The projects are to be completed so as to utilize water in Godavari basin allotted to Maharashtra State.

The Jurisdiction of the Corporation is covering Chhatrapati Sambhajinagar, Jalna, Parbhani, Latur, Hingoli, Nanded ,Nashik Districts fully and partial area of Osmanabad, Beed, Ahmednagar under Godavari River basin.

b. Chief Engineer

"Chief Engineer" shall mean Chief Engineer & Chief Administrator, CAD (Command Area Development), Chhatrapati Sambhajinagar.

c. Executive Engineer

"Executive Engineer**"** shall mean the Executive Engineer in charge of the concerned division specified in section 4.11.10 of section – IV.

d. Engineer/Engineer-in-Charge

Engineer/Engineer-in-Charge shall mean the Executive Engineer in charge of the works and shall also include the superior officers of the Engineering Department of the corporation. i.e. the Superintending Engineer, Upper Penganga Project Circle, Nanded.

e. WEBSITE

Website means official web sites for e-tendering having following web addresses https://mahatenders.gov.in

f. APPLICANT

Applicant means individual proprietary firm, firm in partnership, Limited Company, Corporation applying to become eligible to tender. For the tender cost upto 50 Cr. Joint Venture not applicable.

g. "Engineer's representative"

Engineer's representative shall mean Assistant Executive Engineer/ Assistant Engineer (Grade I)/Sub-Divisional Engineer/Sub-Divisional Officer, who is in direct charge of the works and shall include any Civil Engineer of the Corporation.

h. Contractor or Bidder

Contractor or Bidder shall mean the person, firm or company who enters into contract with the Corporation and shall include their executors, administrators, successors and submitted assignees.

i. Contract

Contract shall mean and include the following documents

Volume I - Tender Documents
Volume II –Technical Specifications
Volume III - Indicative drawings for entire work
Tender Document & Information/Data Submitted by Contractor
Common Set of Conditions

j. Work

"Work" shall mean the work to be executed in accordance with the contract.

k. Specifications

"Specifications" shall mean the specifications for materials and works as specified in Volume-II of the contract.

l. Drawing

"Drawing" shall mean the prints of the maps, drawings, plans in Volume III of the contract and shall include any modifications of such drawings and any further detailed drawings as may be issued by the Engineer-in-Charge from time to time.

m. Site

"Site**"** shall mean the land and the other places on/ under/ in or through which the works are carried out and any other lands or places provided by the Corporation.

n. Defect(s) liability period

"Defect(s) liability period**"** shall mean period of Thirty Six (36) months from the date of issue of completion certificate by the Engineer-in-charge.

o. Competent Authority

"Competent Authority**"** Shall mean Chief Engineer, Superintending Engineer & Engineer In charge of the work. Singular and Plural Works imparting the singular number shall also include the plural and vice versa where the context requires.

p. Headings and Marginal headings

The headings and marginal headings in the contract are solely for the purpose of facilitating references and shall not be deemed to be part thereof taken into consideration in the interpretation or construction thereof or of the contract.

SECTION – II

INSTRUCTIONS TO BIDDER

2.1: e-Tendering Instruction to Bidders

2.1. A : General

A1 Eligible Contractors can participate in Open Tender process and are required to get enrolled on the Portal https://www.mahatenders.in and get empanelled in relevant sub portal. After submitting their enrollment request online, the enrollment shall be required to be approved by the Representative of the Service Provider. After the approval of enrollment, the Contractors shall have to apply for empanelment online which shall be required to be approved by the Nominated Authority of the Department. Only after the approval in the relevant Class, the Contractor shall be able to participate in the Open Tenders online.

Maharashtra may process 'OPEN' Tenders in which eligible Contractors may enroll on the Portal in 'OPEN' category to participate in such Tenders. The online Enrollment of such Contractors shall be required to be approved by the Representative of the Service Provider.

The approval of enrollment of Contractors is done by the Representative of the Service Provider upon submission of mandatory documents by the Contractors. The Contractors may obtain the list and formats of required documents from the Nodal Officer of e – Tendering System for Government of Maharashtra / Service Provider.

A2 The Bids required to be submitted online should be signed electronically with a Class II – Digital Signature Certificate to establish the identity of the Bidder bidding online. These Digital Certificates are issued by an approved Certifying Authority, Authorized by the Controller of Certifying Authorities, and Government of India.

A Digital Signature Certificate may be used in the name of Authorized Representative of the Organization. A Digital Certificate is issued upon receipt of mandatory identity proofs. Only upon the receipt of the required documents, a Digital Signature Certificate can be issued.

Bid for a particular Tender may be submitted only using the Digital Signature Certificate through online mode only, which is used to encrypt the data and sign the hash during the stage of Bid Preparation and Hash Submission. In case, during the process of a particular Tender, the Authorized User loses his / her Digital Signature Certificate (i. e. due to virus attack, hardware problem, operating system problem etc.); he / she may not be able to submit the Bid online. Hence, the Authorized User is

advised to back up his / her Digital Signature Certificate and keep the copies at safe place under proper security to be used in case of emergencies.

In case of online tendering, if the Digital Signature Certificate issued to the Authorized User of a Firm is used for signing and submitting a Bid, it will be considered equivalent to a No Objection Certificate / Power of Attorney to that User. The Digital Signature Certificate should be obtained by the Authorized User enrolling on the behalf of the Firm on the e – Tendering System for Government of Maharashtra.

Unless the Digital Signature Certificate is revoked, it will be assumed to represent adequate authority of the Authority User to bid on behalf of the Firm for the Tenders processed by the Maharashtra as per Information Technology Act-2000. The Digital Signature of this Authorized User will be binding on the Firm. It shall be the responsibility of Partners of the Firm to inform the Certifying Authority or sub Certifying Authority, if the Authorized User changes, and apply for a fresh Digital Signature Certificate. The procedure for application of a Digital Signature Certificate will remain the same for the new Authorized User.

The same procedure holds true for the Authorized Users in a Private / Public Limited Company. In this case, the Authorization Certificate will have to be signed by the Directors of the Company. **(process of procuring Digital Certificate will take minimum 4 / 5 days)**

A3 Set up of Computer System:

In order to operate on the e – Tendering System for Government of Maharashtra the User's Computer System is required to be set up. A Help File on setting up of the Computer System can be obtained from the Service Provider or downloaded from the Home Page of the Portal www.mahatenders.gov.in. The Bidders may refer e – Tendering Tool Kit available online to perform their online activities as mentioned below. In case of any query he may contact Help Desk for the same.

A4 Online Viewing of Detailed Tenders Inviting Notice:

The Contractors can view the detailed Tenders Inviting Notice and the detailed Time Schedule (Key Dates) for all the Tenders processed by Government of Maharashtra using the e–Tendering System for Government of Maharashtra on https://www.mahatenders.gov.in.

A5 Detail tender notice can be seen on the notice board in the Executive Engineers office, (Copy can be obtained free of cost from Executive Engineer on request). Blank tender booklets are available on the Government of Maharashtra website www.mahatenders.gov.in. The competent authority reserves all rights of rejecting any one or all tenders without assigning any reason.

A6 The cost of Tender Document Form and EMD Fee shall be deposited in GMIDC Account through modes like Net Banking/NEFT/RTGS within stipulated date and time through the contractors own account otherwise the documents loaded on site cannot be considered for evaluation.

A7 It is necessary to give the undertaking as follows **"Contractors are not allowed to make any change in tender documents downloaded from website. If it is found so the tender of such contractors shall be rejected and the contractors who made such changes are liable for action as per Rules".** Tender documents published on Government website are considered as authentic and legal documents in case any complaint about the tender.

A8 It is necessary to give undertaking as follows **"I have seen and studied detailed drawings/specification/tender of works on website. It is part of tender documents. I have filled tender by considering all these drawings. I am ready to sign on the drawings/specification/tender before depositing initial security deposit and taking work order if my tender be accepted."**

A9 Bidder should do Online Enrolment on https://www.mahatenders.gov.in.Portal using the option Click Here to Enroll available in the Home Page. Then the Digital Signature enrollment has to be done with the e-token, after logging into the portal. The e-token may be obtained from one of the authorized Certifying Authorities such as eMudhraCA/GNFC/IDRBT/MtnlTrustline/ SafeScrpt/TCS.

A10 If there are any clarifications, this may be obtained online through the e- Procurement Portal, or through the contact details given in the tender document. Bidder should take into account of the corrigendum published before submitting the bids online.

A11 Bidder should arrange for the EMD as specified in the tender and EMD to be deposited Online/NEFT/RTGS within the stipulated date and time. The scan copy of receipt of online/NEFT/RTGS is required to be uploaded along with tender document.

A12 The Bidders has to submit (Upload Scan Copies / fill) his offer / credentials online as required in the Bid Capacity Assessment Form / tender in the online templates in relevant envelopes. The scan copy of receipt of online/NEFT/RTGS is required to be

uploaded along with tender document before last date and time of online submission of main tender documents.

A13 The Bidders may refer E - Tendering Tool Kit and Online payment Procedure available on https://www.mahatenders.gov.in.

A14 The contractor shall study the guidelines regarding e – tendering to get clarify e-tendering procedure.

A15 The bidder shall give affidavit on 500 rupees stamp regarding truthfulness of all documents uploaded in Envelope – 1 as per PWD GR no. CAT/2018/CN.127/OI -2 Dt 18 Oct 2023 and subsequent GR. The bidder shall be liable to action under Indian Penal Code and his EMD/Security Deposit/Additional Performance Security Deposit shall be forfeited and he shall be banned from taking part in tender process for 3 years for submission of any false / fraudulent paper / information submitted in Envelope – 1 during tender process or acceptance of tender or during contract period and even after the completion of contract or defect liability period.

2.1 B Guidelines to Contractors Regarding Government of Maharashtra e - tendering system

B1 Online Purchase / Download of Tender Documents

The Tender documents can be purchased / downloaded by eligible Contractors from the e–Tendering System for Government of Maharashtra available on https://www.mahatenders.gov.in. Tender document for this work shall be made available on the Government of Maharashtra website https://www.mahatenders.gov.in. If the required online payment of tender fee and EMD are not found, tender shall not be opened and treated as non-responsive.

Similarly, contractor shall not tamper with or change any matter in the document or common set of conditions (if any) which are to be submitted by him online. Otherwise tender (s) shall be rejected outright and shall be liable for penal action.

However, an undertaking that **"If any controversy arises, documents on web-site of Government of Maharashtra** https://www.mahatenders.gov.in**shall be deemed final and binding to contractor and the same shall be part and parcel of the tender documents,"** be submitted along with the submission of tender.

Also, if contractor could not download drawings from the web-site for a reason or other, an undertaking that **"Tender is submitted by me (contractor) on the basis of drawings (which are part and parcel of the tender) pertaining to this work, seen**

on the said web-site of Government of Maharashtra. If my tender is accepted. I will sign drawings / Tender/Specification before paying initial security deposits and issue of work order." Be submitted along with the submission of tender on-line.

Each and every undertaking submitted by the contractor shall be part and parcel of the tender documents.

Blank Tender shall be made available to those contractors as explained in clause 2 above.

B2 PRE-TENDER CONFERENCE

Pre-Tender conference will not be held as per WRD GR No. Tender 0417/Pra.kra. 247/17)/M.P.-1, Mumbai dated 18/10/2023, instead of pre-tender conference bidders should submit their queries regarding provisions and condition of contract online through the Seek Clarification option. The clarification on queries (corrigendum) with the approval of the competent authority for accepting the tender will be published three days prior to submission of tender on the website. This common set of deviation (corrigendum) will be a part of tender.

If the queries are not resolved / clarified by the department till the last day of submission of the tender, then submit tender as considering no change to the terms and conditions of the tender.

B3 Submission of Earnest Money Deposit (Rs. 8.20 lakhs)

Contractors have to deposit the Earnest Money Deposit Online/NEFT/RTGS within the stipulated date and time through his own account only. Contractors are required to keep Online Payment Receipt of Earnest Money Deposit ready as the details of the Earnest Money Deposit instrument are required to be entered during the bid preparation and hash submission stage. The details of the Earnest Money Deposit shall be verified during the tender opening event and only those contractors whose online Earnest Money Deposit details shall be found matching with the bank account statement of Executive Engineer shall be short listed for opening of other envelopes. As per WRD GR No.Tender 0417/Pra.Kra. (247/17)/ M.P. – 1, Mumbai Dated 18/10/2023 (Point No. 3, P.N. 4) there will be no exemption to any contractor from EMD.

B4 Key Dates

The Contractors are strictly advised to follow the Dates and Times as indicated in the Time Schedule in the Tenders Inviting Notice for each activity. All the online activities are time tracked and the e-Government Procurement System enforces time-locks that ensure that no activity or transaction can take place outside the Start and End Dates and Time of the stage as defined in the Notice Inviting Tender

Sr. No.	Particular	DD	MM	YYYY	Hrs.	Mins.
1	Publishing Date	05	05	2026	09	45
2	Document Sale Start Date	06	05	2026	09	45
3	Submitting Pre bid queries online to www.mahatenders.gov.in on seek clarification.	Up to 13/05/2026 (For work as applicable)				
4	Submitting reply to Pre bid queries online to www.mahatenders.gov.in on seek clarification.	Up to 16/05/2026 (For work as applicable)				
5	Document Sale End Date	20	05	2026	18	15
6	Bid Submission Start Date	06	05	2026	09	45
7	Bid Submission End Date	20	05	2026	18	15
8	Tech.Bid Opening Date (if possible)	22	05	2026	18	15
9	Fin. Bid Opening Date (if possible)	As per online schedule				

2.2 MANNER OF ON-LINE SUBMISSION OF e-TENDER AND ITS ACCOMPANIMENTS:

Tender is to be submitted on-line on the Government of Maharashtra website www.mahatenders.inin two separate e-envelopes.

Envelope No.1: Technical & Eligibility Bid

In Envelope 1 all the documents for fulfillment of General Eligibility criteria should be submitted.

First the Envelope-1 will be opened and the documents will be verified and the bidders fulfilling the criteria mentioned in eligibility criteria and the document mentioned under envelope 1 will only be qualified.

Technical Bid: In Envelope 1 all the technical design and draw

ings, documents need to be submitted fulfilling the tender scope and conditions.

Envelope No.–2

Financial Bid: The tenderer should quote his offer in the form of **"Percentage"** of estimated cost for the scope given in Section III Part I" along with breakup of the components as mentioned in Section III Part II" at appropriate place and in the appropriate template in the portal.

A) <u>Envelope No. 1 (Technical Bid & Eligibility Bid)</u>

The first envelope on the portal as clearly marked as **Technical Bid.**

Envelope No.1 shall contain the following documents duly scanned and uploaded digitally signed. The documents which do not bear digital signature will not be considered for evaluation.

I. Details of online deposit of tender fee & earnest money deposit through payment gateway by the bidders **through his own Bank Account Only** through modes like SBI Net banking/NEFT/RTGS transfer of bank having core banking facility as stated in clause 1.3 **Certificates of exemption for payment of earnest money shall not be** accepted. Actual payment of EMD deposited online/NEFT/RTGS receipt upload with tender documents within stipulated date and time. Bank statement should be attached.

II. Bidder should provide his IP Address proof of uploading tender.

III. Scanned copy of Power of Attorney duly registered with registrar. (if applicable)

IV. Scanned copy of deed of partnership or Article of association and Memorandum of Association for Limited Company, duly registered with Head Office in Maharashtra. Registration issued by registrar of firms.

V. Scanned copy of GSTIN Registration and Pan Card of the bidder should be submitted.

VI. Scanned copy of Valid Professional Tax Registration Certificate in the form of PTR and PTE under section (1) of section 5 of Maharashtra State Tax on Profession, Trade callings and Employment Act 1975, Rule 3 (2) for employees including technical personnel from the Professional Tax office of the concerned District of Maharashtra along with Scanned copy of Latest up-to-date Professional tax clearance certificate showing names of employees of the tenderer in the form of **Appendix-I.**

VII. Attested copy of Registration under Employees Provident Fund Act and challans for upto date payments for Class I & II Contractors (Contractors should be duly registered with the Commissioner of Employees Provident Fund).

VIII. The contractor shall have to be registered himself as per the provisions in the labors provident fund Act and shall have to submit the certificated from competent authority of the labor department of Govt. of Maharashtra regarding necessary payment towards provident fund.

All documents to be submitted in envelope No. 1 and shall be attested by Gazetted officer and if required original copies shall be kept ready at the time of opening of tender.

IX. Undertaking As per **Appendix-'K'** (on stamp paper of Rs.500/-) "when there is shortage of funds in GMIDC, Chhatrapati Sambhajinagar, I/we shall not be entitled to any compensation from the Corporation." This condition will be treated as part and parcel of contract documents.

X. Undertaking against tampering with or changes made in the tender documents made available by the department, on the web-site (as referred under 4: issue of blank tender forms of web site above) As per **Appendix-'L'** (On stamp paper of Rs.500/-).

XI. Undertaking about signing the drawings pertaining to this tender /drawing/specification before work order, if the tender is accepted. (on stamp paper of Rs.500/-)

XII. Duly Notarized affidavit on Rs. 500/- stamp paper regarding truthfulness of documents in T1 envelope. **Appendix "C"**(on stamp paper of Rs.500/-)

XIII. The tenderer shall submit on non-judicial stamp paper of Rs. 500/- on agreement in the form of **Appendix "J"**(on stamp paper of Rs.500/-) for due and fulfillment of the contract. The tenders will not be accepted in absence of such agreement.

XIV. The Contractor asking for tender shall give an undertaking on stamp paper of Rs.500/- that **no penal action is in force** against him in any division in state in PAN India. As per Undertaking of contractor regarding performance.

XV. Scanned copies of various undertakings, appendices, affidavits in the prescribed formats on stamp paper of Rs 500/- as stated.

XVI. ~~Site visit certificate~~

XVII. Scanned copy of turnover of last five years & audited Balance sheet of previous five financial years and necessary financial documents along with UDIN on Chartered Accountant letter head with his signature. Also attach the documents of the tender form duly signed by power of attorney attached herewith Audited Balance sheet of previous five financial years. (2021-22 to 2025-26)

XVIII. Scanned copy of Details of work Completed by the Contractor during last Five Years, Certificate from the head of the office under where the work are got Completed should be enclosed inform no.2(a) of Section IV in prescribed Format.

XVIX. Scanned Copy of Detailed Year wise quantities executed & value of work completed during last Five Years & ongoing works in Form (2) of Section II

XX. Details of work done certificates of similar type and magnitude carried out by the contractor during last five years signed by Executive engineer for fulfillment of the technical criteria.

XXI. Details of other works tendered for and in hand with the tenderer, the value of work unfinished on the last date of submission of the tender. The certificates from the head of offices under which the works are in progress should be enclosed (form 2(a) and 2(b) of the tender form). The Performance of contractor should be satisfactory.

XXII. Details of Technical Personnels with tenderer (Appendix 'A')

XXIII. List of machinery and plants immediately available with the tenderer for use on this work and list of machinery proposed to be utilized on this work but not immediately available and the manner in which it is proposed to be procured. (Proforma in Appendix "B")

The Contractor shall have to produce the documentary proof in respect of machinery owned by him as below.

i) R.T.O. Registration

ii) Certificate of Taxation

iii) Goods Carriage Permit in Form P- Gd [see Rule 72(i) v]

iv) Certificate of fitness in form 38 [see Rule 62(i)7]

In the case of Non-RTO machinery, if the machinery is new the manufacturer's sale certificate shall be produced. In case of second-hand machinery, the purchase document with proof of payment and Balance sheet certificate by the Chartered Accountant shall be produced. In lieu of the certificate of the Chartered Accountant, a certificate from a Scheduled Bank/ Nationalized Bank of having financed the machinery will be acceptable.

~~XXIV. Certificate of C.A.Showing the bidder has not applid for CDR (Corporate Debt resracturing)~~

XXV. Self evalution Sheet with supporting documents must have to uploaded for scrutiny with page no.

XXVI. Digitally signed tender booklet should be uploaded in technical envelope.

XXVII. All scanned documents required to be submitted on-line as said above, shall be kept ready at the time of opening to tender. Documents in hard copy will not be accepted.

XXVIII. No evaluation will be done if above documents (from I to XXVI) are not uploaded in Envelop No.1 and the bid will be treated as 'non-responsive'.

NO EVALUATION WILL BE DONE -

i. If any of the information required to be submitted by the tenderer as per Section II & VI is found incomplete/ misleading/ false, such tender shall be considered as non-responsive and will not be considered for eligibility.

ii. If the record of poor performance such as abandoning work, not properly completing contract, inordinate delays in completion and financial failure, is noticed.

iii. If the applicant does not fulfill the criteria for eligibility laid down in Sec II

iv. If the applicant fails to upload scanned copies of any of the documents / certificates mentioned in Detail Tender Notice.

v. If Contractor does not produce all original documents when asked to do so. If he fails to produce original documents on specified date, in that case documents submitted by the contractor shall be recorded and his tender shall not be considered for further evaluation.

vi. If applicant does not submit information in the prescribed format.

vii. If the applicant does not submit document properly as per procedure given in Method of applying.

viii. If applicant does not submit undertaking regarding performance as per undertaking.

ix. If applicant does not submit undertaking about inclusion of all works in hand in form & correctness of the data as per undertaking 2.

x. If applicant does not submit undertaking for manpower requirement & machinery requirement as per Appendix A & Appendix B.

xi. Details of online deposit of tender fee & earnest money deposit through payment gateway by the bidders through modes like SBI Net banking/NEFT/RTGS transfer of bank having core banking facility. Certificates of exemption for payment of earnest money shall not be accepted. Actual payment of EMD deposited online/NEFT/RTGS receipt upload with tender documents within stipulated date and time. Bank statement should be attached. Failing to do so will lead to rejection of bid.

xii. If Scanned copies of GSTIN Registration and Pan Card are not uploaded.

xiii. If Scanned copy of deed of partnership or Article of association and Memorandum of Association for Limited Company, duly registered with Head Office in Maharashtra. Registration issued by registrar of firms is not uploaded.

xiv. If Details of Technical Personnel's with tenderer (As per proforma given in the tender booklet) is not uploaded.

xv. If List of machinery and plants immediately available with the tenderer for use on this work and list of machinery proposed to be utilized on this work but not immediately available and the manner in which it is proposed to be procured. (As per proforma given in the tender booklet) are not uploaded.

The Contractor shall have to produce the documentary proof in respect of machinery owned by him as below.

i) R.T.O. Registration
ii) Certificate of Taxation
iii) Goods Carriage Permit in Form P- Gd [see Rule 72(i) v]
iv) Certificate of fitness in form 38 [see Rule 62(i)7]

In the case of Non-RTO machinery, if the machinery is new the manufacturer's sale certificate shall be produced. In case of second hand machinery, the purchase document with proof of payment and balance sheet certificate by the Chartered Accountant shall be produced. In lieu of the certificate of the Chartered Accountant, a certificate from a Scheduled Bank/Nationalized Bank of having financed the machinery will be acceptable.

xvi. If Details of work done certificates of similar type and magnitude carried out by the contractor during last five years signed by Executive engineer for fulfillment of the technical criteria is not uploaded in prescribed format.

xvii. Scanned copy of turnover of last five years & audited Balance sheet of previous five financial years and necessary financial documents along with UDIN on Chartered Accountant letter head with his signature and the documents of the tender form duly signed by power of attorney holder attached herewith Audited Balance sheet of previous five financial years. (2019-20, 2020-21, 2021-22, 2022-23, 2023-24) are not uploaded.

xviii. If Details of other works tendered for and in hand with the tenderer, the value of work unfinished on the last date of submission of the tender. The certificates from the head of offices under which the works are in progress (As per proforma given in the tender booklet) is not uploaded. The Performance of contractor should be satisfactory.

xix. If Scanned Copies of Detailed Yearwise quantities executed & value of work completed during last Five Years & ongoing works in Form (2) of Section II are not uploaded.

xx. If Scanned copies of Details of work Completed by the Contractor during last Five Years, Certificate from the head of the office under whose the work are Completed should be enclosed inform no.2(a) of Section II in prescribed Format are not uploaded.

xxi. If Scanned copy of Power of Attorney duly registered with registrar. (if applicable) are not uploaded.

xxii. If Scanned copy of Valid Professional Tax Registration Certificate in the form of PTR and PTE under section (1) of section 5 of Maharashtra State Tax on Profession, Trade callings and Employment Act 1975, Rule 3 (2) for employees including technical personnel from the Professional Tax office of the concerned District of Maharashtra along with Scanned copy of Latest up-to-date Professional tax clearance certificate showing names of employees of the tenderer in the form of Appendix-I of Section-VI are not uploaded.

xxiii. If Attested copy of Registration under Employees Provident Fund Act and challans for upto date payments for Class I & II Contractors (Contractors should be duly registered with the Commissioner of Employees Provident Fund) is not uploaded.

xxiv. If Undertaking as per (proforma given in the tender booklet) "when there is shortage of funds in GMIDC, Chhatrapati Sambhajinagar, I/we shall not be entitled to any compensation from the Corporation" is not uploaded. This condition will be treated as part and parcel of contract documents.

xxv. If Undertaking against tampering with or changes made in the tender documents made available by the department, on the web-site (as referred under 4: issue of blank tender forms of web site above) (As per proforma given in the tender booklet) is not uploaded.

xxvi. If Undertaking about signing the drawings pertaining to this tender /drawings/specifications before work order, if the tender is accepted. (as referred under 3:ISSUE OF BLANK TENDER FORMS ON WEB-SITE above) (As per proforma given in the tender booklet) is not uploaded.

xxvii. If All scanned documents required to be submitted online as said above, are not kept ready at the time of opening to Tender, no document in hard copy will be accepted is not uploaded.

xxviii. If Duly notarized affidavit on Rs. 500/- stamp paper regarding truthfulness of documents in T1 envelope. (As per proforma given in the tender booklet) is not uploaded.

xxix. If The tenderer does not submit on non-judicial stamp paper of Rs. 500/- on agreement in the form of (As per proforma given in the tender booklet) for due and fulfillment of the contract.

xxx. If The contractor register himself as per the provisions in the labors provident fund Act and does not to submit the certificated from competent authority of the labor department of Govt. of Maharashtra regarding necessary payment towards provident fund.

All documents to be submitted in envelope No. 1 and shall be attested by Gazetted officer and if required original copies shall be kept ready at the time of opening of tender.

xxxi. If Letter of transmittal to be submitted in required format given in tender booklet.

xxxii. If Bidder does not provide his IP Address proof of uploading tender.

xxxiii. If The Contractor asking for tender does not give an undertaking on stamp paper of Rs.500/- that no penal action is in force against him in any division.

xxxiv. If Scanned copies of various undertakings, appendices, and affidavits in the prescribed formats on stamp paper of Rs. 500/- each are not uploaded.

xxxv. If Statements of determining maximum annual turnover (value of A) in statement No. 1 , work in hand (Value of B) in statement No. 2 & Bid Capacity of contractor in statement No. 3 in prescribed format are not attached.

xxxvi. If All Documents alongwith tender booklet are not Digitally signed.

xxxvii. If Site visit Certificate is not uploaded.

xxxviii. No evaluation will be done if above documents from i to xxxvii are not uploaded in Envelope no 1 and the bid will be treated as non responsive.

2.3 Eligibility & Post Qualification Criteria is APPLICABLE

I) General

The bids are limited to those individuals, firms, and companies and herein after referred to as "Contractor" or "bidder" that meets the following qualification and the eligibility requirements.

II) Post Qualification Criteria

For the Evaluation of Envelope – 1 Bidder must satisfy the following post qualification criteria

1. Annual Turnover–

The applicant bidder should have maximum annual turnover in any one year during the last five years to be equal to or more than 75 % of annualized cost put to tender (excluding advance such as machinery /mobilization advances etc.). Minimum required turnover for this tender is **Rs.614.98** lakhs in any one year during the last five years **i. e. 2025-26, 2024-25, 2023-24, 2022- 23, 2021-22.** Liner increment @ 10% simple rate annually shall be given for equating the Value of the previous year to Last year 2025-26. Annual turnover should be certified by Chartered Accountant with UDIN

Annual cost put to tender be calculated as follows :

$$\text{Annual cost put to tender} = \frac{\text{Amount put to Tender}}{\text{Completion Period of the Tender (in years)}}$$

.

i. e. Annual cost put to tender (lakhs) = 1639.95/2 = 819.975 lakhs

Minimum required turnover (lakhs) =75% X 819.975 = 614.98 lakhs

2. Similar Type of Work–

Bidder should have completed previously at least one work of similar nature & complexity comparable to this work i. e. construction of earthwork and concrete lining. The cost of 30% of similar type of work i. e. construction of earthwork and lining in one single work should be minimum Rs.**491.98 Lakhs**. Work officially subletted to the contractor with the approval of the competent authority should be

considered. Bidder Should have to attach Scanned copy of completion certificate of the Similiar Work, duly signed by the Executive Engineer of Concerned Department

3. General Experience–

As a prime contractor the bidder should have executed Construction of Earthwork & Concrete Lining of minimum quantities of the following items in single year during the last five year i.e. **2025-26, 2024-25, 2023-24, 2022- 23, 2021-22.**

Sr. No.	Items	As per schedule B-100 %	Minimum required-30 %
1)	Cement Concrete Lining	18133 Cum	5440 Cum
2)	Embankment	36519.25 Cum	10956 Cum

4. Bid Capacity – (Tender Amt Rs. 1639.95 Lakhs)

The required bid capacity for this work is Rs. 1639.95 Lakhs In order to assess the experience and capability of contractor for execution of the work under consideration. The applicant bidder, as a prime contractor should satisfy the minimum eligibility criteria of bid capacity of Rs. 1639.95 Lakhs.

The bidding capacity will be evaluated in the following manner.

Assessed available Bid Capacity = (A x N x 2)–B, Where-

A = Maximum annual turnover / works in any one year during the last 5 years (updated to the current price level) which will be taken into account of the year in which the tenders are opened as certified by CE.

B= Value of existing commitments and works (on going) to be completed in the period stipulated for completion of the work in the present tender (updated to the current price level) (All certificates should be countersigned by Engineer-in-charge not below the rank of Executive Engineer),

N = 2 (Number of years prescribed for completion of the work for which the bids are invited)

The Contractor shall submit the Appendix-N for verification of Bid capacity duly signed by C.A. with certificate to support turnover of civil engineering works.

5. List of Machinery and Establishment required for this work:

Contractor should have manpower and machineries as per Appendix – A & B.

The contractor should have Machinery &equipment's as indicated below in his ownership/rent/Lease. (To be proven by necessary documents).

Sr. No	Name of Machinery	Minimum Nos. required
1)	Excavator /Poclain	08
2)	Self Loading Mixer (eg. AJEX)	04
3)	Tipper 6 Cum Capacity	08
4)	Water tanker	04
5)	Pneumatic Roller	04
6)	Vibrator	04
7)	Jeep/ Inspection Vehicles	02
8)	Slope Compactor	03

Manpower

1)	Project Manager (BE-Civil)	01
2)	Site Engineer (DCE)	02
3)	Supervisory Staff	04

Bidder shall give undertaking that he will deploy above machinery if the work is awarded to him.

Only those contractors who satisfies the above Qualification Criteria shall only be eligible for the financial bid competition.

Contractor is responsible to furnish correct cost and complete information of balance work in hand. Contractor is also responsible for furnishing information regarding new works awarded to him after submitting tender for the work but before final acceptance of the contract, otherwise he will be liable for suitable action.

Even though the bidders meet the above requirement they are subject to be disqualified if they have

1. Made misleading or false representations in forms, statements and attachments submitted in proof of the qualification requirement.

2. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion of work, litigation history or financial failures etc.

3. Tender sanctioning authority should determine the type of machinery, manpower expected to be available with the tenderer for the work concerned. Undertaking to be

given regarding making the said machinery available at the work site during the construction.

All documents required to be submitted shall be digitally signed including tender booklet. Other-wise tender (s) shall be rejected.

(B) Envelope No.2 (Financial Bid)

The Second e-envelope clearly marked "Financial Bid Envelope No.2" shall contain the B.O.Q. and C.S.D. (if any)

The tenderer should quote his offer in the form of percentage above or below of estimated cost for the given scope of work at appropriate place and in the appropriate template in the portal. He should not quote his offer anywhere else directly or indirectly in Envelope No.1, failing which the Envelope No.2 shall not be opened & his Tender shall stand rejected. The contractor shall quote for the work as per details given in the main tender. The bidder is not permitted to impose any additional conditions documents as required in Detailed Tender Notice, if applicable, shall also be included.

2.4 ISSUE OF BLANK TENDER FORMS ON WEB-SITE

Tender document for this work shall be made available on the Government of Maharashtra website https://www.mahatenders.gov.in. If the required online payment of tender fee and EMD are not found, tender shall not be opened and treated as non-responsive. Similarly, contractor shall not tamper with or change any matter in the document or common set of conditions (if any) which are to be submitted by him online. Other-wise tender (s) shall be rejected outright and shall be liable for penal action.

However, an undertaking that "If any controversy arises, documents on web-site of Government of Maharashtra https://www.mahatenders.gov.in shall be deemed final and binding to contractor and the same shall be part and parcel of the tender documents," be submitted along with the submission of tender.

Also, if contractor could not download drawings from the web-site for a reason or other, an undertaking that "Tender is submitted by me (contractor) on the basis of drawings (which are part and parcel of the tender) pertaining to this work, seen on the said web-site of Government of Maharashtra. If my tender is accepted. I will sign

drawings / Tender/Specification before paying initial security deposits and issue of work order." Be submitted along with the submission of tender on-line.

Each and every undertaking submitted by the contractor shall be part and parcel of the tender documents.

Blank Tender shall be made available to those contractors as explained in clause 2 above.

2.5 REVISION OR AMENDMENT OF e-TENDER DOCUMENTS

Right is reserved to revise or amend the tender documents prior to last date notified for the issue of tenders and such revisions or amendments or extension shall be communicated to all concerned by post and by notice in the press as may be considered suitable.

Tenderer shall be presumed to have carefully examined all documents, forms, statements, special conditions, schedules, drawings and specifications of contract and to have fully acquainted himself with all details of the site, his own quarries for rubble, sand, earthwork etc. locations of materials, river and weather characteristics and labour conditions in general and with all the necessary information and data etc. pertaining to and needed for the work prior to tendering of the work.

2.6 Additional Instructions for Submission of Technical &Eligibility -

Envelope No.1

Document to be submitted in Envelope No.1 shall also conform to the instruction given below.

I. EARNEST MONEY (0.5% of tender amount or Minimum – 1.50 Lakh whichever is higher)

(a) All tenderer shall pay entire EMD as below:

The tenderer have to pay the entire EMD Amount through payment gateway by SBI online/NEFT/RTGS within the stipulated date and time through his own Bank Account only.

Actual payment of EMD deposited online/NEFT/RTGS receipt upload with tender documents within stipulated date and time.

(b) This Earnest Money shall not carry any interest, whatsoever. This Earnest money will be refunded in case of tenderers whose tenders are not accepted, only after completion of all formalities in respect of acceptance of the tender or in case of expiry of validity of offer, when specially withdrawn by the tenderer. In case of successful tender, Earnest Money will be refunded in after completion of contract documents and payment of security deposit as per provision made in Para-8 (ii) Security Deposit, or converted into security deposit, if required.

(c) After acceptance of tender, if the tenderer does not fulfill the tender conditions for the work order, his EMD amount should be forfeited.

II. SECURITY DEPOSIT

(a) SECURITY DEPOSIT 2% OF TENDER AMOUNT

A sum as mentioned in printed B 1 tender form at Para (e) (i) of Memorandum will have to be deposited in DD/BG/FDR of Nationalized Bank by the Contractor at the time of completing the contract documents, if his tender is accepted by the Corporation.

OR

The initial security deposit may be paid by DD/ BG/FDR of Rs. 17.78 lakhs from any Nationalized Bank's branch for a period equal to the time limit plus the period of defect liability.

OR

The earnest money deposited by the contractor with his tender will be retained by the Corporation as part of security deposit if tenderer requests in writing to that effect. The balance to make up this security deposit may, unless otherwise specified in the special conditions, be deposited by the contractor in the form of DD/BG/FDR to Corporation.

The security deposit will be retained by the Corporation for the due and faithful fulfillment of the contract by the contractor. In addition to the sum as above, sums as Security Deposit will be deducted from running account bills at the rate shown at Memorandum Para (g) in B 1 tender form, the SD should be deducted with considering revised cost (i. e. Tender cost + EIRL) for the revise cost of the tender. The sum of Security Deposit thus deducted from the running account bills, will remain in the form of cash of Corporation securities standing in the name of the Executive Engineer for a period as stated in clause 20 of the Tender.

Security Deposit will be refunded after expiry of the defect(s) liability (maintenance) period as stipulated in the contract.

(b) ADDITIONAL PERFORMANCE SECURITY DEPOSIT

Annexure 'A', Additional Security Deposit in the form of D.D/BG/FDR from a Nationalized bank's branch only as per GR WRD शा.नि. क्र. निविदा ०४१७/(प्र.क्र.२४७/१७)/मोप्र-१, दि. १८/१०/२०२३ व शासन शुद्धि पत्रक क्रमांक:- निविदा ०४१७/(प्र.क्र.२४७/१७)/मोप्र-१ दि. २८/१०/२०२५ for a period equal to period up to defect liability plus one month.

After opening of Envelope No. 2, if L1 is below by more than 1% of estimated cost put to tender then he has to submit additional performance security deposit in the form of DD/BG/FDR within 8 days in the office of Executive Engineer. No concession will be given for period of 8 days in any condition. If contractor fails to submit Additional Performance Security Deposit then his E.M.D. will be forfeited and he will be black listed for two years from the date of opening of envelops no.2 for participating in tendering process under WRD/GMIDC. After that L2 will be negotiated at the rate of L1. If L2 is ready as per the terms and condition of L1 then further process will be initiated to complete the tender formality.

If the tender amount quoted by the contractor is less than the tender amount, then the following procedure must be followed to calculate Additional Performance Security Deposit:

1. If the tenderer intends to quote his offer below by more than 3% of estimated cost put to tender and up to 10 % of Estimated Cost put to tender, then he should submit a D.D./BG/FDR amounting to 1% of Estimated Cost put to tender but minimum Rs 1000/- towards additional performance security deposit.
2. If the tenderer intents to quote his offer more than 10 % to 15 % below the Estimated Cost put to tender, then he should submit performance security in the form of D.D./BG/FDR. 1% for every % after 10 % below in addition to the cost of 1% performance security mentioned in above clause 1 for quoting below offer.

   {e. g. if quoted amount is 14% below, the performance security shall be 1% plus 4% (= 14%-10%), i. e. 5% of estimated amount put to tender.}
3. If the tenderer intent to quote his offer more than 15 % below the Estimated Cost put to tender, then he should submit performance security in the form of D.D./BG/FDR 2 % for every % after 15 % below in addition to performance security mentioned in above clause 1& 2 for quoting below.

   {e.g. if quoted amount is 19 % below, the performance security shall be 6 % plus 8 % (= (19 % - 15 %) X 2 % = 8 %), i.e. 14 % of estimated amount put to tender.}
4. The Contractor should submit demand draft OR Bank Guarantee of the additional performance security deposit in physical form in the office of the Executive Engineer, Upper Penganga Project Division No 8, Nanded within **Eight (8) days** from the day of opening of financial bid (Envelope no 2).

   Period of D.D./BG/FDR should be valid till period of Defect Liability Period plus one month.

   If false/forgery D.D./BG/FDR is forwarded by the contractor then EMD and Additional Performance Security Deposit will be forfeited. He will be black listed for 02 years and cannot participate in any other tender of Irrigation department. Action will be taken as per PWD G.R. No CAT/2018/ प्र.क्र.17/इमा-2 Dated 28/11/2018.& WRD G.R. No - 0417/ प्र.क्र.247/17/मोप्र-1 Dated 18/10/2023.

   The amount of Additional Performance Security shall be refunded as per the GR No. tender – 0417, Government of Maharashtra, Water Resources

Department. Mantralaya, Mumbai dated 18/10/2023 (i. e. 3 months after successfully completion of work). This additional performance security deposit (APSD) shall be extendable up to expiry of valid extensions if any and it shall be refunded within three months after the satisfactory completion of the work. The certificate of which shall be issued by the Executive Engineer before releasing the additional security.

If L1 has not submitted Additional Performance Security Deposit within time then L2 will be considered for negotiation in writing at the rate quoted by L1, otherwise tender will be recalled.

The contractor will have to go through as per GR WRD शा.नि. क्र. निविदा ०४१७/(प्र.क्र.२४७/१७)/मोप्र-१, दि. १८/१०/२०२३ व शासन शुद्धिपत्रक क्रमांक:- निविदा ०४१७/(प्र.क्र.२४७/१७)/मोप्र-१ दि. २८/१०/२०२५ before submission of final bid.

All documents required to be submitted shall be digitally signed including tender booklet.

III. INCOME TAX CERTIFICATE

Income tax is to be deducted from the sums to be paid to the contractors for the works carried out at 2% of the gross amount and surcharge on Income tax and any other taxes as per prevailing Government orders from time to time.

IV. GOODS and SERVICE TAX (GST)

A) GST: (Goods and Service TAX)

GST (Goods and service Tax) Act. 2017 has come into force with effect from 1st July 2017. Accordingly, there is change in the indirect tax regime and the tax rates. State/Central taxes which are merged within the GST include central excise duty, state VAT, Central sale Tax, Purchase tax, LBT, etc.

It is instructed to bidders to quote their rates exclusive of G.S.T.

B) Payment of GST – (Ref WRD circular TDS 0918/Prakra 590/2018/MP1 dated 03/03/2023)

The tender rates mentioned in schedule B are exclusive of GST (based on WRD CSR 2023-24). The bidder shall study the prevailing structure of GST and quote his offer accordingly without G.S.T. The contractor must produce

the proof of GST amount/ paid challans/ purchase invoice in which the GST amount mentioned clearly paid on account for this work by contractor, which should be certified by C.A., considering effect of set off receivable.

Contractors have to submit copy of filed return i. e. GSTR-3B & B2B format of GSTR-1 with certified copy mentioning GSTIN of Division, Name of Division, Total amount received by contractor and amount of GST paid by the contractor. This should be certified by the Chartered Accountant. Reimbursement of GST on part I of Schedule B will be done by Division officer after due verification of GST R-3B and challans by the contractors.

GST Registration and TDS over GST

It is mandatory for the bidders to register themselves under GST and the documentary proof should be submitted in Envelope -1. The section 51 of the CGST & SGST Act. provides that every department or establishment of the central Government or the State Government to deduct tax at source (TDS) at the rate of 1.00% each for SGST and CGST from the payment made to the deducted. Thus total value of deduction would be 2.00%. Any change in TDS by government will become effective in this tender also.

Note

I) In case of interstate supply TDS is 2% under IGST

II) TDS certificate in this regard will be issued within 5 days of accepting of TDS details by deducted i. e. by contractor from their login.

(a) Provisional amount of GST TDS @ 2 % i. e. 1% CGST + 1% SGST will be deducted at source (TDS) after the enforcement of section 51 of Maharashtra Goods and Service Act – 2017.

(b) Contractor has to be registered themselves for the Goods and Service (GST) 2017. The TDS for GST will be applicable as per the prevailing rates.

V. PROFESSIONAL TAX

Certificate of registration with the professional tax officer of the district in the form IA. Certificate of registration under section 5 (1) and 5 (2) of the Maharashtra Sales Tax on professions, Trades, Callings and employment act 1975.

2.7 ADDITIONAL INSTRUCTIONS FOR SUBMISSION OF FINANCIAL ENVELOPE NO. 2

Documents to be submitted in Envelope No. 2 shall confirm to the instruction given below:

i) CONTRACTOR TO ACQUAINT HIMSELF FULLY

The tenderer shall be deemed to have fully acquainted himself with the work and site conditions and carefully examined the special conditions, the specifications, schedules and drawings and shall be deemed to have fully informed himself regarding the local conditions. The tenderer shall also be deemed to have fully acquainted with the various leads and lifts involved in the works and materials of construction as well as shall be deemed to have fully acquainted himself the various quarries for construction materials, their availability and adequacy etc.

ii) CONDITIONAL TENDER

Conditional tenders will be summarily rejected. The tenders which do not fulfill any of the conditions of the notified requirements laid down in this detailed tender notice, the general rules and directions for the guidance of the tenderer as mentioned in the 'B1' tender form, or are incomplete in any respect are likely to be rejected without assigning reasons thereof.

iii) OFFER OF PRICE BID

The tenderer should quote his offer in the form of percentage above or below the estimated cost given in schedule B in the 'B 1' TENDER FORM at the space provided for the purpose both in figures as well as in words in English. In case there is difference between the percentage quoted as expressed in words and figures, the percentage as expressed in words will be taken as correct irrespective of whether it is lower or higher than that expressed in figure. No alteration in the form of tender and in schedule B shall be permitted. The amount mentioned in the tender shall be applicable to all conditions of weather and will be inclusive of all taxes and cesses if any. The percentage should be written in words in one line only as far as possible. The provisions of Price Variation in Para 33 of special conditions of contract shall be applicable for the entire work.

If the Price Bid quoted by the tenderer is less than 90% of the estimated cost as stated at Sr. No. 5 of Annex 'A', then the tenderer shall furnish his detailed justification of his offer and shall also submit additional information in justification of the percentage wherever called for by the Corporation, without which the offer will not be considered.

iv) UNITS OF MEASURMENTS

All the units of measurements shall be in Metric System of Measurements. The tenderer should particularly note the units mentioned in Schedule 'B' on which rates are based.

2.8 CORRECTIONS

No Corrections should ordinarily be made in the e – Tender Documents.

2.9 SIGNING OF TENDER DOCUMENTS

The tender shall contain digital signature of contractor on each page of document attached with the bid including drawings or else tender is liable to be rejected.

The tender by partnership firm shall furnish the full names of all the partners in the forwarding letter. The letter shall be signed by the partner or by an authorized representative followed by the name and designation of the person signing.

An attested copy of the partnership deed shall be furnished. Tender by Company shall be signed with the legal name of the company and signed by the persons authorized to sign in the matter.

Whenever, whether in the submission of the tender or later, in other matters, the signatures are made by one person on behalf of the company, the tenderer shall supply an attested copy of the power of attorney.

2.10 ACCEPTANCE OF TENDER

Before acceptance of the tender, the successful tenderer will be called for negotiation by appropriate officers of Corporation. The documents related to such negotiation along with modified offer of the successful bidder if any shall also form part of the contract. After such negotiations the acceptance of tender may be intimated to the contractor either by email or by a letter which will be sent by Registered post Acknowledgement due. Such intimation shall be deemed to be an intimation of Acceptance of tender. Tenderer whose tender is accepted will have to complete all the contract formalities i. e. signing of contract, payment of Security Deposit etc. within

10 days (Ten Days) from the date of intimation. In the event of failure of the tenderer to sign the agreement or pay security deposit and additional security deposit if applicable within the stipulated time, the earnest money including additional earnest money if any, paid by tenderer shall be liable to be forfeited and the acceptance of the tender shall also be liable to be considered as withdrawn. In that event the work will be awarded to next or any other contractor to whom the Corporation considers suitable.

Tender Accepting Authority reserves the right to reject any or all tenders without assigning any reasons therefor.

2.9.1 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

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

2.9.3 If the cost put to Tender is less than 10 % below the tender cost, then the detailed work program should be asked from the bidder and if required the detailed rate analysis to be taken for the guarantee of quality work if failed to do so such bid should be rejected.

2.11 VALIDITY FOR TENDER

The offer shall remain valid for a period of 60 days,75 days, **90 (Ninety)** days and 120 days for acceptance level of Executive Engineer, Superintending Engineer, Chief Engineer, Government level respectively from the date of the submission of bid of tender, and thereafter until it is withdrawn by notice in writing by the tenderer duly addressed to the Executive Engineer & Superintending Engineer. Such notice shall be sent by Registered Post Acknowledgement Due (RPAD). If the acceptance of tender is not communicated within above mentioned days for acceptance level of Executive Engineer, Superintending Engineer, Chief Engineer, Government level respectively or

before and if the offer is withdrawn by the contractor as aforesaid, earnest money paid in cash shall be refunded in full.

(As per WRD GR No. Tender 0471/(P.K.247/17)M.P.-1. Dated 18 Oct 2023)

2.12 COMPLETION OF TENDER DOCUMENT

While completing tender documents, the contractor must invariably complete appendices included in the tender documents giving correct information. However this information shall have to be submitted by the contractor in the prescribed formats separately in Envelope No. 1 as per provisions of the detailed Tender Notice.

2.13 LANGUAGE

The language of all correspondence regarding this work shall be English only.

2.14 LICENSE UNDER CONTRACT LABOUR (REGULATION AND ABOLITION ACT 1970)

2.14.1 The successful tenderer should produce to the satisfaction of the competent authority accepting the tender a valid and current license issued in his favour under the provisions of contract Labour (Regulation and Abolitions) Act 1970 and the Maharashtra contract Labour (R & A) Rules, 1971 before signing the contract. On failure to do so the acceptance of the tenderer will be withdrawn and also the earnest money and additional earnest money deposit if any will be forfeited to Corporation.

2.14.2 The successful tenderer should produce to the satisfaction of the competent authority accepting the tender a valid and current Tax clearance certificate to be issued under Clause (A) section(8) of section-32 of the Maharashtra Value Added Tax Act-2002 (Form No. 415 see Rule No.43) from the Sales Tax Department before signing the contract. On failure to do so the acceptance of the tender will be withdrawn and the earnest money deposit and additional earnest money deposit if any will be forfeited to the Corporation.

2.15 SUBMISSION OF e – TENDER

The two sealed Envelopes No.1& 2 Technical & Eligibility bid and Financial bid shall be submitted simultaneously as per schedule of Annexure-A of this tender form.

2.16 ONLINE OPENING OF TENDERS

On the date specified in the tender notice, following procedure will be adopted for opening of the tender.

2.16.1 Technical & Eligibility Envelope No. 1

First of all, Technical & Eligibility Envelope No.1 of the tenderer will be on-line opened to verify its contents as per requirements. For the purpose of this particular contract, the tenderer shall meet the requirement as stated at Para .2 in this notice.

If the various documents contained in this 'technical & eligibility envelope, {as per post qualification criteria) does not meet the requirements of the department, a note will be recorded accordingly by the tender opening (on-line) authority, and the Technical Designs will not be considered for further evaluation, and the same will be recorded. The Chief Engineer & Chief Administrator CAD (WR) Chhatrapati Sambhajinagar will be final authority to decide eligibility in post qualification.

The decision of the Chief Engineer & Chief Administrator CAD (WR), Chhatrapati Sambhajinagar shall be final in this regard and binding on the bidders.

Eligibility will be evaluated as per requirements of post qualification criteria stated in **Section II.**

Only qualified bidders are eligible for opening of Financial Bid i. e. Envelope No. 2.

2.16.2 Financial Bid Envelope No. 2

Financial envelope No.2 will be opened on line of those bidders who will qualify by Technical & Eligibility Bid.

The financial bid quoted by the bidder in Part-I -Financial offer and Part-II - Component wise Breakup of Financial offer attached in Section III of this document shall be read out and both should match with each other.

The lowest financial offer for bidder will be considered of allotment of work. All rights are reserved in this regard with tender accepting authority.

2.17 PAYMENT OF STAMP DUTY

The contractor has to pay the stamp duty as per article 63 of the Bombay act 1958, with effect from 01/05/2006 and revised by the Government of Maharashtra Ordinance no XII of October 14, 2024, in case of works contract value of which does not exceed Rs.5 lakhs stamp duty payable is Rs. 500/- and if the value of works contract is more than 5 lakhs then stamp duty will be Rs 500/- plus 0.3% of the amount exceeding 5 lakhs subject to a maximum of Rs. 25 Lakh. Stamp Duty is as per Govt of Maharashtra Department of Revenue and Forest GR Dated 18/03/2021.

Total amount of stamp duty to be paid by contractor as treated above shall be submitted by the contractor at the time of contract. No extra payment shall be made against security deposit paid by contractor.

Jurisdiction of court for disputes: Disputes, if any, arising out of this contract shall be subject to the jurisdiction of the High Court of Mumbai, Bench at Chhatrapati Sambhajinagar.Onlyafter the payment of stamp duty and submission of its receipt to division,work order will be given .

Amount of stamp duty up to Rs.5000/-shall be paid by franking mode and if the amount of stamp duty is more than 5000/-it shall be paid by E-SBTR

Godavari Marathwada Irrigation Development Corporation

CERTIFICATE-A

(Reference to Para 15 (iii) of detailed tender notice)

(Note:- All the details must be filled in. Strike out the item which is not applicable to the Tender)

Certified that,

I (We) have not been awarded any contract for the **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.** of Upper Penganga Project under The Superintending Engineer, ...as on ..... (Date of opening of the subject Tender)

I (We) have been awarded any contract for the **Construction of Bed & Side Lining In RDY.1 and RDY.2 and Its Disnet and LM -1 to 4,RM- 1 to 4 & Tail Dy. and Its Disnet work of Karkheli Branch Canal of I.R.B.C. Tq. Dharmabad Dist. Nanded.** of Upper Penganga Project under The Chief Engineer, ...as on ..... (Date of opening of the subject Tender)

Name of work :- Construction of Bed & Side Lining In RDY.1 and RDY.2 and Its Disnet and LM -1 to 4,RM- 1 to 4 & Tail Dy. and Its Disnet work of Karkheli Branch Canal of I.R.B.C. Tq. Dharmabad Dist. Nanded.

Tender cost (with G.S.T.)	**: Rs. 1932.42 Lakhs**
Contract No. and date of work order	**:** .....
Contract amount	**:** .....
Amount of work executed to-date	**:** Details enclosed.....
Name of Division	**:** Upper Penganga Project Division No.**8, Nanded**
Name of Circle	**:**Upper Penganga Project Circle, Nanded

I (We) have tendered for the following work the **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.** of Upper Penganga Project under The Chief Engineer, ...as on ..... (Date of opening of the subject Tender) and my offer is the lowest responsive offer.

Name of work :- Construction of Bed & Side Lining In RDY.1 and RDY.2 and Its Disnet and LM -1 to 4,RM- 1 to 4 & Tail Dy. and Its Disnet work of Karkheli Branch Canal of I.R.B.C. Tq. Dharmabad Dist. Nanded..

Tender cost (with G.S.T.)	**:** 1932.42 Lakhs
Tender amount	**:** 1639.95Lakhs
Name of Division	**:** Upper Penganga Project Division No.8, Nanded
Name of Circle	**:** Upper Penganga Project Circle, Nanded

Place:
Date:

Signature of Contractor

Contractor | No. of Corrections | Executive Engineer

SECTION – III

ANNEXURE - A

ANNEXURE - A

DESCRIPTION OF THE PROJECT

Name of work :- Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C. Of Upper Painganga Project

3.1. SCOPE OF WORK:

The work under this tender is for **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.** Of Upper Painganga Project The tender work includes Excavation in all kinds of soil, Filling of murum with 2:1 slope and Construction of Lining etc.

3.1.1 CLIMATIC CONDITIONS:

The work site is situated in medium rainfall zone at the elevation ranging from RL 300 M. to 450 M. above MSL. The rainfall mainly confined in the months of June to September. Annual rainfall near site varies from 600 mm to 1100 mm. The average monthly air temperature in the month of May is 42^0 C and average minimum air tempt in January is about 12^0C.The rainfall is confined mainly to the period starting from middle of June to end of September.

3.2.0. WORK DETAILS:

The work under this contract includes **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.** Of Upper Painganga Project.

The work under this contract includes following principle features.

1)	Cement Concrete Lining	18133 Cum
2)	Embankment	36519.25 Cum

3.3 INFORMATION ABOUT WORK SITE:

3. 3.1	Location of work	-	Near to Village Patoda , Tal. Dharmabad, Dist. Nanded
3.3.2	Nearest Railway Station	-	Dharmabad which is 15 Km away
3.3.3	Roads	-	Approachable by All-weather roads from Dharmabad-Umari Road
3.3.4	Nearest Telephone and Telegraph facility	-	Village Patoda , Tal. Dharmabad, Dist. Nanded
3.3.5	Nearest Petrol and Diesel pump	-	Dharmabad, Tal. Dharmabad, Dist. Nanded
3.3.6	Position of land acquisition	-	Already acquired.

3.4.0 PERIOD OF COMPLETION AND CONSTRUCTION PROGRAMME OF WORK:

3.4.1 Period of completion **24** Calender months including monsoon.

The bidder may plan his manpower & machinery so that work will be completed in stipulated time & human resources or machines does not remain idle.

3.4.2 Construction Program The construction program is enclosed at the end of Schedule 'B' of tender Documents

3.5. Royalty charges

a) Rates of royalty of various construction materials to be recovered from R.A. Bills as per clause 36 are as under, for the items covered under part II of schedule B.

Sr. No	Item	Material	Unit	% of Consumption	Rate of royalty charges/cum
1.	Cement Concrete Lining	Metal	Cum	0.90	Rs. 216.18/-
2.	Embankment	Murum/Soil	Cum	1.0	Rs.216.18/-

b) The item rates covered under part I of schedule B are excluding of royalty charges. Royalty charges will be reimbursed to the contractor upon the production of valid receipt from revenue department. Other-wise the amount of royalty charges will be deducted from the bill and deposited to revenue department by the division.

3.6 DETAILS OF WORK:

3.6.1	Name of work	**Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.** Of Upper Painganga Project.
3.6.2	Cost Put to Tender	Rs. 1639.95 lakhs
3.6.3	Tender Fee &Earnest Money (EMD)	Tender Fee Rs. **5000 + 18% GST/-** (Non-Refundable) (Rs. Five thousands plus GST only) & EMD Rs. 8.89 lakhs, Tender Fee & E.M.D. amount shall be paid online as per WRD Govt. corrigendum no.nivida 0417/ (247/17) MP1 dt.18 Oct 2023 through "E- payment gateway".
3.6.4	Security Deposit(Total 2%)	Total Security Deposit Rs **32.799** Lakhs.
	a) Initial 1 %	a) Initial Security Deposit Rs. **16.399** Lakhs of which in form of DD/BG/FDR
3.6.5	b) S.D. through R A bills (1% of the accepted Tender Cost)	Rs. **16.399** Lakhs Through R.A. bills (at the rate of 2% till the whole S.D.is recovered) till 50 % work is completed
3.6.6	Date, Time and Place of Pre-bid conference	Not Applicable.
3.6.7	Mode of Submission of Tender	Tender should be Submitted on-line on https://www.mahatenders.gov.in
3.6.8	Class of contractor	Eligible contractor / Bidder

Godavari Marathwada Irrigation Development Corporation

3.6.9	Period of completion of work	**24** Calendar months (including monsoon)
3.6.10	Contact Details of Executive Engineer Address and Account details	Executive Engineer, Upper Penganga Project Division No.8, Nanded Dist- Nanded E mail: eeuppd8.nandedwrd@maharashtra.gov.in eeuppdivin**8**@gmail.com Bank:- State Bank of India Branch - Nanded
3.6.11	Contact Details of Superintending Engineer & Address	Superintending Engineer, Upper Penganga project Circle, Nanded. Phone: 02462- 260977Fax:02462-261675
3.6.12	Contact Details of Chief Engineer & Address	The Chief Engineer & Chief Administrator, (Command Area Developmet) Water Resources Department, Chhatrapati Sambhajinagar CADA Bhavan, Garkheda Parisar Near Gajanan Maharaj Mandir, Chhatrapati Sambhajinagar. Email: cewrdcada.abadwrd@maharashtra.gov.in Phone: 0240-2334026, Fax:0240-2342331.
3.6.13	Tender Opening Authority	Executive Engineer, Upper Penganga Project Division No.8, Nanded, Dist:Nanded Email: eeuppd8.nandedwrd@maharashtra.gov.in eeuppdivin**8**@gmail.com Phone: 02462-260401
3.6.14	Date & time of opening of tender	
	Technical Bid opening	As per online schedule
	Financial Bid	As per online schedule
6.15	Venue of Opening	Executive Engineer, Upper Penganga Project Division No.8, Nanded Dist:Nanded E mail-eeuppd8.nanded@maharashtra.gov.in Phone:02462-260401

3.6.16	Any addendum / corrigendum /cancellation	Any addendum / corrigendum /cancellation of above tender will be published on the web-site https://mahatenders.gov.in, and on the notice board of Office of the Executive Engineer, Upper Penganga Project Division No.8, Nanded Dist:Nanded.
3.6.17	Bid Documents	Bid Documents consisting of post qualification criteria for technical qualification, information and eligibility criteria, plans, specification and schedule of quantities of the works are available on web-site https://mahatenders.gov.inand the set of terms and conditions of contract and other necessary documents can be seen on the web-site till last date of sale and receipt of tender papers. Interested bidder may obtain further information at the web-site Portal : https://mahatenders.gov.in
3.6.18	Bid Documents acceptance period (Validity of Bid)	The bid for the work shall remain open for acceptance for a period of 90 days from the date of submission of bids. If any bidder withdraws his bid/ tender before the said period or makes any modification in the terms and condition of the bid, the EMD deposited at the time of submission of tender shall stand forfeited.
3.6.19	Other details	Other details including details of Portal Registration, Submission of bid, Resubmission and withdrawal of bid can be seen in the bidding Documents which is available in web-site https://mahatenders.gov.in
3.6.20	Documentsto be uploaded	Digitally signed scanned copies of original Documents should be uploaded on above mentioned web-site as per Section I& II of this Tender Booklet and original documents should be produced for verification on demand after opening of the Technical Bid. The Bidders who participated in the online bidding can witness opening of the bid from any system logging on to the portal **https://mahatenders.gov.in**

away from opening place. The bids can only be opened by the pre-designated officials only after the opening time mentioned in the bid. In the event of the specified date of bid opening being declared a holiday the bid will be opened at the appointed time and location on the next working day. Date, time and place of opening of BOQ shall be intimated separately.

3.6.21 Additional Security Deposit

If tenderer quote his offer below by more than 1 % and upto 10.00% below of Estimated cost of work, then he should pay 1.00 % performance security. If tenderer quote his offer more than 10.00% to 15 % below of estimated cost,

then he should pay additional performance security on the estimated cost on rotate basis in addition to 1.00%

Example
1. For example if offer is 14.00% below rate
3% to 10.00% = 1.00 %
14.00 % - 10.00% =4.00 %
Total =5.00 %

If tenderer quote his offer more than 15 % below of estimated cost, then he should pay 2 % additional performance security for every below % on the estimated cost put to tender in addition to 6 .00%

Example
2.For example if offer is 19.00% below rate
3% to 10.00% = 1.00 %
15.00 % - 10.00% =5.00 %
(19.00 % - 15.00 %) X 2 % = 8 %
Total =14.00 %
i.e. Additional performance security will be 14 %.
1.-DD/BG/FDR should be in favour of Executive Engineer Upper Penganga Project Division No.8 Dist:Nanded

2- DD/BG/FDR should be issued by National bank.

3- The validity period of DD/BG/FDR should be thirty seven (37) months after successful completion of work.

4- DD/BG/FDR should be submitted to the office of the

Executive Engineer, Upper Penganga Project Division No.8, Dist:Nanded

after within 08 days from the day of declaration of L1/Financial bid opening.

5-MICR and IFSC code should be mentioned on the DD/BG/FDR.

8- If work order has been given to L-1 tenderer then demand draft of performance security.

3.6.22 Authority of right to reject — Authority reserves the right to reject any or all the tenders without assigning any reasons thereof.

3.7.0 Price variation information (Vide Para 32 of special conditions of contract)

Sr No.	***Component***	***Centre/ Place***	***Percentage***
1	Cement (Kc)	All India average	As per actual
2	Steel (Ks)	All India average	As per actual
3	Labour component (Kl)	Nanded	**23.68**
4	Other materials (Km)	All India average	**54.77**
5	POL components (Kf)	Mumbai	**21.55**

STAR RATE

Cement: - Rs **.** **288/-** per Bag (Excluding GST) **(As Per** मुख्य अभियंता (विनिर्दिष्ट प्रकल्प) जलसंपदा विभाग पुणे जा. क्र. मु अ (वि प्र)उ अ -६ /(धा. क्र. **A** /२४)

Cement Rate सन २०२६ दि १२ /०१ /२०२६

Steel:- Rs. **53453.33**/ Per MT (**As per JPC Steel Rate date 06/10/2025**)

SECTION – IV

TENDER FORM

B-1 TENDER FORM

PERCENTAGE RATE TENDER & CONTRACT FOR WORKS
GODAVARI MARATHWADAIRRIGATION DEVELOPMENT CORPORATION
CHHATRAPATI SAMBHAJINAGAR
CIRCLE: UPPER PENGANGA PROJECT CIRCLE, NANDED
DIVISION: UPPER PENGANGA PROJECT DIVISION NO.8, NANDED

GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS

4.1 All works proposed to be executed by contract shall be notified in a form of invitation to tender pasted on a board hung up in the office of the Executive Engineer and signed by the Executive Engineer.

This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of the earnest money and additional earnest money, if required, to be deposited with the tender, and the amount of security deposit and additional security deposit, if required, to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings, estimated rates, scheduled rates and any other documents required in connection with the work shall be signed by the Executive Engineer for the purpose of identification and shall also be open for inspection by contractor at the office of the Executive Engineer during office hours.

Where the works are proposed to be executed according to the specifications recommended by a contractor and approved by a competent authority on behalf of the Corporation, such specifications with designs and drawings shall form part of the accepted tender.

4.2 In the event of the tender being submitted by a firm, it must be signed by each partner thereof, and in the event of the absence of any partner, it shall be signed on his behalf by a person holding a power of attorney authorizing him to do so.

i) The contractor shall pay along with the tender the sum as stipulated in Annexure-A to Section-I as and by way of earnest money. The contractor may pay the said amount by forwarding along with the tender, Corporation cash receipt or demand draft drawn on bank and in favor of The Executive Engineer as indicated in Annexure ‘A’ of Detailed tender Notice. The said amount of earnest money shall not carry any interest whatsoever.

ii) The contractor shall also enclose Demand Draft of sum as stipulated in Annexure ‘A’ 3.6.21 if his offer is less than estimated cost as stated at 3.6.21 of Annexure ‘A’. The said amount of earnest money shall not carry any interest whatsoever.

iii) If, after submitting the tender, the contractor withdraws his offer, or modifies the same or if after the acceptance of his tender, the contractor fails or neglects to furnish the balance of security deposit, without prejudice to any other rights and powers of the Corporation hereunder or in law, Corporation shall be entitled to forfeit the full amount of the earnest money and the additional earnest money deposited by him.

iv) In the event of his tender not being accepted, the amount of earnest money deposited by the contractor shall, unless it is prior thereto be forfeited under the provision of sub clause 2 (iii) above, be refunded to him producing the receipt thereof.

4.3 Receipts for payments made on account of any work, when executed by a firm, should also be signed by all the partners, except where the contractors are described in their tender as firm, in which case the receipt shall be signed in the name of the firm by one of the partners or by some other person having authority to give effectual receipts of the firm.

4.4. The officer indicated in Annexure 'A' to section 1 – Detailed Tender Notice, or his Duly authorized assistant, shall open the tenders in the presence of contractors who have submitted tenders, or their representatives who may be present at the time and he will enter the amounts of the several tenders in the comparative statement in a suitable form. In the event of tender being accepted, the contractor shall for the purpose of identification, sign copies of the specifications and other documents mentioned in Rule 1. In event of tender being rejected, the competent officer shall refund the amount of the earnest money deposited by the contractor on his giving a receipt of the return of money. The bidder is bound to remain present on the day and date of online opening of the bid documents as mentioned in key dates of detailed tender notice. No additional communication will be made to bidders for remaining present for openings for bid documents.

4.5 The officer competent to dispose of the tenders shall have the right of rejecting all or any of the tenders without assigning any reason.

4.6 No receipt for any payment alleged to have been made by a contractor in regard to any matter relating to this tender or the contract shall be valid and binding on Corporation unless it is signed by the Executive Engineer.

4.7 No materials of any type required for the work shall be supplied by the Corporation, and all the work shall be executed by the tenderer with contractor's own material(s). The memorandum of work to be tendered for shall be filled in and completed by the

office of the Executive Engineer before the tender form is issued. If a form issued to an intending tenderer has not been so filled in or not completed, he shall request the said office to have this done before he completes and delivers his tender.

4.8 All work shall be measured net by standard measure and according to the rules and customs of the Corporation and without reference to any local custom.

4.9 Under no circumstances shall any contractor be entitled to claim enhanced rates for items in this contract.

4.10 All corrections, additions or pasted slips should be initialed.

4.11 The measurements of work shall be taken according to the usual methods in use in the Corporation and no proposals to adopt alternative methods will be accepted. The Executive Engineer's decision as to what is the usual method in use in the Corporation will be final.

4.12 The tendering contractor shall furnish the declaration along with the tender showing all works for which he has already entered in to contract and value of the work that remained to be executed in each case on the date of submission of the tender.

4.13 Every tenderer shall submit along with the tender, information regarding the income tax, the reference to the number of assessment year and valid Income Tax Clearance Certificate.

4.14 In view of the difficult position regarding the availability of foreign exchange, no foreign exchange would be released by the Corporation for the purpose of plant and machinery required for the execution of the work contracted for.

4.15 The Contractor will have to construct at his cost a shed for storing controlled and valuable materials at the work site having double locking arrangement. The materials will be taken for use in the presence of the Corporation persons. No materials will be allowed to be removed from the site of works without prior permission of Engineer-in-Charge. After completion of works this store shed will be handed over to the Executive Engineer in-charge.

4.16 The Contractor shall also give a list of machinery in their possession and which they propose to use on the work.

4.17 Successful tenderer will have to produce to the satisfaction of the accepting authority, a valid and current license issued in his favor under the provision of the Contract Labour (Regulation and Abolition Act, 1970) before starting work, failing which

acceptance of the tender will be liable for withdrawal and earnest money will be forfeited to Corporation.

4.18 The bidder should refer the government resolution no Tender/0417/ (case no 247/17)/ Big project-1 dated 18/10/2023 for detailed understanding of various conditions of the bid procedure.

4.19 The contractor is bound to carry out the work by procuring his own material. The department or corporation will not provide any material required for carrying out the work. The responsibility of obtaining material of construction is entirely of the contractor.

Godavari Marathwada Irrigation Development Corporation

B-1 TENDER FORM
PERCENTAGE RATE TENDER AND CONTRACT FOR WORKS

Tender for Works

1	I / We hereby tender for the execution for the Godavari Marathwada Irrigation Development Corporation (here-in- before and here-in-after referred to as Corporation) of the work specified in memorandum as enclosed within the time specified in such memorandum at* .....……. % below/above the estimated rates entered in Schedule 'B' Part-I and **AT PAR** with the rates entered in Schedule 'B' Part-II (memorandum showing items of work to be carried out) and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule 1 hereof.	* "In figures as well as in words
2	I/We agree that the offer shall remain open for acceptance for a minimum period of **90 days** from the date fixed for submission of the same and thereafter until it is withdrawn by me/us by notice in writing duly addressed to the authority opening the tenders and sent by registered post AD or otherwise delivered at the office of such authority. Demand Draft No. ……..... .....Dated.....……..... on..... ....……..... A Scheduled/ nationalized Bank or cash receipt of Corporation/ Canara Bank in respect to the sum of Rs. .....…….in words Rupees …… ..... representing the earnest money is herewith forward. Additional earnest money in the form of Demand Draft as required in view of offer being lower than 10% below the updated estimated cost as stated at Sr.No.5 of Annexure-A, is also enclosed. The amount of earnest money shall not bear interest and shall be liable to be forfeited to the Corporation should I/We fail to (1) Abide by the stipulation to keep the offer open for the period mentioned above or (2) sign and complete the contract document	*Amount to be specified in words and figures.

	as required by the Engineer and furnish the security deposit and furnish the security deposit and additional security deposit if any, as specified in item (e) and (f) of the memorandum enclosed within the time limit laid down in clause (1) of Conditions of contract. The amount of earnest money may be adjusted towards the security deposit or refunded to me/us if so desired by me/us, in writing, unless the same or any part thereof has been forfeited as aforesaid.	
3	Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the conditions of Contract and Special Conditions of Contract included in this booklet so far as applicable and in default thereof to forfeit and pay to Corporation the sum of money mentioned in the said conditions.	

Godavari Marathwada Irrigation Development Corporation

MEMORANDUM

a.	General description	**Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.**
b.	Cost Put to Tender	Rs. 1639.95 Lakhs
c.	Earnest money Deposit (EMD)	Rs. 8.20 Lakhs through online payment gateway by SBI Online/NEFT/RTGS
d.	Additional EMD (if required as specified in Para 5(i) (b) in the Form of Demand draft	Rs.* .....…….Lakhs
e.	Security Deposit (SD) i) Initial (By Demand Draft)1.00%	Rs. 16.399 Lakhs in form of D.D./B.G/FDR from any Nationalized Branch. For the time limit Defect Liability Period
	ii)To be deducted from bills 1.00 %	Rs. 16.399 Lakhs
f.	Additional SD& /or Additional performance Security deposit (If required as specified in Para 5(ii) (b) & 5 (ii)(c) in the form of Demand draft	Rs……..Lakhs
	Total	Rs. 32.799 Lakhs
g.	Percentage, if any to be deducted from bills so as to make up the total amount required as security deposit (by the time, half the work as measured by the cost of work done is completed.)	2 % (two percentage)
h.	Time allowed for completion of work from date of written work order.	**24** Calendar months (Including monsoon)
I	Defect liability period.	The defect Liability Period shall mean period of **36** months from the date of issue of completion certificate or handing over the work to Project Affected People at their satisfaction whichever comes later. Contractor will be responsible to make good of manufacturing/ construction defects within above period from the date of issue of completion certificate by the Engineer in charge.

Signature of contractor **Signature of Witness**
Address---------- **Address**----------
---------- ----------

Dated the .....day of ……..… 2026
The above tender is hereby accepted by me for and on behalf of the Corporation.

Signature of the officer by whom accept
Dated the.....day of ……..… 2026

Contractor No. of Corrections Executive Engineer

SECTION – V

SCHEDULE – B,

WORK PROGRAMME

Godavari Marathwada Irrigation Development Corporation

UPPER PENGANGA PROJECT

Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Schedule "B"

Item	Unit	Quantity	Rate		Total Amount	Remarks
			In Figure	In words		
1	2	3	4	5	6	7
PART A -						
Item No.1:- Excavation in Soft Strata and placing the excavated stuff neatly in dump area or for formation of service road / embankment including cost of all materials, machinery, labour, dressing bed and sides to required level and profile etc. complete with all leads and lifts as directed.	Cum	36461.55	102.65	Rupees one hundred two and paise sixty-five only	3742778	
Item no 2 :- Providing casing embankment using selected pervious material from approved borrow areas (Government acquired land) in layers including cost of all materials, machinery,labour, all other operations such as collection of soil, spreading soil in layer of specified thickness, sorting out, breaking clods, levelling, sectioning edges / sides, watering, compacting each layer to density control of not less than 95 percent of Proctor density using vibratory compactor including cost of water etc., complete with lead upto1 km and all lifts as directed.	Cum	36519.25	373.75	Rupees three hundred seventy-three and paise seventy-five only	13649070	
Item No. 3 :- Providing and laying in situ M-15 (20 MSA) (28 days cube compressive strength not less than 15N/sqmm) grade cement concrete by adding superplasticizer with clean, hard, graded aggregates and Fibre fibrillated polypropylene fibres 910 gm/cum for canal lining for side and bed including cost of all materials, machinery, labour, cleaning with transit mixer placing in position, finishing with all slope of canal including scaffolding,						

formwork, compaction, curing, by cutting grooves, filling with sealing compound and providing porous plugs, preparation of sub grade etc. complete with all lifts etc. complete as directed.						
A) For Bed Lining (Cement 5.64 bags/Cum) (7.5 cm thick)	Cum	3589.00	7248.75	Rupees seven thousand two hundred forty-eight and paise seventy-five only	26015764	
B) ii) For Side Lining without curing compound i.e. by curing with water (Cement 5.64 bags/Cum) (7.5 cm thick)	Cum	14254.99	7402.30	Rupees seven thousand four hundred two and paise thirty only	105519712	
Item No 4:-Providing and laying in situ cement concrete of grade M-15 (20 MSA) of trap / granite / gneiss / quartzite /graded metal with superplasticizer for Steps & Templates by self loader including centering, shuttering, scafolding, placing compacting, curing etc. complete with all leads and lifts as directed.	Cum	289.05	6388.75	Rupees six thousand three hundred eighty-eight and paise seventy-five only	1846668	
Item No 5:- Providing & laying 75 mm dia. PVC pipes in bed and sides of canal lining with filter materials as shown in drawings with all leads and lifts etc. complete as directed and as per specifications.	Rmt	2047.85	140.40	Rupees one hundred forty and paise forty only	287518	
				WORK PORTION AMOUNT PART- I	**151061510**	

Godavari Marathwada Irrigation Development Corporation

PART II						
Add for Royalty Charges.						
1) Murum	Cum	36519.25	216.18	Rupees two hundred sixteen and paise eighteen only	7894731	
2) Metal	Cum	16319.736	216.18	Rupees two hundred sixteen and paise eighteen only	3528001	
2) Add 1 % Insurance on Work Portion Amount					1510615	
				Royalty + Insurance PART II	**12933347**	
				TOTAL AMOUNT (PART I + PART II)	**163994857**	
				TOTAL AMOUNT PUT TO TENDER	**163994857**	

GST payable as per additional Clauses of Clause No.63 on page No.163.

JE/Sec. Engg./AE2

Sub-Divisional Officer,
U. P. P. Sub-division No.19,
Mudkhed.

Executive Engineer
U. P. P. Division No. 8
Nanded.

Contractor

No. of Corrections

Executive Engineer

Godavari Marathwada Irrigation Development Corporation

UPPER PENGANGA PROJECT

Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Month Wise Work Programme

Item No.	Unit	Qty	Month Wise Work Programme																							
			Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24
1	2	3	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Item No.1:- Excavation in all kinds of soil including boulders upto 0.6 m diameter (0.113 cum) for canal, seating of embankment, filter drains / catch water drains etc., and placing the excavated stuff neatly in dump area or for formation of service road / embankment including cost of all materials, machinery, labour, dressing bed and sides to required level and profile etc.complete with lead upto 1 km and all lifts as directed..	Cum	36461.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Item no 2 :- Providing casing embankment using selected pervious material from approved borrow areas (Government acquired land) in layers including cost of all materials, machinery,labour, all other operations such as collection of soil, spreading soil in layer of specified thickness, sorting out, breaking clods, levelling, sectioning edges / sides, watering, compacting each layer to density control of not less than 95 percent of Proctor density using vibratory compactor including cost of water etc., complete with lead upto1 km and all lifts as directed.	Cum	36519.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Item No. 3 :- Providing and laying in situ M-15 (20 MSA) (28 days cube compressive strength not less than 15N/sqmm) grade cement concrete by adding superplasticizer with clean, hard, graded aggregates and Fibre fibrillated polypropylene fibres 910 gm/cum for canal lining for side and bed including cost of all materials, machinery, labour, cleaning with transit mixer placing in position, finishing with all slope of canal including scaffolding,																										

Contractor No. of Corrections Executive Engineer

Godavari Marathwada Irrigation Development Corporation

formwork, compaction, curing, by cutting grooves, filling with sealing compound and providing porous plugs, preparation of sub grade etc. complete with all lifts etc. complete as directed.																										
A) For Bed Lining (Cement 5.64 bags/Cum) (7.5 cm thick)	Cum	3589	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B) ii) For Side Lining without curing compound i.e. by curing with water (Cement 5.64 bags/Cum) (7.5 cm thick)	Cum	14254.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Item No 5:-Providing and laying in situ cement concrete of grade M-15 (20 MSA) of trap / granite / gneiss / quartzite /graded metal with superplasticizer for Steps & Templates by self loader including centering, shuttering, scafolding, placing compacting, curing etc. complete with all leads and lifts as directed.	Cum	289.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Item No 6:- Providing & laying 75 mm dia. PVC pipes in bed and sides of canal lining with filter materials as shown in drawings with all leads and lifts etc. complete as directed and as per specifications.	Rmt	2047.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Contractor

No. of Corrections

Executive Engineer

INDICATIVE LIST OF ITEMS OF WORK TO BE EXECUTED AND APPLICABLE SPECIFICATIONS FOR THE WORK

Name of work :- Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Item No	Item of work	Applicability to Specifications
1	Item No.1 - Excavation in hard murum including boulders upto 0.6 m diameter (0.113 cum) for canal, seating of embankment, filter drains / catch water drains etc., and placing the excavated stuff neatly in dump area or for formation of service road / embankment including cost of all materials, machinery, labour, dressing bed and sides to required level and profile etc.complete with lead upto 1 km and all lifts as directed.	**V**olume II Section 1 pg. 6 - 17 Section 2 P.No. 17– 42
2	Item no 2 :- Providing casing embankment using selected pervious material from approved borrow areas (Government acquired land) in layers including cost of all materials, machinery,labour, all other operations such as collection of soil, spreading soil in layer of specified thickness, sorting out, breaking clods, levelling, sectioning edges / sides, watering, compacting each layer to density control of not less than 95 percent of Proctor density using vibratory compactor including cost of water etc., complete with lead upto1 km and all lifts as directed.	**V**olume II Section 1 pg. 6 - 17 Section 3 P.No. 43 – 51
3	Item No.3 - Providing and laying in situ M-15 (20 MSA) (28 days cube compressive strength not less than 15N/sqmm) grade cement concrete by adding superplasticizer with clean, hard, graded aggregates and Fibre fibrillated polypropylene fibres 910 gm/cum for canal lining for side and bed including cost of all materials, machinery, labour, cleaning with self loader (Ajax) placing in position, finishing with all slope of canal including scaffolding, formwork, compaction, curing, by cutting grooves, filling with sealing compound and providing porous plugs, preparation of sub grade etc. complete with all leads and lifts etc. complete as directed.	**V**olume II Section 1 pg. 6 - 17
	A) For Bed Lining (Cement 5.64 bags/Cum) (7.5 cm thick)	**V**olume II Section 1 pg. 6 - 17 Section 4 pg. 83- 88
	B) ii) For Side Lining without curing compound i.e. by curing with water (Cement 5.64 bags/Cum) (7.5 cm thick)	**V**olume II Section 1 pg. 6 – 17 Section 4 pg. 88 - 96
4	Item No 4:- Providing and laying polythene film of 031 properly manufactured from 100% virgin granules confirming to I.S. 2508-1984 with 1.5 to 2.5 m. package in rolls/ as per specifications.	**V**olume II Section 16 Section 3.4 P.No. 128– 129

5	Item No.5 Providing and laying in situ cement concrete of grade M-15 (20 MSA) of trap / granite / gneiss / quartzite /graded metal with superplasticizer for steps and templates by self loader (Ajax) including centering, shuttering, scaffolding, placing compacting, curing etc. complete with all lifts as directed.	**V**olume II Section 1 Section 15 P.No. 125– 127
6	Item No.6 Providing & laying 75 mm dia. PVC pipes in bed and sides of canal lining with filter materials as shown in drawings with all leads and lifts etc. complete as directed and as per specifications.	**V**olume II Section 1 Section 12 P.No. 116- 118

SECTION VI

APPENDICES & FORMS

APPENDIX 'A'
DETAILS OF TECHNICAL PERSONNEL WITH THE CONTRACTOR
Vide Para **2.2 A (IV)**

Sr. No.	Description	Name	Length of service in the firm	Qualifications	Professional experience and details of works carried out	Remarks
1	2	3	4	5	6	7
1	Project Manager (having technical & managerial skills)					
2	Experienced Civil Engineer					
3	Experienced Mechanical Engineer					
4	Experienced Technical Supervisor & surveyors					
5.	Accountant					

(Note: If there is no technical personnel with your firm please give details how can your firm manage the same in remark column)

(Signature of the Contractor)

Date: /2026

APPENDIX 'B'
DETAILS OF PLANTS & MACHINERY IMMEDIATELY AVAILABLE WITH THE TENDERER FOR USE ON THIS WORK

Vide Para **2.2 A (V)**

Sr. No	Name of equipment	No. of units	Kind and make	Capacity	Age and condition	Present Location	Remarks
1	2	3	4	5	6	7	8

(Signature of the Contractor)
Date: /2026

APPENDIX 'C'

Affidavit

Ref Para 2.2. A(XVI)

(On Rs. 500/- Stamp Paper)

Name of work :- Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

I .....age ..... address ..... (Authorized Signatory to sign the contract). hereby submitvide this affidavit in truth, that I am the owner of the contracting firm ...../ authorized signatory for work ..... and I am submitting the documents in envelope No.1 for the purpose os scrutiny of the contract. I hereby agree to the Conditions mentioned below:-

1. I am liable for action under Indian Penal Code & Indian Information Technology Act 2000 for submission of any false / fraudulent paper / information submitted in envelope no.1

2. I am liable for action under Indian Penal Code & Indian Information Technology Act 2000if during contract oeriod and defect liability period any false information false bill of purchase supporting proof of purchase, proof of testing submitted by my staff, submitting company or by myself. I will be liable for action under Indian penal Code.

3. I am liable for action under Indian Penal Code & Indian Information Technology Act 2000if any paper is found false / fraudulent during contract period and even after the complition of contract.

4. I am liable for action under Indian Penal Code and Information Technology Act 2000 if any information is concealed which will affect the calculation of bid capacity.

(Signature of Bidder/Authorized Signatory)

(seal of Company)

APPENDIX 'D'

(Should be submitted on Rs. 500 Stamp Paper)

(Undertaking about signing the drawings pertaining to this tender/drawing/specification before work order, if the tender is accepted**)**

"Tender is submitted by me (contractor) on the basis of drawings (which are part and parcel of the tender) pertaining to this work, seen on the said web-site of Government of Maharashtra. If my tender is accepted, I will sign drawings / Tender/Specification before paying initial security deposits and issue of work order." be uploaded along with tender on-line.

Signature of Contractor

APPENDIX 'E'

DECLARATION OF THE CONTRACTOR

(Should be Submitted on Rs. 500 Stamp Paper)

1. I/We---------- underscore the importance of a free, fair and competitive procurement process that precludes fraudulent use. In this respect we have neither offered nor granted, directly or indirectly, any inadmissible advantages to any public servants or other persons in connection with our bid, nor will we offer or grant any such incentives or conditions in the present procurement process or, in the event that we are awarded the contract, in the subsequent execution of the contract.

2. I/We _____ Contractor (s) hereby undertake that I / We shall pay the labourers engaged on the work under this Contract, their wages as per Minimum Wages Act. 1948 and amendments thereto, applicable to the zone in which the work lies and act accordingly. I/ We also undertake to abide by the various laws in force and extend necessary facilities and amenities to the staff and workers employed by me /us.

3. I/We ----------hereby declare that I/We have made myself/ourselves/thoroughly conversant with the local conditions regarding all construction materials such as stone, sand, surkhi, soil, murum, etc. and labour on which I/We have bid my/our rates for this work. The specifications of this work have been carefully studied and understood by me/us before submitting this Tender.

4. I/We hereby undertake to indemnify and hereby indemnify the Government against all liabilities arising out of application of all labour laws viz. the minimum wages act, ESIS and PF Act etc. with reference to labour engaged on subject work.

5. All leads and lifts charges for the procurement, excavation, utilization and disposal of the various construction materials required are included in the rates of items under the Contract, and it is clear to me/us unconditionally. No claim for lead and lift will be admissible **to** me/us and I/we give an undertaking that no claim will be submitted by me/us in this regard.

6. I/We will inform our staff about their respective obligations and in particular about their obligations to fulfil this Declaration and to obey the laws of India and State of Maharashtra.

Signature of Contractor

APPENDIX 'F'
DECLARATION OF THE CONTRACTOR

(Should be Submitted on Rs. 500 Stamp Paper)

1. I/We ..... Contractor(s) hereby undertake that I/We shall pay the labours engaged on the work as indicated in Annexure 'A' to Section I – Detailed Tender Notice, wages as per Minimum Wages Act, 1948 and amendments thereto applicable to the zone in which work lies and act accordingly. I/We also undertake to abide by the various laws in force and extend necessary facilities and amenities to the staff and workers employed by me/us.

2. I/We hereby declare that I/We have made myself/ourselves thoroughly conversant with the local conditions regarding availability of all materials and labour on which I/We have bided my/our rates for this work. The specifications of this work have been carefully studied and understood by me/us before submitting this tender.

(Signature of the Contractor)

Date / /2026

APPENDIX 'G'
Vide Para 2.5 (II a, b) Annexure-A Sec 3

MODEL FORM OF BANK GUARANTEE BOND

1) This deed of Guarantee is made on the…….. day of …… Two thousand…….
By…….……having head office at ……
…… ……. (hereinafter called the said Contractor(s) from the demand under the terms and conditions of Agreement dated……made between……and
……for
…….. (hereinafter called the Agreement) of additional security deposit for the due fulfillment by the said contractors of the terms and conditions contained in the said agreement on production of a Bank Guarantee for Rs. …… … only) We……..(here in after referred to as the Bank) at the request of……(Contractor) do hereby undertake to pay to the Godavari Marathwada Irrigation Development Corporation, Chhatrapati Sambhajinagar (hereinafter referred to as Corporation) an amount not exceeding Rs. ……..... against any loss or damage caused to or suffered by the Corporation by reason of any breach by the said contractor of any of the terms and conditions contained in the said Agreement.

2) We……(indicate the name of bank) do hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on demand from the Corporation stating that the amount claimed is due by way of loss or damage caused to or would be caused to do or suffered by the Corporation by reason of breach by the said Contractor(s) of any of the terms of conditions contained in the said agreement or any reason of the contractor(s) failure to perform the said agreement. Any such demand made on the bank shall be conclusive as regards to the amount due and payable under this guarantee shall be restricted to an amount not exceeding Rs. ……

3) We undertake to pay the Corporation any money so demanded not withstanding any dispute or dispute raised by the Contractor(s) / Supplier(s) in any suit or proceeding pending before any Court of Tribunal relating thereto, our liability under this present work being absolute and unequivocal. The payment so made by us under this bond shall be valid for discharge of our liability for payment there under and the Contractor(s)/Supplier(s) shall have no claim against us for making of such payment.

4) We ……..(indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be forcible till all dues of the Corporation under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till……(office/Corporation) of

…….....(indicate the name of Administrative Officer) certifies that terms and conditions of the said agreement have been fully and properly carried out by the said contractor (s) and according discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before…… We shall be discharged from all liability under this guarantee thereafter.

5) We……(indicate the name of Bank) further agree with the Corporation that the Corporation shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or postpone for any time or form time to time any of the powers exercisable by the Corporation against the said contractor(s) and to forth or enforce any of the terms and conditions relating to the said Agreement. And we shall not to be relieved from out liability be reason of any such variation, or extension being granted to the said contractor(s) or for any such variation, or extension being granted to the said contractor(s) or for any forbearance, act or commission on the part of the Corporation or any indulgency by the Corporation to the said contractor or by any such matter or thing whatsoever which under the law relating to surety would, but for this provision, have effect of so relieving us.

6) This guarantee will not be discharged due to the change in the constitution of the Bank or the change in the constitution of the Contractor(s) / Suppliers.

7) We…….(indicate the name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the corporation in writing.

Dated the……..day of……2026

For……..

(Indicate the name of Bank)

APPENDIX 'H'

Ref. Para 2.2.A VIII
Details of Other works tendered for and in hand on the date of submission of tender

Sr. No.	Name of Work	Place	Work in Hand			Works Tendered For			Remarks
			Tendered Cost Rs. In Lakhs	Cost of Remaining Work Rs in Lakhs	Anticipated Date of Completion	Estimated Cost Rs. In Lakhs	Date by Which Decision is expected	Stipulated Date of Period of Completion	
1	2	3	4	5	6	7	8	9	10

Contractor

No. of Corrections

Executive Engineer

APPENDIX 'I'
PROFESSIONAL TAX CLEARANCE CERTIFICATE

(Ref. To Para **2.2.A (X) PAGE NO 30**

This is to certify that M/s. _____ of (address), is a registered dealer under the Maharashtra State Tax on Professions, Traders, Callings and Employment's Act No. XVI of 1975, holding Registration Certification No._____ w.e.f. _____.

The said dealer has paid all tax dues up to 31st March, 2026 (previous year) under the act. The dealer has paid the professional tax dues for the employees mentioned below.

Sr. No.	Name of the Employee	Designation

There is no Professional Tax due outstanding against the dealer under the act.

This certificate is valid for ONE year from the date of issue.

Place:
Date: Signature _____

Professional Tax Officer

APPENDIX 'J'

(To be submitted on stamp paper of Rs. 500/-)

AGREEMENT

(Ref. To Para **2.2.A -XVII**)

Articles of agreement executed on this the _____ of _____ Two _____ between the Executive Engineer, GMIDC, (here in after referred to as GMIDC of the one part and Shri. _____ _____ (Name and address of the tenderer) (hereinafter referred to as 'the bounden') of the other part.

Whereas in response to the notification No. _____ dated _____ the bounden has submitted to the GMIDC a tender for the work _____ specified therein subject to the terms and conditions contained in the said tender.

Whereas the bounden has also deposited with GMIDC a sum of Rs---------- ---------- as earnest money for execution of a an agreement undertaking the due fulfillment of the contract in case his tender is accepted by the GMIDC.

Now these presents witness and it is mutually agreed as follows:

1. In case the tender submitted by the bounden is accepted by the GMIDC and the contract for _____ is awarded to the bounden, the bounden shall within _____ days of acceptance of his tender execute an agreement with the GMIDC incorporating all the terms and conditions under which the GMIDC accepts his tender.
2. In case the bounden fails to execute the agreement as aforesaid incorporating terms and conditions governing the contract, the GMIDC shall have power and authority to recover from the bounden any loss or any damage caused to the GMIDC by such breach, as may be determined by the GMIDC by appropriating the earnest money deposited by the bounden and if the earnest money is found to be inadequate the deficit amount may be recovered from the bounden and his properties, movable and immovable, in the manner hereafter contained.

3. All sums found due to the GMIDC under or by the virtue of this agreement shall be recoverable from the bounden and his properties, movable and immovable, under the provisions of the Maharashtra Land Code for the time being in force as though such sums are arrears of land revenue and in such other manner as the GMIDC may deem fit.

In witness whereof Shri. _____(Name and designation) for and on behalf of the GMIDC and Shri. _____ _____ the bounden have hereunto set their hands the days and year shown against their respective signature.

Godavari Marathwada Irrigation Development Corporation

Signed by Shri. _____ date _____

In the presence of witness.

1. _____

2. _____

Signed by Shri. _____ in the presence of witness.

1. _____

2. _____

APPENDIX 'K'

Ref Para 2.2.A (XII)page 31

UNDERTAKING

(Should be Submitted on Rs. 500 Stamp Paper)

I / We allotted the work of

…….

……. I/We undertake as follows.

i) I/We am/are aware of the present financial problems of the Corporation and in knowledge of the fact that timely payment towards the work executed by Me/Us may not be possible I/We however desire to complete the above work by mobilizing our own financial resources.

ii) I/We will not claim for any compensation for delayed payments or delay in execution of this work for any person whatsoever, executed by me/us in past as well as the work that will be executed in future.

iii) It will be may/our responsibility to get the information about availability of funds with the Corporation for the above work allotted to me/us and accordingly to arrange for the labourers, construction materials and finance.

Signature of the Contractor
(with stamp /seal in case of company)

APPENDIX - 'L'

(Vide Para 2.2 –A (xiii) of Detailed Tender Notice)

UNDERTAKING

I / We _____Contractor hereby undertake that we have downloaded the tender document from the government web site. I/ we have not made any correction or any changes in the tender document while downloading tender document. If I / we make changes in tender document, my/ our tender shall be cancelled and I / we will be responsible for any action as per Govt. rule. If any problem happens in tender document, the tender on government website is final or to be decided as final.

These undertaking are part and parcel of the tender document.

Place :- Signature of Contractor

Date :- / /2026.

(Note :- Type the undertaking on contractor's letter head)

APPENDIX 'M'

UNDERTAKING ABOUT USING ARTIFICIAL SAND/ CRUSHED SAND

(Should be Submitted on Rs. 500 Stamp Paper)

To,

The Executive Engineer

.....

.....

Name of Work:

Subject : Undertaking for use of VSI crushed sand/ Artificial Sand in construction.

I undersigned …….. Age….. address……

……. (signature of contractor or authorized representative) hereby submit vide this affidavit in truth that I hereby agree to the conditions mentioned below:

1) As per mix design of concrete for using VSI crushed sand/ artificial sand if consumption of cement exceeds estimated quantity, then I shall not demand any extra rate. Item rate as per Schedule -"B" shall be applicable.

2) I shall abide by following GOM PWD circulars:

Circular of CE PWD Pune letter no. 5940/2017 dt. 17.10.2017 & circular of CE PWD Nagpur circular no.36 artificial sand/435 dt. 15.01.2019. In these both circular mentioned process & specifications to use artificial/ crushed sand in construction shall be followed on site.

3) If stone dust is used in material is seen at site. I shall abide by rules and regulations of government resolutions.

Date

Name & Signature of Contractor/ Representative

Godavari Marathwada Irrigation Development Corporation

Form-1

Basic Information of Bidder

This form consists of basic information of Bidder &**his**certificates. It should be compulsory filled up. **by the** Bidder**otherwise his bid** will not be evaluated further

1		Name of Bidder	
2		Nationality	
3		Office Address	
	I	Telephone No.	
	Ii	E-mail I.D.	
	Iii	Fax No	
4	I	Year of Establishment	
5		Whether the Bidder is	
	I	An Individual	
	Ii	A Proprietary Firm	
	Iii	A Partnership firm	
	Iv	A Limited Company or Corporation	
	v	A Member of a group of Companies (If yes, Give Name, Address, Connections and description of other companies)	
	Vi	A Subsidiary of a large organisation (If yes give Name & Address of the organisation) If the Company is subsidiary what involvement, if any will the parent company have in the project	
6		Income Tax PAN	
7		GST Reg. No.	
8		E.P.F. Registration No.	
9		What best Describes you(Engineers & Contractors/Consulting Engineers & Contractors/If Other Please specify)	
10		No. of Years in Business	
	(i)	As a prime contractor	
	A	In own Country	

	B	Internationally (Specify Country)	
	A	In own Country	
	B	Internationally (Specify Country)	
11		Have you ever failed to complete any work awarded to you	
12		In how many projects have you asked arbitration after ratification and how many cases settled in your favour	
13		In how many projects you were imposed penalties for delay	
14		Have any key personnel of partner of your organisation ever failed to complete contract awarded in his name	
15		Do you have Quality Control Laboratory and Mobile Laboratory	
16		I P address proof if uploading tender	

Signature of Contractor

Godavari Marathwada Irrigation Development Corporation

Form 2

Details of quantities executed and amount of works (Completed and ongoing) for the last Five years

Sr. No	Year	Items as per Para 3.3.1				Total financial turnover amount Rs in Lakhs	Ref. Page No
		Cement Concrete	Steel Reinf.	Excavation	Embankment		
		Cum	MT	Cum	Cum		
1	Fifth Year						
	Completed						
	Ongoing						
	Total						
2	Fourth Year						
	Completed						
	Ongoing						
	Total						
3	Third Year						
	Completed						
	Ongoing						
	Total						
4	Second Year						
	Completed						
	Ongoing						
	Total						
5	First Year						

Contractor No. of Corrections Executive Engineer

Sr. No	Year	Items as per Para 3.3.1				Total financial turnover amount Rs in Lakhs	Ref. Page No
		Cement Concrete	Steel Reinf.	Excavation	Embankment		
		Cum	MT	Cum	Cum		
	Completed						
	Ongoing						
	Total						
6	Any time before 5 years						
	Completed						
	Ongoing						
	Total						

Certified that the above information is true and correct to the best of my knowledge and belief

Signature of Contractor

Note: - All supporting documents i.e. Work done/work in hand certificates should be duly signed Executive Engineer with respective department.

Godavari Marathwada Irrigation Development Corporation

Form 2 (a)

Details of the works completed

(Separate information for each works).

Name of work

Agreement No. and year

Place and country

Total tendered cost of work (Rs. in lakhs)

Brief description of works including principal feature and quantities of main items of the work

Annual Turnover

Sr. No	Items	Unit	Quantities executed (Certificate of concerned authorities is essential				
1	Physical		V^{th} year	IV^{th} Year	III^{rd} Year	II^{nd} Year	I^{st} Year
6.0	Items as stated in Para 3.3.						
1	Cement Concrete						
2	Steel Reinforcement						
3	Excavation						
4	Embankment						
5	Financial Turnover						
	Financial Turnover defined as billing for works (Excluding advance payments received by concern Authorities)						

Period of completion

(a) Date of Commencement

(b) Originally stipulated period of completion

(c) Scheduled date of completion

(d) Extended date of completion e).Actual time taken for completion.

(e) Certificate of concerned authority regarding completion of work if completed in time (Y/N)

(f) Reasons for non-completion of work in stipulated time limit, if so

8	Where there any penalties/fines/stop notices/compensation	

Contractor No. of Corrections Executive Engineer

	/liquidated damaged imposed (Yes or No. if yes, give amount and explanation)	
9	Where there any penalties/fines/stop notices/compensation /liquidated damaged imposed (Yes or No. if yes, give amount and explanation)	
10	Name, Designation, and complete address with whom the contents of the preceding Para 1 to 8 could be verified.	
11	Name of applicant's Engineer-in-charge of the work and educational qualification	
12	Give details of your experience in monthly placement of important items such as listed in Para 3.3.1	
13	Give details of your experience in mobilising large value contracts with modern technology on the deployment of latest heavy construction equipment	
14	Details of quality control arrangements made by the contractor of his own on these works	
15	Whether bidder penalised under clause 2 slow progress of work	
16	Whether work abandoned by the bidder clause 3. Whether rescind contracts as incomplete work	
17	Whether recorded bad quality of works by Quality control authority	
18	Whether valid bad, poor performance published in media.	
19	Whether evidence of rude behavior of contractors with office bearers	

Certified that the above information is true and correct to the best of my knowledge and belief

Signature of Contractor

Seal of Company

Godavari Marathwada Irrigation Development Corporation

Proforma -2(b)

Details of works in hand

(Separate information for each work.)

Name of work

Agreement No. and Year

Place and country

Tendered cost of work (Rs. in lakhs.)

5 Name of applicant's Engineer-in-charge with educational qualification

Annual turnover

Sr.No	**Item**	Unit	**Quantities executed(Certificate of concerned authorities is essential)**				
6.1	Physical		V^{th} year	IV th Year	III^{rd} Year	II^{nd} Year	I^{st} Year
	1						
	2						
	3						
6.2	Financial turnover :	Rs. in lakhs					

7.	i)	Percentage of physical completion	
	ii)	Cost of work completed(Rs. in lakhs)	
	iii)	Revised tendered cost (Lakhs)	
	iv)	Balance cost on the date stipulated	
	v)	Stipulated date of completion	
	vi)	Anticipated date of completion	
8.		Whether work progress is as per tender programme (Yes or No) If not explains the reasons.	
9.		Expected year wise programme of completion	

Contractor No. of Corrections Executive Engineer

	i)	Present year	
	ii)	Next year	
10.		Were there any fines, claims or stop notices filed by the Employer (Yes or No.)	
11.		Details of quality control arrangements made by the contractor of his own on these works	
12.		Name, Designation, Department and complete address with whom the contents can be verified.	

Certified that the above information is true and correct to the best of my knowledge and belief. I am fully aware that my Bid will be treated as nonresponsive & will be summarily rejected at any time if above information is found to be false & misleading.

Signature of Contractor

After submission of present tender, bidder is required to inform about any new work allotted to him after submission of present tender prior to acceptance of the present tender. Otherwise bidder will be liable for action as per G.R. of W.R.D. dated 18/10/2023.

Godavari Marathwada Irrigation Development Corporation

Form -2 (c)
Proforma for work done certificate by engineer in charge.

Certificate for the work completed / under progress

(Separate information for each work)

Certificate For the work completed / under progress up to 2023-24

Sr.No	Particulars	Details
1	Name of work	
2	Estimate cost	
3	Agreement No	
4	Name of Contractor	
5	Tendered Cost	
6	Date of work order	
7	Stipulated period of completion	
8	Scheduled date of completion	
9	Extension granted	
	2	
	3	
10	Final date of completion	
11	Revised cost of work	
12	Cost of work executed	
13	Balance cost of work	
14	Reasons for non-completion of work in scheduled period of completion	
15	Whether any penalties / fine / stop notice / compensation / liquidate damage imposed	

Contractor No. of Corrections Executive Engineer

16	Details of work done						
		Unit	Cement Concrete T.Cum	Steel Reinf. M.T	Excavation T.Cum	Embankment T.Cum	Cost of work Rs in lakhs
	Tendered Quantity						
	Revised Quantity						
	Executed Quantity						
	Balance Quantity						
	Year wise Break-up						
	Vth						
	IVth						
	IIIrd						
	IInd						
	Ist						

17. Remarks about performance of contractor about physical progress and quality of work**:**

_____

_____

Outward No.: Seal (Stamp with name)

Date

(E.E. Stamp with name). (Stamp with name)

Form – 3

Similar type of work

Statement showing the similar type of work carried out by the contractor

Sr. No	Name of similar type of work	Agreement No.	Amount of work done	Date of completion of work	Concerned Ex. Er's office Name & Address & Tel No.	Proforma 2(c) of similar type of work attached	Remarks

Certified that the above information is true and correct to the best of my knowledge and belief. I am fully aware that my Bid will be treated as nonresponsive & will be summarily rejected at any time if above information is found to be false & misleading.

Signature of Contractor

APPENDIX – N

(Vide Para 4 of page 38 of Detailed Tender Notice)

Statement of verification of Bid Capacity of Contractor
STATEMENT NO. 1

Statement for determining value of "A" i.e. maximum value (updated to current DSR level) of Annual Turnover / Civil/Mechanical/Electrical works executed in any one year during last five years.

(All amount are in Rs. Lakhs)

Year	Name of work	Annual Turnover /Value of Civil, Engineering works done during the year (excluding advances such as mobilization and machinery etc.)	Factor	Updated value of work done	Total value of work done during the year (based on information in Col. 2 and Col. 3)	Remark
1	2	3	4	5	6	7
2021-22	i)		X 1.50			
	ii)					
	Total for the year					
2022-23	i)		X 1.40			
	ii)					
	Total for the year					
2023-24	i)		X 1.30			
	ii)					
	Total for the year					
2024-25	i)		X 1.20			
	ii)					
	Total for the year					
2025-26	i)		X 1.10			
	ii)					
	Total for the year					
			Signature of Contractor			

1

Godavari Marathwada Irrigation Development Corporation

STATEMENT NO. 2

Statement for the value of "B"

(Reference Para 4.3.2 Section D)

I.e. value of existing commitments and ongoing works to be completed in the period stipulated for completion of the work, Certificates regarding this will be required to be countersigned by the Engineer-in-charge.

Amount Rs. in Lakhs.

Sr. No	Name of work	Name of Office	Ref page no. of certificate	Date and Number of certificate	Month and year of commencement of work	Amount of contarct	Revised tender cost	Period of completion	Schedule date of completion	Balanced cost as on date of submission of bid	Value of works to be completed between period	factor	Updated cost of column no.12
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Total												

Note: Figures in Col. 3 to 9 should be supported by the certificate issued by Executive Engineer in case of Govt. /Semi Govt. works and head of offices in case of other organisation by project authorities in all other cases.

Certified that the above information is true and correct to the best of my knowledge and belief. I am fully aware that my Bid will be treated as nonresponsive & will be summarily rejected at any time if above information is found to be false & misleading

Signature of Contractor

Godavari Marathwada Irrigation Development Corporation

STATEMENT NO. 3

Bid Capacity of Contractor

Name of work	:-	**Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM-1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.**
Name of Contractor	:-	
Value of A	:-	Rs.
Value of B	:-	Rs.
Value of N i.e. No. of year	:-	2 Year
Bid capacity	:-	(A x N x 2) – B
Bid capacity	:-	Rs. . …….Lakhs
Cost of work put to tender	:-	Rs…….. Lakhs

Signature of Contractor

.....

Contractor No. of Corrections Executive Engineer

Godavari Marathwada Irrigation Development Corporation

STATEMENT NO.4
Site Visit Report Letter

To,
The Executive Engineer,
Upper Penganga Project,
Division No.8,Nanded.

Sub :- Site Visit Report for Construction of Bed & Side Lining of Gortha Minor KM-1 To 3 Offtaking At RD-116120 M And Umari Minor KM-1 To 4 Offtaking At RD-118770 M On IRBC. Tq. Umari Dist. Nanded.

Tender Ref :-

Name of Site :-

Address :-

Area available :-

Required ShadowFree area :-

Whether fabrication Work needed :-

Whether Civil Work needed :-

Sir.

This has reference to above referred tender of Construction of Bed & Side Lining of Gortha Minor KM-1 To 3 Offtaking At RD-116120 M And Umari Minor KM-1 To 4 Offtaking At RD-118770 M On IRBC. Tq. Umari Dist. Nanded. I/We hereby declare that we have visited sites. I/We made ourselves acquainted with site conditions,availability of materials, approaches to site. and requirement of land, soil conditions, and availability of water along with the above required information given in data requirement of tender conditions etc.
I/ We have no problem in undertaking the projects and complete them in the given time period.

Yours faithfully

Signature of Bidder & Seal

Contractor No. of Corrections SDO Executive Engineer

Godavari Marathwada Irrigation Development Corporation

LETTER OF TRANSMITTAL

To,

Superintending Engineer
Upper Penganga Project
Circle, Nanded

Subject: Submission of Technical Documents for the work of **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.**

Sir,

Having examined the details given in information and instruction to applicants for the work. (Enter the name of work mentioned at the 3.6.1 of Annexure A Section III)

I (We) hereby submit the Main Tender information and relevant documents.

I (We) hereby certify the truth and correctness of all statements made and information supplied in the enclosed Form 1 to 5. appendix & undertaking.

I/We have furnished all information and details necessary for the Main tender as bidder(s) and that no further information remains to be supplied.

I/We authorize the project authorities to verify the correctness therefore as well as to approach any Govt. department individuals, employees, firms and/or corporation to verify correctness of information submitted by me/us to prove my/our competence and general reputation.

I/We Submit the following certificate(s) in support of our eligibility technically know how capability and having successfully completed the work from the clients/owners of respective works.

1.
2.
3.
4.

Enclosed - Signature of applicant/Contractor

Seal of applicant

Date of submission:

Contractor No. of Corrections SDO Executive Engineer

Godavari Marathwada Irrigation Development Corporation

UNDERTAKING-1

(Should be Submitted on Rs. 500 Stamp Paper)

Undertaking of contractor regarding performance.

To,
Executive Engineer,
Upper Penganga Project Div No.8,
Nanded.

Sir,

I declare that,

1. As a contractor, I have never been penalized for any work carried out by me nor I have been blacklisted by any Govt. Dept. Previously.
2. I have not abandoned any work for reasons attributed to me.
3. I have not delayed completion of any work for reason attributed to me.

I undertake that the above information is true to the best of my knowledge & belief. I am fully aware that my tender will be treated as non-responsive & will be summarily rejected at any time if above information is found to be false & misleading by the concerned authority.

Signature of the Contractor

Contractor No. of Corrections SDO Executive Engineer

Godavari Marathwada Irrigation Development Corporation

Undertaking –2

(On stamp paper of Rs.500/-)

Undertaking about inclusion of all works in hand and correctness of the data.

To,

Executive Engineer,
Upper Penganga Project,
Division No.8, Nanded.

Name of Work: **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.**

Sir,
I undertake that the given information in Tender documents is true and correct.

I have not omitted any work in hand i.e. information provided in form includes all the work in hand.

I know that if at any time, it is noticed that I have not submitted, information regarding all the work in hand (works in hand means, the works for which final bill is not passed and work is physically incomplete), I will be disqualified from tender process at any stage of the bidding by the department.

Signature of Contractor

Godavari Marathwada Irrigation Development Corporation

Undertaking –3

(On stamp paper of Rs.500/-)

Undertaking about Personel and Plants & Equipments.

To,

Executive Engineer,
Upper Penganga Project,
Division No.8, Nanded.

Name of Work: **Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.**

Sir,

1) I undertake that I will make available suitably, qualified personel as per Sect- 3.3.5 of the tender , if the work is awarded to me.

2) I undertake that I will deploy the machinery required for the work , as per Sect- 3.3. of the tender , if the work is awarded to me.

Godavari Marathwada Irrigation Development Corporation

CERTIFICATE OF ACCEPTANCE OF ALL TERMS AND CONDITIONS MENTIONED IN THE TENDER BOOKLET

(On letter head of agency)

I/ We accept all terms and conditions mentioned in the tender booklet. Further I /We accept all specifications and drawings.

……

Signature of the Contractor

(With Stamp/ seal in case of company)

Contractor No. of Corrections SDO Executive Engineer

SECTION - VII

CONDITIONS OF CONTRACT

Godavari Marathwada Irrigation Development Corporation

B-1 TENDER FORM

CONDITIONS OF CONTRACT

Clause-1 ***(A) Security Deposit***	The Person/ persons whose tender may be accepted (hereinafter called the Contractor which expression shall, unless excluded by or repugnant to the context, include his heirs, executors, administrators, and assigns) shall (A) within 10 days (which may be extended by the Superintending Engineer concerned up to 15 days (if the Superintending Engineer thinks fit to do so) of the receipt by him of the notification of the acceptance of his tender, deposit with the Executive Engineer in cash or Corporation securities Deposit as contemplated at (A) above, then and in such case, if the sum so deposited shall not amount as specified in memorandum it shall be lawful for Corporation at the time of making any payment to the contractor for work done under the contract to make up the full amount of security deposit as specified in memorandum at para(e) by deducting a sufficient sum at the rate specified at (g) of memorandum from every such payment as last aforesaid until the full amount of the Security Deposit is made up. All compensation or other sums of money payable by the contractor to Corporation under the terms of his contract may be deducted from or paid by the sale of sufficient part of his Security Deposit or from the interest arising therefrom or from any sums which may be due or may become due by Corporation to the contractor under any other contract or transaction of any nature on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid the contractor shall within ten days thereafter, make good in Corporation securities endorsed as aforesaid any sum of sums which may have been deducted from or raised by sale of his
(B) ***Additional Performance Security Deposit (As per WRD GR.No. निवीदा 0417/(प्र.क्र. 247/17)/ मो.प्र.-1 मंत्रालयमुंबई. दि. 18/10/2023*** **व शासन शुद्धि पत्रक क्रमांक:-**	

Godavari Marathwada Irrigation Development Corporation

निविदा ०४१७/(प्र.क्र. २४७/१७)/मो प्र-१ दि. **२८/१०/२०२५**	Security Deposit or any part thereof. The security deposit referred to, when paid in cash may at the cost of the depositor, be converted into interest bearing Corporation securities provided that the depositor has especially desired this in writing. If tenderer quote his offer below by more than 1 % and up to 10.00% below of Estimated cost of work, than he should pay 1.00 % performance security. If tenderer quote his offer more than 10.00% to 15 % below of estimated cost, then he should pay additional performance security on the estimated cost on prorata basis in addition to 1.00% Example If offer is below below by more than 3 % and upto10.00% below rate = 1.00 % If offer is below between 10.00% below to 15% below rate then For example if offer is 14.00% below rate 3% to 10.00% = 1.00 % 14.00 % - 10.00% =4.00 % Total =5.00 % If tenderer quote his offer more than 15 % below of estimated cost, then he should pay 2 % additional performance security for every below % on the estimated cost put to tender in addition to 6 .00% Example 2. For example if offer is 19.00% below rate 3 % to 10.00% = 1.00 % 15.00 % - 10.00% =5.00 % (19.00 % - 15.00 %) X 2 % = 8 % Total =14.00 %

	i.e. Additional performance security will be 14 %. 1.-DD/BG/FDR should be in favour of Executive Engineer, Upper Penganga Project Division No.8, Nanded Dist. Nanded. 2- DD/BG/FDR should be issued by National Bank. 3- The validity period of DD/BG/FDR should be thirty seven months after successful completion of work. 4- DD/BG/FDR should be submitted to the office of the Executive Engineer Upper Penganga Project Division No.8, Nanded Dist. Nanded after financial envelop opening / L1 declaration within 08 days from the opening of financial bid. 5-MICR and IFSC code should be mentioned on the DD/BG/FDR. Non submission of the above Additional Performance Security Deposit will result into forfeiture of the E.M.D. If the amount of the security deposit to be paid in a lump sum and additional security deposit in form DD/BG/FDR if not paid within the period specified at (A) above the tender/ contract already accepted shall be considered as cancelled and legal steps taken against the contractor for recovery of the amounts. The amount of the Security Deposit lodged by a contractor shall be refunded after the payment of the final bill if the date up to which the contractor has agreed to maintain the work in good order, is over. If such date is not over, only 50% amount of Security Deposit shall be refunded after the payment of the final bill. The amount of Security Deposit retained by the Corporation shall be released after expiry of period up to which the contractor has agreed to maintain the work in good order is over. In the event of the

	contract of failing or neglecting to complete rectification of work within the period up to which the contractor has agreed to maintain the work in good order that, subject to provisions of clause 17 & 20 here of the amount of Security Deposit retained by Corporation shall be adjusted towards the excess cost incurred by the Corporation on rectification work. The additional Security Deposit shall be refunded to the contractor on issuing of the completion certificate by the Engineer-in-charge as stipulated in the Clause No.7 of the contract, provided that the Engineer in charge, if demanded in writing by the contractor shall, from time to time, release the Additional Security Deposit in parts which are proportion to the amount of the completed work.
Clause- 2 ***Compensation for delay***	The time allowed for carrying out the work as entered in the tender shall be strictly observed by the Contractor and shall be reckoned from the date on which the order to commence work is given to the Contractor. The work shall throughout the stipulated period of the contract be proceeded with, all due diligence (time being deemed to be of the essence of the contract on the part of the contractor) and the contractor shall pay as compensation as amount equal to one percent or such smaller amount as the Superintending Engineer (whose decision in writing shall be final) may decide, of the amount of the estimated cost of the whole work as shown in the tender for every day that the work remains uncommenced, or unfinished after the proper date. And further to ensure good progress during the execution of the work, the contractor shall be bound in all cases in which the time allowed for any work exceeds one months to complete the part works in specified time slice as per the program given in Annexure-A to Section-I. Detailed Tender Notice/ enclosed at the end of Schedule B. If the contractor has not achieved the target as per physical program of all items with respect to time as given in Annexure-A to Section-I Detailed Tender Notice/ enclosed at the end of Schedule-B, then the compensation will be recovered with prior notice to the contractor till the achievement of particular target as decided by the Engineer-in-charge.

Godavari Marathwada Irrigation Development Corporation

	In the event of the contractor failing to comply with this condition he shall be liable to pay, as compensation, an amount equal to one percent or such smaller amount as the Superintending Engineer (whose decision in writing shall be final) may decide of the said estimated cost of the whole work for every day that the due quantity of work remains incomplete. Provided always that the total amount of compensation to be paid under the provision of this Clause shall not exceed 10% of the estimated cost of the work as shown in the tender. Superintending Engineer should be the final authority in this respect.
Clause-3 ***Action when whole of Security deposit is forfeited.***	In any case in which under any Clause or Clauses of this contract the contractor shall have rendered himself liable to pay compensation amounting to the whole of his Security Deposit as specified at para (e) of the memorandum or in case of abandonment of the work, owing to serious illness or death of the contractor or any other cause, the Executive Engineer on behalf of the Corporation shall have power to adopt any of the following course. To rescind the contract (For which recession notice in writing to the contractor under the hand of the Executive Engineer, shall be conclusive evidence) and in that case the Security Deposit and additional security deposit of the contractor shall stand forfeited and be absolutely at the disposal of Corporation. In case the contractor shall be rescinded under clause above, the contractor shall not be entitled to recover or be paid, any sum for any work therefore actually performed by him under this contract unless and until the Executive Engineer shall have certified in writing the performance of the such work and the amount payable to him in respect thereof and he shall only be entitled to be paid the amount so certified. The contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on account of or with a view to the execution of the work or the performance of the contract. The contractor shall also be not eligible to tender for the work remaining unexecuted under this contract.

Godavari Marathwada Irrigation Development Corporation

Clause-4*Action when the progress of any particular portion of the work is unsatisfactory* .	If the progress of any particular portion of the work is unsatisfactory the Executive Engineer shall notwithstanding that the general progress of the work is in accordance with the conditions mentioned in Clause 2, be entitled to take action under after giving the contractor ten days' notice in writing. The Corporation will have to order that the work of the contractor be measured up and to take such part thereof as shall be unexecuted out of his hands, and to give it to another contractor to complete in which case all expenses incurred to advertisements for fixing a new contracting agency, additional supervisory staff including the cost of work charged establishment and the cost of the work executed by the new contract agency will be debited to the contractor and the value of the work done or executed through the new contractor (including escalation due) shall be credited to the contractor in all respects and in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Executive Engineer as to all the cost of the work and other expenses incurred as aforesaid for or in getting the unexecuted work done by the new contractor and as to the value of the work so done shall be final and conclusive against the contractor. In case the cost of the work executed through a new contractor and other allied expenses exceeding the value of such work credited to the contractors, the amount of excess shall be deducted from any money due to the contractor by Government or Corporation under the contract or otherwise howsoever or from his security deposit and Additional Security deposit or the sale proceeds thereof provided, however, that the contractor shall have no claim against Corporation even if the certified value of the work done through a new contractor exceeds the certified cost of such work and allied expenses. The contractor shall have no claims to compensation for any loss sustained by him by reason of his having purchases, 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. The contractor of the whole work shall not be considered eligible to tender for the execution of work so withdrawn from this contract. The contractor will have no claim for compensation, for any loss sustained by him owing to such action.

Godavari Marathwada Irrigation Development Corporation

Clause-5 ***Contractor remains liable to pay compensation if action not taken under clause 3 and 4*** ***Power to take possession of or require removal or sell of contractor's plant***	In any case in which any of the powers conferred upon the Executive Engineer by Clause 3 & 4 hereof shall have become exercisable and the same shall not have been exercised, the non-exercise, thereof shall not constitute a waving of any of the conditions here of and such powers shall notwithstanding be exercisable in the event of any future cases of default by the contractor for which under any Clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his Security Deposit and Additional Security Deposit and liability of the contractor for past and future compensation shall remain unaffected. In the event of the Executive Engineer, taking action under Clause 3, he may, if he so desires, take possession of all or any tools plant, materials and stores in or upon the work or the site thereof or belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof, paying or allowing for the same in account at the contract rates or in the case of contract rates not being applicable at current market rates, to be certified by the Executive Engineer whose certificate thereof shall be final, in the alternative the Executive Engineer may, after giving notice in writing to the contractor or his clerk of the work, foremen or other authorized agent required him to remove tools, plant, materials, or stores from the premises within a time to be specified in such notice, and in the event of the contractor failing to comply with any such requisition, the Executive Engineer may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and at his risk in all respects, and the certificate of the Executive Engineer as to the expenses of any such removal and the amount or the proceeds and expenses of any such sale shall be final and conclusive against the contractor.
Clause-6*Extension of time*	If the contractor shall desire an extension of the time for completion of work on the grounds of his having been unavoidably hindered in its execution time or on any other grounds he shall apply in writing to the Executive Engineer before the expiry of the period stipulated in the tender or before the expiry of 30 days from the date on which he has hindered as aforesaid or on which the cause for asking for extension occurred whichever is earlier, and the Executive Engineer or in the opinion of Superintending Engineer or Chief

	Engineer as the case may be if in his opinion, there were reasonable grounds for granting an extension grant such extension as he thinks necessary or proper. The decision of the Executive Engineer/ Superintending Engineer/ Chief Engineer in this matter shall be final only one. Extension shall be granted to the contractor on the grounds of unavoidable hindrance in its execution or, any other reasonable grounds. Any further extension will not be granted on any reason and the contract will be terminated at that stage, and the security deposit and additional security deposit, if any, shall stand forfeited to the Corporation. The contractor of this work shall not be considered eligible to tender for the execution of the works so terminated.
Clause-7 ***Final Certificate***	On completion of the work the contractor shall be furnished with a certificate by the Executive Engineer (hereinafter called Engineer-in-charge) of such completion, but no such certificate shall be given nor shall the work be considered to be completed until the contractor shall have removed from the premises on which the work shall have been executed all scaffolding, surplus materials and rubbish and shall have cleaned off, the dirt from all woodwork, doors, windows walls floor or other parts of any building in or upon which the work has been executed, or of which he may have had possession for the purpose of executing the work, not until the work shall have been measured by the Engineer-in-charge, or where the measurements have been taken by the subordinates, until they have received the approval of the Engineer-in-charge, the said measurements being binding and conclusive against the contractor. If the contractor 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 expenses of the contractor, remove such scaffolding, surplus material and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forthwith pay such amount of all expenses so 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.

Godavari Marathwada Irrigation Development Corporation

Clause-8 ***Payment on intermediate certificates to be regarded as advance***	No payment shall be made for any work, estimated to cost less than rupees one thousand till after the whole of the work shall have been completed and a certificate of completion given. But in the case of the works estimated to cost more than rupees one thousand the contractor shall on submitting a monthly bill thereof, be entitled to receive payment proportionate to the part of the work then approved and passed by the Engineer-in-charge, whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the contractor. All such intermediate payments shall be regarded as payments by way of advance against the final payments only and not as payment for work actually done and completed, and shall not preclude the Engineer-in-charge from requiring any bad, unsound imperfect or unskilled work to be removed or taken away and reconstructed or re-erected nor shall any such payment be considered as an admission of the due performance of the contract or any part thereof in any respect or the occurring of any claim, nor shall it conclude, determine, or affect in any other way the power of Engineer-in-charge as to the final settlement and adjustment of the accounts or otherwise, or in any other way vary or affect the contract. The final bill shall be submitted by the contractor within one month of the date fixed for the completion of the work, otherwise the Engineer-in-charge's certificate of the measurements and of the total amount payable for the work shall be final and binding on all parties.
Clause-9 ***Payment at reduced rates on account of items of work not accepted as completed to be at the discretion of the Engineer-in-charge***	The rates for several items of works estimated to cost more than Rs.1000/- agreed to within, shall be valid only when the items concerned is accepted fully in accordance with the sanctioned specifications in cases where the items of works are not accepted as so completed the Engineer-in-charge may make payment on account of such items at such reduced rates as he may consider reasonable in the preparation of final or on account of bills.
Clause-10 ***Bills in quadruplicate to be submitted monthly.***	A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer-in-charge for all works executed in the previous month. The measurements for payments of running account bills shall be taken by the contractor's Authorised Engineer the measurement taken shall be checked

	100% by the concerned Jr. Engineer /Sectional Engineer / A.E.-II and further checked by the concerned S.D.E. /A.E.-I /S.D.O. and then by the E.E. to the extent prescribed by the Corporation. Based on the above measurements, the contractor shall have to submit his R.A. bills in quadruplicate along with details of measurements and calculations of quantities in Proforma approved by the Engineer-in-charge duly certified by the qualified Engineer of the contractor who is duly authorised by the Executive Engineer. The measurements shall be recorded in the M.B. issued by the corporation. The initials levels before starting the work/foundation levels/final measurements/ final levels shall be taken by the Authorised Engineer of the contractor in presence of Engineer-in-charge or his authorised representative and the same shall be got attested from the Engineer-in-charge or his authorised representative in token of acceptance. The payment of final bill will be made only after: i) detailed scrutiny of the measurements and the acceptance of the bill thereafter.
Clause-11 ***Bills to be on the printed form***	The contractor shall submit all bills on the printed forms in the format approved by the Engineer-in-charge. The charges to be made in the bills shall always be entered at the rates specified in the tender or in the case of any extra work ordered in pursuance of these condition, and not mentioned or provided for in the tender, at the rates hereinafter provided for such work.
Clause-12 ***Store supplied by Corporation***	If the specification or estimate of the works provides for the use of any special description of materials to be supplied from the store of the corporation or if it is required that the contractor shall use certain stores to be provided by the Engineer-in-charge (such materials and stores, and the prices to be charges therefore as hereinafter mentioned being so far as practicable for convenience of the contractor but not so as in any way to control the meaning or effect of this contract specified in the schedule or memorandum hereto annexed) the contractor shall be supplied with such materials and stores as may be required from time to time to be used by him for the purpose of the contract only, and the value of the full quantity of the materials and stores so supplied shall be set off or deducted from any sums then due, or thereafter to become due to the contractor under the contract or otherwise or

	from the Security Deposit or the proceeds of sale thereof if the Security Deposit is held in corporation securities the same or a sufficient portion thereof shall in that case be sold for the purpose. All materials supplied to the contractor shall remain the absolute property of Corporation and shall on no account be removed from the site of the work and shall at all times be open to inspection by the Engineer-in-charge. Any such materials unused and in perfectly good condition at the time of completion or termination of the contract shall be returned to the Corporation store, if the Engineer-in-charge so requires by a notice in writing given under his hand, but the contractor shall not be entitled to return any such materials except with consent of the Engineer-in-charge and he shall have no claim for compensation on account of any such material supplied to him as aforesaid but remaining unused by him or for any wastage in or damage to any such materials.
Clause-12(A)	All stores of controlled materials, such as cement, steel, etc. supply to the contractor by Corporation should be kept by the contractor under lock and key and they will be accessible for inspection by Executive Engineer or his authorized agent, at all the times.
Clause-13 ***Work to be executed in accordance with specifications drawings orders etc.***	The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regard, materials and in every other respect in strict accordance with specifications. The contractor shall also confirm exactly fully and faithfully to the designs, drawings and instructions in writing relating to the work, signed by the Engineer-in-charge and lodged in his office and to which the contractor shall be entitled to have access for the purpose of inspection at such office, or on the site of work during office hours. The contractor shall be entitled to receive three sets of contract drawings and working drawings as well as one certified copy of the accepted tender along with the work order free of cost. Further copies of contract drawings and working drawings if required by him, shall be supplied at the rate of Rs.500/- per set of contract drawing and Rs.500/- per working drawing except where otherwise specified.
Clause-14 ***Alteration in specifications and designs not to invalidate***	The Engineer-in-charge shall have power to make any alterations in or additions to the original specifications, drawings designs and instructions that may appear to be a necessary or admissible during the progress of the work, and the contractor shall be bound to carry out the work in accordance with

contract Rates for works not entered in the estimate for schedule of rates of the district	any instructions in this connection which may be given to him in writing signed by Engineer-in-charge and such alteration should not invalidate the contract and any additional work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same condition in all respects on which he agreed to do the main work, and at the same rates as specified in the tender for main work. and if the additional and altered work includes any class of work for which no rate is specified in this contract then such class of work shall be carried out at the rates entered in the Schedule of rates of the division or at the rates mutually agreed upon between the Engineer-in-charge and the contractor whichever are lower. If the additional or altered work for which no rate is entered in the schedule of rates of the division is ordered to be carried out before the rates are agreed upon then the contractor shall, within seven days of the date of receipt by him or the order to carry out the work, inform the Engineer-in-charge, of the rate which it is his intention to charge for such class of work, and 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 it out such class of work, and arrange to carry out in such manner as he may consider advisable, provided always that the contractor shall commence work or incur any expenditure in regard thereto before the rates shall have been determined as lastly there in before mentioned, then in such case he shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to date of the determination of the rate as aforesaid according to such rates or rates as shall be fixed by the Engineer-in-charge. In the event of dispute, the decision of Superintending Engineer of the circle will be final. Where, however the work is to be executed according to the design and drawings and specification recommended by the contractor and accepted by the competent authority the alterations above referred to shall be within the scope of such designs, drawings and specifications appended to the tender. The time limit for the completion of the work shall be extended in the proportion that the increase in its cost occasioned by alterations or addition bears to the cost of the original contract work, and the certificate of the Engineer-in-charge as to such proportion shall be conclusive. However an

	extension will be governed by provisions of clause (6).
Clause-15 ***No claim to any payment of compensation for alteration in or restriction of work.***	1) If at any time after the execution of the contract documents the Engineer shall for any reason whatsoever (other than default on the part of the contractor for which the Corporation is entitled to rescind the contract) desire that the whole or any part of the work specified in the tender should be suspended for any period or that the whole or any part of the work should not be carried out at all he shall give to the contractor notice in writing of such desire and upon the receipt of such notice the contractor shall forthwith suspend or stop the work wholly or in part as required, after having due regard to the appropriate stage at which the work should be stopped or suspended so as not to cause any damage or injury to the work already done or endanger the safety thereof provided that the decision of the engineer as to the stage at which the work o any part of it could be or could have been safely stopped or suspended shall be final and conclusive against the contractor. The contractor shall have no claim to any payment or compensation whatsoever by reason of or in pursuance of any notice as aforesaid on account of any suspension, stoppage or curtailment except to the extent specified hereinafter. 2) Where the total suspension of work ordered as aforesaid continued for a continuous period exceeding 90 days the contractor shall be at liberty to withdraw from the contractual obligations under the contract so far as it pertains to the unexecuted part of the work by giving a 10 days prior notice in writing to the Engineer within 30 days of the expiry of the said period of 90 days, of such intention and requiring the Engineer to record the final measurements of the work already done and to pay the final bill. Upon giving such notice the contractor shall be deemed to have been discharged from his obligation to complete the remaining unexecuted work under this contract. On receipt of such notice the Engineer shall proceed to complete the measurements and made such payment as may be finally due to the contractor within a period of 90 days from the receipt of such notice in respect of the work already done by the contractor. Such payment shall not in any manner prejudice the right of the contractor to any further compensation under the remaining provision of this clause. 3) Where the Engineer-in-charge require the contractor to suspend the work

for a period in excess of 30 days at any time or 60 days in the aggregate, the contractor shall be entitled to apply to the Engineer within 30 days of resumption of work after such suspension for payment of compensation to the extent of pecuniary loss suffered by him in respect of working machinery rendered idle on the site or on account of his having had to pay the salary wages of labour engaged by him during the said period of suspension, provided always that the contractor shall not be entitled to any claim in respect of any such working machinery salary or wages for the first 30 days whether consecutive or in the aggregate of such suspension or in respect of any suspension whatsoever occasioned, by unsatisfactory work or any other default on his part. The decision of the Engineer-in-charge in this regard shall be final and conclusive against the contractor.

4) IN THE EVENT OF:

i) Any total stoppage of work on notice from the Engineer under sub clause (1) in that behalf.

ii) Withdrawal by the contractor from the contractual obligation to complete the remaining unexecuted work under sub clause (2) on account of continued suspension of work for a period exceeding 90 days.

OR

iii) Curtailment in the quantity of item or items originally tendered on account of any alteration omission or substitutions in the specifications, drawings and designs or instructions under clause (14) where such curtailment exceeds 25% in quantity & the value of the quantity curtailed beyond 25% at the rate for the items specified in the tender is more than Rs.5000/-.

It shall be open to the contractor within 90 days from the service of (i) the notice of stoppage of work or (ii) the notice of the withdrawal from the contractual obligations under the contract on account of the continued suspension of work or (iii) notice under Clause-14(1) resulting in such curtailment, to produce to the Engineer satisfactory documentary evidence that he had purchased or agreed to purchase material for use in the contracted work,

	before receipt by him of the notice of stoppage, suspension or curtailment and require the Corporation to take over on payment of such material at the rates determined by the Engineer ,provided, however , such rates shall in no case exceed the rates at which the same was acquired by the Contractor. The Corporation shall thereafter take over the material so offered provided that quantities offered are not be excess of the requirement of the unexecuted works as specified in the accepted tender and are of quality and specification approved by the Engineer-in-charge.
Clause 15(a) ***No claim to compensation on account of loss due to delay in supply of materials by Corporation***	**DELETED**
Clause-16 ***Time limit for unforeseen claim***	Under no circumstances whatever shall be contractor be entitled to any compensation from Corporation on any account unless the contractor shall have submitted a claim in writing to the Engineer-in-charge within one month of the cause of such claim occurring.
Clause 17 ***Action and compensation payable in case of bad work***	If at any time before the Security deposit or any part thereof is refunded to the contractor 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 interior quality or that any materials or articles 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 the contract, it shall be lawful for the Engineer-in-charge to intimate this fact in writing to the contractor and then notwithstanding the fact that the work, materials or articles complained of may have been inadvertently passed, certified and paid for, the contractor 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 provided 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 contractor shall be liable to pay compensation at the rate of one percent on the amount of the estimate for every day not exceeding 10 days during which the failure so continuous and in the case of any such failure the Engineer-in-charge may rectify or remove re-executed the work or remove and replace the materials or articles complained of as the case may be at the risk and expense in all respects of the contractor. Should the Engineer-in-charge consider that any such inferior work or materials as described above may be accepted or made use of it shall be within the discretion to accept the same at such reduced rates as he may fix therefore.
Clause 18 ***Works to be open to inspection contractor or responsible agent to be present***	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 contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer-in-charge or his subordinate to visit the works shall have been given to the contractor, either himself, be present to receive orders and instructions or have responsible agent duly authorized in writing present for that purpose orders given to the contractor's duly authorized agent shall be considered to have the same force and effect as if they had been given to the contractor himself.
Clause-19 ***Notice to be given before work is covered up***	The contractor shall give not less than five days' notice in writing to the Engineer-in-charge or his subordinate in charge of the work before covering up or otherwise placing beyond the reach of measurements any work in order that the same may be measured, and correct dimensions thereof taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up or place beyond the reach of measurement any work without the consent in writing of the Engineer-in-charge or his subordinate in charge of the work, and if any work, shall be covered up or placed beyond the reach of measurement without such notice having been given or consent obtained the same shall be uncovered at the contractor's expenses and in default thereof no payment or allowance shall be made for such work or for the material with which same was executed.

Godavari Marathwada Irrigation Development Corporation

Clause-20 ***Contractor liable for damage done and for imperfections***	If during the period of 36 months from the date of completion as certified by the Engineer-in-charge pursuant to Clause-7 of the contract or 60 months, after commencing the prior whichever is earlier in the opinion of the Executive Engineer the said work is defective in any manner whatsoever, the contractor shall forthwith on receipt of notice in that behalf from the Executive Engineer duly commence execution and completely carry out at his cost in every respect all the work that may necessary for rectifying and setting right the defects specified therein including dismantling and reconstruction of unsafe portions strictly in accordance with and the manner prescribed and under the supervision of the Executive Engineer. In the event of the contractor failing or neglecting to commence execution of the said rectification work within the period prescribed therefore in the said notice and/or to complete the same as aforesaid as required by the said notice and/or to complete the same as aforesaid as required by the said notice, the Executive Engineer get the same executed and carried out departmentally or by any other agency at the risk on account and at the cost of the contractor. The contractor shall forthwith on demand pay to the Corporation the amount of such costs, charges and expenses sustained or incurred by the Corporation of which certificate of the Executive Engineer shall be final and binding on the contractor. Such costs, charges and expenses shall be deemed to be arrears of land revenue and in the event of the contract or failing or neglecting to pay the same on demand as aforesaid without prejudice to any other rights and remedies of the Corporation, the same may be recovered from the contractor as arrears of land revenue. The Corporation shall also be entitled to deduct the same from any amount which may then be payable or which may thereafter become payable by the Corporation to the contractor either in respect of the said work or any other work whatsoever or from the amount of Security Deposit retained by Corporation. However for the purpose of security towards the maintenance in the defects liability period the security deposit at the time of final bill shall be converted into a Bank guarantee from any branch of a Nationalized / Scheduled Bank in the state of Maharashtra for a period of 25 months from the date of completion certificate.
Clause-21	The contractor shall carry out the work at his own cost all material plant, tools

Godavari Marathwada Irrigation Development Corporation

Contractor to supply plant, ladders, scaffolding etc.And is liable for damage, arising from non-provisions lights, fencing etc.	appliances, implements, ladders, carriage, Tackle, Scaffolding and any temporary works requisite or proper execution of the work whether in the original, altered or substituted form and whether included in the specifications, or other documents forming part of the contract or referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with requirements of the Engineer-in-charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out works, and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or the materials, failing which the same may be provided by the Engineer-in-charge at the expense of the contractor and the expenses may be deducted from any money due to the contractor under the contract or from his Security Deposit or the proceeds of sale thereof or of a sufficient portion thereof. The contractor shall provide all necessary fencing and lights required to protect the public from accident, and shall also be bound to bear the expenses of defense of every such suit, action or other legal proceedings 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 person, or which may with the consent of the contractor be paid in compromising any claim by any such person.
Clause-21 (a)	The contractor shall provide suitable scaffolds and working platform, Gangways and stairways and shall comply with the following regulation in connection therewith a) Suitable scaffolds shall be provided for workmen for all works they cannot be safely done from a ladder or by other means. b) A scaffolds shall not be constructed taken down or substantially altered except i) Under the supervision of a competent and responsible persons and ii) as far as possible by competent workers possessing adequate

experience in this kind of work.

c) All scaffolds and appliances connected there with and all ladders shall
   i) be of sound material
   ii) be of adequate strength having regard to the loads and strains to which they will be subjected, and
   iii) be maintained in proper condition

d) Scaffolds shall be so constructed that no part thereof can be displaced in consequence of normal use.

e) Scaffolds shall not be overloaded and so far as practicable the load shall be evenly distributed

f) Before installing lifting gear on scaffolds special precautions shall be taken to ensure the strength and stability of the scaffolds.

g) Scaffolds shall be periodically inspected by competent persons.

h) Before allowing a scaffold to be used by his workmen the contractor shall, whether the scaffold has been erected by his workmen or not, take steps to ensure that it complies fully with the regulations herein specified

i) Working platforms gangways and stairway shall
   1. be so constructed that no part thereof can sag unduly or unequally
   2. be so constructed and maintained having regard to the prevailing condition as to reduce as for as practicable risk or persons stripping or slipping and
   3. be kept free from any unnecessary obstruction

j) In the case of the working platforms gangways working places and stairways at the height exceeding 3 meters
   i) every working platform and every gangways shall be closely boarded unless other adequate measure are taken to ensure safety
   ii) every working platform gangway shall have adequate width and
   iii) every working platform, gangway working place and stairways shall be suitably fenced

k) Every opening in the floor of a building or in a working platform shall except for the time and to the extent required to allow the excess of persons or the transport of shifting of materials to be provided with suitable means to prevent the fall of persons or materials.

Godavari Marathwada Irrigation Development Corporation

	l) When persons are employed on a roof where there is a danger of falling from a height exceeding 3 meters suitable precautions shall be taken to prevent the fall of persons or materials m) Suitable precautions shall be taken to prevent persons being struck by articles which might fall from scaffolds or other working places n) Safe means of access shall be provided to all working platforms and other working places. o) The contractor(s) will have to make payments to the laborers as per Minimum Wages Act.
Clause-21 (b)	The contractor shall comply with the following regulations as regards hoisting appliances to be used by him. a) Hoisting machines and tackle including their attachments, anchorages and supports shall i) be of good mechanical constructions, sound material and adequate strength and free from patent defect and ii) be kept in good repairs and in good working order. b) Every rope used in hoisting for lowering materials or as a means of suspension shall be of suitable qualify and adequate strength and free from patent defect. c) Hoisting machines and tackle shall be examined and adequately tested after erection on the site and before use and be re-examined in position at intervals to be prescribed by the Corporation. d) Every chain, ring, hook shackle, swivel and pulley block used in hoisting or lowering materials or as a mean of suspension shall be periodically examined. e) Every crane drive or hoisting appliance operator shall be properly qualified. f) No person who is below age of 18 years shall be in control of any hoisting machine, including any scaffold which, or give signals to the operator. g) In the case of every hoisting machine and of every chain, ring, hook, shackle, swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate

	means. h) Every hoisting machine and all gear referred to in preceding regulation shall be plainly marked with the safe working load. i) In the case of a hoisting machine having a variable safe working load each safe working load and the conditions under which it is applicable shall be clearly indicated. j) No part of any hoisting machine of any gear referred to in regulation (g) above shall be loaded beyond the safe working load except for the purpose of testing. k) Motors, gearing, transmissions, Electric wiring and other dangerous part of hoisting appliances, shall be provided with efficient safeguards. l) Hoisting appliances shall be provided with such means as well reduce to a minimum the risk of the accidental descent of the load. m) Adequate precautions shall be taken to reduce to a minimum the risk of any part of a suspended load becoming accidentally displaced.
Clause-22 ***Measure for prevention of fire***	The contractor shall not set fire to any standing jungle trees, brushwood or grass without a written permit from the Executive Engineer when such permit is given and also all cases when destroying out or dug up trees brush wood, grass, etc. by fire, the contractor shall take necessary measures to prevent such fire spreading to or otherwise damaging surrounding property. The contractor shall make his own arrangements for drinking water for the labour employed by him.
Clause 23 ***Liability of contractor for any damage done in or outside work area***	Compensation for all damages done intentionally or unintentionally by contractor's Labour whether in or beyond the limits of Corporation properly including any damages caused by the spreading of fire mentioned in clauses 22 shall be estimated by the Engineer-in-charge or such other officer as he may appoint and the estimated of the Engineer-in-charge subject to the decision of the Superintending Engineer on appeal shall be final & contractor shall be bound to pay the amount of the assessed compensation on demand failing which the same will recovered from the contractor as damages in the manner prescribed in clause-1or deducted by the Engineer-in –charge from any sums that may be due or become due from Corporation to the contractor under this contract or otherwise. The contractor shall bear the expenses of

Godavari Marathwada Irrigation Development Corporation

	defending any action or other legal proceedings that may be brought by any person for injury sustained by him owing to neglect of precautions to prevent the spread of fire and he shall pay any damages and cost that may be awarded by the court in consequences.
Clause 24 ***Employment of female labour***	The Employment of female labour on works in neighborhood of Soldiers barracks should be avoided as far as possible. The contractor shall employ the labour from nearest employment exchange.
Clause 25 ***Work on weekly Holidays***	No work shall be done on a weekly local holiday without the sanction in writing of the Engineer-in-charge.
Clause 26 ***Work not to be sublet contract may be rescinded Security Deposit forfeited for subletting it without approval or for bribing a public officer if contract or becomes insolvent.***	**DELETED**
Clause 27 ***Sum payable by way of compensation to be considered as reasonable compensation without reference to actual loss .***	All sums payable by the contractor by way of compensation under any of these conditions shall be considered as a reasonable compensation to be applied to the use of Corporation without reference to the actual loss or damage sustained, and whether any damages has or has not been sustained.
Clause 28 ***Changes in the constitution of firm to be notified***	In the case of tender by partners any change in the constitution of a firm shall be forthwith notified by the contractor to the Engineer-in-charge for his information.

Godavari Marathwada Irrigation Development Corporation

Clause 29 ***Works be under direction of Superintending Engineer***	All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Superintending Engineer of the circle for the time being, who shall be entitled to direct at what point or point and in what manner they are to be commenced and form time to time carried out.
Clause 30 (1) ***Decision of Superintending Engineer be final.***	Except otherwise specified in the contract and subject to the powers delegated to him by Corporation under the code rules then in force the decision of the Superintending Engineer of the circle for the time being shall be final, conclusive and binding on all parties of the contract upon all questions relating to the meaning of the specifications, designs, drawings and instructions, herein before mentioned and as to the quality or workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever, if any way arising out of or relating to the contracts, designs, drawings, specification, estimated, instructions, orders or these conditions, or otherwise concerning the work or execution, or failure to execute the same whether arising, during the progress of the work, or after the completion or abandonment thereof.
Clause-30 (2)	The contractor may within thirty days of receipt by him of any order passed by the Superintending Engineer of the circle as aforesaid, appeal against it to the Chief Engineer concerned with the contract, work or project provided that. a) The accepted value of the contract exceeds Rs. 100 lakhs (Rupees One hundred lakhs) b) Amount of claim is not less than Rs. 1.00 lakhs (Rupees one lakhs)
Clause 30 (3)	If the contractor is not satisfied with the order passed by the Chief Engineer as aforesaid the contractor may, within thirty days of receipt by him of any such order, appeal against it to the concerned Executive Director, Godavari Marathwada Irrigation Development Corporation, Chhatrapati Sambhajinagar, who if convinced that prima-facie the contractor's claim rejected by Superintending Engineer/Chief Engineer is not frivolous and that there is some substance in the claim of contractor as would merit a detailed examination and decision by the Executive committee/standing Committee

Godavari Marathwada Irrigation Development Corporation

	shall put up to the Executive committee/ standing committee at Corporation level for suitable decision.
Clause-31 Stores of European American manufacture to be obtained from corporation.	**DELETED**
Clause-32 ***Lump sums in estimates***	When the estimate on which a tender is made includes lumpsum in respect of parts of the work the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for each item, or if the part of the work in question is not in the opinion of the Engineer-in-charge capable of measurement, of Engineer-in-charge may at his discretion pay the lumpsum amount entered in the estimate, and the certificate in writing of the Engineer-in-charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provision of this clause.
Clause 33 ***Action where no specification***	In the case of any class of work for which there is no such specification as is mentioned in rule one such work shall be carried out in accordance with Divisional specification and in the event of there being no Divisional specification then in such case the work shall be carried out in all respects in accordance with all instructions and requirements of the Engineer-in-charge.
Clause-34 ***Definition of work***	The expression "Works" where used in these conditions, shall unless there be something in the subject or context repugnant to such construction, be considered to mean the work or works contracted to be executed under or in virtue of the contract, whether temporary or permanent and whether original, altered substituted or additional.
Clause 35 ***Contractor percentage whether applied to net or gross amount of bill***	The percentage referred to in the tender shall be deducted from / added to the gross amount of the bill before deducting the value of any stock issued.
Clause 36 ***Fees and Royalties.***	All quarry fees, royalties, octrei dues and ground rent for stocking materials, if any shall be paid by the Contractor.

Godavari Marathwada Irrigation Development Corporation

Clause 37 ***Compensation under theworkmen's compensation act.***	The contractor shall be responsible for and shall pay any compensation to his workmen payable under the workmen's compensation Act, 1923 (VIII of 1923)(hereinafter called the said act) for injuries caused to the workman). If such compensation is payable and or paid by the Corporation as principle under subsection (1) of section 12 of the said Act on behalf of the contractor, it shall be recoverable by Corporation from the contractor under sub-section (2) of the said section, such compensation shall be recovered in the manner laid down in clause 1 above.
Clause-37 (A)	The contractor shall be responsible for and shall pay the expenses to providing medical aid to any workmen who may suffer a bodily injury as a result of an accident, If such expenses are incurred by Corporation the same shall be recoverable from the contractor forthwith and be deducted without prejudice to any other remedy of Corporation from any amount due or that may become due to the contractor.
Clause-37 (B)	The contractor shall provide all necessary personal safety equipment and first aid apparatus available for the use of persons employed on the site and shall maintain the same in condition suitable for immediate use at any time and shall comply with the following regulations in connection therewith. a) The workers shall be required to use the equipment so provided but the contractor and the contractor shall take adequate steps to ensure the proper use of the equipment by those concerned. b) When the work is carried on in proximity to any place where there is a risk or drowning all necessary equipment shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger. c)Adequate provisions shall be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
Clause-37 (C)	The contractor shall duly comply with the provisions of "The Apprentices Act 1961" (III) of 1961 the rules made there under and the orders that may be issued from time to time under the said Act and the said Rules and on his failure or neglect to do so he shall be subject to all the liabilities and penalties provided by the said Act and said Rules.
Clause 39	The contractor shall employ any feminine, convict or other labour of a

Godavari Marathwada Irrigation Development Corporation

Employment of feminine labour etc.	particular kind or class if ordered in writing to do so by the Engineer-in-charge.
Clause 40 ***Claims for compensation for delay in starting the work***	No compensation shall be allowed for any delay caused in the starting of the work on account of acquisition of land or in the case of clearance work, on account of any delay in according sanction of estimate.
Clause 41 ***Claims for compensation for delay in execution of work.***	No compensation shall be allowed for any delay in the execution of the work on account of water standing in borrow pits or compartments. The rates are inclusive for hard or cracked soil excavation in mud sub soil water standing in borrow pits and no claim for an extra rate shall be entertained unless otherwise expressly specified.
Clause 42 ***Entering upon or commencing any portion of work.***	The contractor shall not enter upon or commence any portion of work except with the written authority and instruction of the Engineer-in-charge or his subordinates-in-charge of the work, failing such authority the contractor shall have no claim to ask for measurements of or payment of work.
Clause-43 ***Minimum age of persons employed the employment of donkey and for other animals and the payment.***	i)No contractor shall employ any person who is under the age of 14 years. ii)No contractor shall employ donkeys or other animals with breaching of string or thin rope. The breaching must be at least three inches wide and should be of tape (nawar) iii)The Engineer-in-charge or his agent is authorised to remove from the work any person or animal found working which does not satisfy these conditions and no responsibility shall be accepted by Corporation for any delay caused in the completion of the work by such removal. iv)The contractor shall pay fait and reasonable wages act to the workmen employed by him. In the contract under taken by him in the event of any dispute arising between the contractor and his workmen on the grounds that the wages paid are not fair and reasonable the dispute shall be referred without the delay to the Executive Engineer, who shall decide the same. The decision of the Executive Engineer, shall be conclusive and binding on the contractor but such decision shall not in any way effect the conditions in the contract regarding the payment to be made by Corporation at the sanctioned tender rates.

Godavari Marathwada Irrigation Development Corporation

	v)Contractor shall provide drinking water facilities to the workers, similar amenities shall be provided to the workers engaged on the large working urban area. vi)The contractor should take precautions against accidents which take place on account of labour using loose garments while working near machinery.
Clause 44 ***Methods of Payment***	Payment to the contractors shall be made by cheque drawn on any Scheduled /Nationalized bank provided the amount exceeding Rs. 500/- amounts not exceeding Rs.500/- will be paid in cash.
Clause 45 ***Acceptance of condition compulsory before tendering the work.***	Any contractor who does not accept these conditions shall not be allowed to tender for works.
Clause 46 ***Employment of scarcity labour***	If Corporation declares a state of scarcity or famine to exist in any village situated within 16 km of the work, the contractor shall employ upon such parts of the work, as are suitable for unskilled labour, any person certified to him by the Executive Engineer or by any person to whom the Executive Engineer may have delegated this duty in writing to be in need of relief and shall be bound to pay to such person wages not below the minimum which the corporation may have fixed in this behalf. Any disputes which may arise in connection with the implementation of this clause shall be decided by the Executive Engineer whose decision shall be final and binding on the contractor.
Clause 47	The price quoted by the contractor shall not in any case exceed the control price, if any fixed by Corporation or reasonable price which it is permissible for him to charge a private purchaser for the same class and description, of goods under provisions. Hoarding and Profiteering prevention Ordinance, 1948 as amended from time to time. If the price quoted exceeds the controlled price or the price, permissible under hoarding and profiting Prevention Ordinance, the contractor will specifically mentioned this fact in his tender along with the reasons for quoting such higher price. The purchaser at his discretion will in such case exercise the right of revision the price at any stage so as to conform with the controlled price as permissible under the Hoarding

Godavari Marathwada Irrigation Development Corporation

	and Profiteering Prevention Ordnance. This discretion will be exercised without prejudice to any other action that may be taken against the contractor.
Clause 48	The rates to be quoted the contractor must be inclusive of sales Tax No extra payment on this account will be made to the contractor.
Clause 49	In the case of materials that may remain surplus with the contractor from those issued for the work contracted form the date of ascertainment of the materials being surplus will be taken as the date of sale for the purpose of Sales Tax and the Sale Tax will be recovered on such sale.
Clause 49 (a)	Contractor should note that recovery at penal rate of twice the issue rate will be affected if the contractors do not return the surplus materials and the sales tax and the income tax will also be recovered from them.
Clause 50	The contractor shall employ the unskilled labour to be employed by him on the said work only from locally available labours and shall give preference to those persons enrolled under Maharashtra Government Employment and Self Employment Department's Scheme. Provided however, that if the required unskilled labours are not available locally, the contractor shall in the first instance employ such number of persons as is available and thereafter may with previous permission, in writing of the Executive Engineer –in-charge of the said work, obtain the rest of requirement of unskilled the labour from outside the above scheme.
Clause 51	Wages to be paid to the skilled and unskilled labourers engaged by the contractor. The contractor shall pay the labourers skilled and unskilled according to the wages prescribed by the Minimum Wages Act of 1948 applicable to the area in which the work of the contractor is located.
Clause 52	All amounts whatsoever which the contractor is liable to pay to the Corporation in connection with the execution of the work including the amount payable in respect of (I) materials and /or stores supplied / issued hereunder by the Corporation to the contractor (ii) hire charges in respect of heavy plant, machinery and equipment given on hire by the Corporation to the contractor for execution by him of the work and / or on which advance have been given by the Corporation to the contractor shall be deemed to be arrears of land revenue and the Corporation may without prejudice to and

Godavari Marathwada Irrigation Development Corporation

	other rights and remedies of the corporation recover the same from the contractor as arrears of land revenue.
Clause 53	The contractor shall duly comply with all the provision of the contractor Labour (Regulation and Abolition) Act. 1970 of 1970) and the Maharashtra Contract labour (Regulation and Abolition) Rules 1971 as amended from time to time and all other relevant statures and statutory provision concerning payment of wages, particularly to workmen employed by the contractor shall pay wages to each worker employed by him on the site of the work at the rates prescribed under the Maharashtra Contract Labour (Regulation and Abolition) rules 1971, if the contractor fails or neglects to pay wages at the said rates or makes short payment and the corporation makes such payments of wages in full or part thereof less paid by contractor, as the case may be the amount so paid by the Corporation to such workers shall be deemed to be arrears of land revenue and the Corporation shall be entitled to recover the same as such from the contractor or deduct the same from the amount payable by the Corporation to the contractor here under or from any other amounts payable to him by the Corporation.
Clause 54 :	i)The contractor shall duly comply with all the provisions of the Maharashtra State Tax on professions and trades calling and employment act 1975, (See Rule 3(2). The contractor shall obtain certificate of registration under this act and shall produce to Corporation clearance certificate as and when demanded. ii) The contractor shall duly comply with all the provisions of the Maharashtra Sales Tax on the transfer of goods involved in the execution of works contracts (re-enacted) act 1989. He shall obtain registration under this act that he is a registered dealer (In for II, Rule 4(i) . His final bill under this contract shall not be paid unless all the dues of Sale Tax under the act are paid by him in the District treasury. The Corporation shall inform to the concerned Dy Sales Tax Commissioner about the details of contract awarded.
Clause 55 :	1)Tender rates are as per WRD CSR 2023-24 and are exclusive of GST, Contractor should quote their rates considering effect of GST as per prevailing G.S.T. act and circulars 2) As per government rule TDS will be deducted from Contractor's bill 3) Contractor Shall be solely responsible for payment of G.S.T. to concerned

	department. 4) G.S.T. will be reimbursed for Part I of Schedule B only.
Clause 56: Insurance	Contractors shall take out necessary Insurance policy/ Policies so as to provide adequate insurance cover for execution of the awarded contract work from the Director of insurance, Maharashtra State, Mumbai-400 051 only. It's postal address for correspondences "264" MHADA, Opp. Kalanagar, Bandra (E) Mumbai, 400 051 (Tel. No. 6438403) (Mix) 6438461/6438690. Insurance policy/policies taken out from any other company will not be accepted. However if the contractor desire to offer insurance with the local office of any insurance company, the same should be under the co-insurance –cum-servicing arrangements approved by the contractors is not on co-insurance basis (G.I.F. 60% and insurance company 40%) approved by the Government Insurance Fund the same will not be accepted and 1% of tender amount or such a amount of premium calculated by the Director of Insurance will be recovered directly from the amount payable to the contractors for the executed contract work which may be noted. Additional conditions regarding payment of insurance charges as below- 1) The insurance charges are to be paid by contractor to the Director of insurance Maharashtra State Mumbai. 2) The insurance amount will be released to contractor as per conditions mentioned below. a) The contractor shall submit the original proof of insurance Policies to the Engineer-in-charge. b) After the verification of record submitted by the contractor the total amount that can be released shall be limited to the actual payment made as mentioned in the condition (i) c) If the actual insurance charges claimed are less than the provision made in the tender the amount shall be paid as per Actual. d) If the actual insurance charges claimed are more than the provision made in the tender then the amount shall be paid limited to the provision made in tender.

SECTION VIII

SPECIAL CONDITIONS OF CONTRACT

Godavari Marathwada Irrigation Development Corporation

SPECIAL CONDITIONS OF CONTRACT

CONTENTS

Sr.No.	Particulars.	Page No.	
		From	To
1.	Contractor to inform himself fully	130	130
2.	Contract Drawing and Specifications	130	130
3.	Data and Drawings to be furnished by the Contractor	131	131
4.	Errors, Omissions, Discrepancies	131	132
5.	Use of Site	132	132
6.	Contractor not to dispose off soil etc.	132	132
7.	Gold/Silver, Minerals, Oils, Relics etc. found on the Site	132	133
8.	Access to Site and Work and Co-operation with other contractor	133	133
9.	Cleaning Up	134	134
10.	Layout of Construction of roads	134	134
11.	Period and hours of work	134	134
12.	Signing field books, longitudinal section, cross sections and measurement books	134	134
13.	Programme of Construction	135	135
14.	Materials	135	138
15.	Laboratory for testing work	138	139
16.	Bills and Payments	139	139
17.	Security Deposits	140	140
18.	No interest on money due to the Contractor	140	140
19.	Other Contractor for the work	140	140
20.	Contract documents and matters to be treated as confidential	140	140
21.	Access to the Contractors Books	141	141
22.	Breach on part Corporation not to annual contract	141	141
23.	Local Laws	141	141
24.	Personnel of the Contractor	142	142
25.	Death, Bankruptcy etc.	142	142
26.	Notices, How to be given	143	143
27.	Passing of foundation etc.	143	143
28.	Reference to standard specifications	143	143
29.	Communications and notices by contractors	144	144
30.	Non-Compliance of Contract conditions	144	144
31.	Extra Items	144	144
32.	Price variation	144	148
33.	Compensation for delay in completion of work	148	148

34.	Co-ordination with other contractors	148	149
35.	Undertaking under Contract Labour Act	149	149
36.	Photographs of the work	149	149
37.	Data, drawing to be furnished by the Contractor	149	149
38.	Fencing, Lighting and ventilation	150	150
39.	Liability for accidents to persons	150	150
40.	The Contractor to supply and be responsible for the sufficiency for the means employed	151	151
41.	Covering of work	151	151
42.	Quantities of work	151	151
43.	Accuracy of lines, levels and grades	152	152
44.	Excavated Materials	152	152
45.	Safety measures	153	153
46	Maintenance	153	153
47	Sundays and Holidays	154	154
48	Bank Guarantee	154	154
49.	Handing over of works	154	154
50.	Inspection of work	154	154
51.	Instrumentation	155	155
52.	Opening out works	155	155
53.	Removal of Imperfect works	155	155
54.	Jurisdiction of Court for disputes	156	156
55	Mode of Payment of excavation quantities in running bill and final bill	156	156
56.	Change in Grade	157	157
57.	Change in Location	157	157
58	Force Measures	157	157
59	Contractor should supply Electronic Items etc.	157	157
60	Verification of lead by Contractor	157	157
61	Precautions during flood	157	157
62	Labour Welfare Cess	157	157
63	Goods and Service Tax (GST)	158	158
64	Condition related to Insurance & Labour Welfare	158	158
65	Completion Period	158	158
66	Field visit	159	159

1. CONTRACTOR TO INFORM HIMSELF FULLY

The contractor shall be deemed to have carefully examined the work and site conditions, the special conditions, the specifications, schedules and drawings and shall be deemed to have visited the work site, his own quarries for rubble and sand and to have fully informed himself regarding the availability of construction materials, local conditions, ancillary works required to be done etc. before quoting the offer.

If he shall have any doubts as to the meaning of any portion of the special conditions or the scope of work or the specifications or any other matter concerning the contract, he shall in good time, set forth the particulars thereof and submit them to the Engineer-in-charge. The Engineer-in-charge generally means the Executive Engineer directly in charge of the work, but also means the Superintending Engineer, Chief Engineer of Corporation, for exercising powers under this contract.

2. CONTRACT DRAWINGS AND SPECIFICATIONS:

2.1 On acceptance of the tender, three sets of contract drawings and working drawings as well as one certified copy of the accepted tender will be supplied to the contractor free of charge within one week. On request by the contractor and at the discretion of Engineer-in-charge, the contractor may be supplied additional copies of contract documents to be charged at the rate of Rs. 10000/- (Rs. Ten Thousand only) per set.

2.2 The drawings which form part of this contract show the works to be done in such details as possible to do for the present. They will be supplemented or superseded by such additional detailed drawings as may be necessary as the work progresses. The contractor shall carry out the work in accordance with these additional and / or revised drawings as the case may be at the applicable rates as per the contract. The contractor shall be supplied a maximum number of three copies of each of such working drawings free of charge. Should the contractor require any additional copy for his use, the same may be supplied at the discretion of Engineer-in-charge and the contractor will be charged Rs. 8000/- per set of contract drawings and Rs. 200/- for each of such additional copy of each drawings.

2.3 The contractor shall check all drawings carefully and intimate the Engineer-in-charge immediately any errors or omissions discovered. The contractor shall not take advantage of any kind of errors or omissions in the drawings supplied.

3. DATA AND DRAWINGS TO BE FURNISHED BY THE CONTRACTOR:

a) Prior to the commencement of the work, the contractor shall submit to the Engineer-in-charge for approval, drawings or prints on white ammonia paper of size 1020 mm x 690 mm or 510 mm x 345 mm as may be suitable in triplicate showing the location of major plant workshop, if any, roadways, temporary bridges, unloading facilities and storage yards, etc. which he proposes to put up at the site.

b) Then contractor shall submit to the Engineer-in-charge for approval within one month from the date of his receiving notice to start work, a layout plan of construction plant and equipment for the execution of the work which the contractor proposes to adopt at site.

c) Any changes in the approved layout will be subject to further approval.

d) The approval of the drawings, however, will not relieve the contractor of his responsibility from any errors or omissions.

4. ERRORS, OMISSIONS, DISCREPANCIES:

a) In case of errors, omissions and / or discrepancies between written and scaled dimensions on the drawings or between the drawings and specifications, the following orders of preference shall apply.

- Between actual scaled and written dimensions or description on drawing and corresponding one in the specification, the latter shall be adopted.
- Between the quantities in the schedule of quantities and those arrived at from the drawings, the former shall apply.
- Between the written description of the item in the schedule of quantities and the detailed specifications of the same item, the latter shall be adopted.

b) The information in connection with the works and work site as well as specifications are contained in this book of contract in general and in particular in two parts, viz. special conditions and specifications for item of work. In case of any discrepancy or repugnancy in the clauses in these sections, the specifications will prevail over special conditions.

c) The special conditions of contract and the specifications shall prevail over various clauses of B-1 tender form.

d) In all cases of omissions and / or doubts or discrepancies; in the dimensions or description of any item, a reference shall be made to the Engineer-in-charge whose elucidation, elaboration or decision shall be considered as authentic and final. The Contractor shall be held responsible for any errors that may occur in the work through lack of such reference and precaution.

5. USE OF SITE

a) All land required shall be arranged by the contractor from private land owner/Revenue department at his own cost and no claim on this account shall be entertained.

b) All areas of operation, including those of his staff and labour colonies, in case handed over the Contractor shall be cleared and handed over back in good condition to the Engineer-in-charge, except the areas under works constructed from the Engineer-in-charge. The contractor shall make good, to the satisfaction of the Engineer-in-charge, any damage or alterations made to areas which he has to hand over back or to other property or land handed over to him for the purpose of this work.

c) The lands shall as hereinbefore mentioned, be handed over back to the Engineer-in-charge within three months after the completion of the work under this contract or the termination of the contract whichever is earlier. Also no land shall be held by the Contractor longer than the Engineer-in-charge shall deem necessary and the Contractor shall, on due notice by the Engineer-in-charge vacate and return the land which the Engineer-in-charge may certify as no longer required by the Contractor for the purpose of the works. In case the lands are not handed over back to the Corporation within the limit; specified above, penal rent as may be decided by the Engineer-in-charge will be recoverable.

d) The vegetation and forest is noticeable in project area. The contractor should take utmost care for the preservation of this vegetation and forest. Any damage in this vegetation and forest will have to be compensated by the contractor and decision from Engineer-in-charge will be final and binding on contractor.

6. CONTRACTOR NOT TO DISPOSE OFF SOIL ETC.

The contractor shall not sell or otherwise dispose off or remove except for the purpose of this contract, sand, stone, clay, ballast, earth rock or other substance or materials which may be obtained from the excavation made for the purpose of this contract or any produce from the site. All such substance, materials and produces shall be the property of Corporation and shall be disposed off in a manner and at a place shown in the drawings or as and where the Engineer-in-charge may direct.

7. GOLD / SILVER, MINERALS, OILS, RELICS, ETC. FOUND ON THE SITE

All gold, silver, oil or other minerals of any description and all precious stones, coins treasure, relics, antiquities and other similar things which shall be found in or upon the site, shall be property of Government and the Contractor shall duly preserve the same to the satisfaction of the Engineer-in-charge and shall from time to time, deliver the same to such person or persons as the Engineer-in-charge may appoint.

8. ACCESS TO SITE AND WORK AND CO-OPERATION WITH OTHER CONTRACTORS

The Engineer-in-charge may, if he considers fit, from time to time, enter on any lands which may be in the possession of the Contractor under the contract for the purpose of executing any works not included in the contract and may execute such works not included in this contract by agents or by other contractors at his option and the contractor shall in accordance with the requirements of Engineer-in-charge afford all reasonable facilities for execution of the works, including occupation of lands by structures or otherwise to any other contractor employed by the Corporation and his workmen or for the workmen of the Corporation who may be employed in the execution on or near the site of work not included in the contract, or of any contract in connection with or specially to the works and in default, the contractor shall be liable to the Corporation for any delay or expenses incurred by reason of such default. The contractor shall not however, on account of any such modified, new or extra work executed by or for the sake of the Corporation be entitled to claim relief from the obligation to execute the works. The contractor shall also co-operate with other contractors with all fairness and mutual understanding and use the common facilities like access roads to quarries, water supply arrangements etc.

The contractor shall also not cause advertently or inadvertently any obstruction or impediments in the progress of the other works being executed by Corporation or through other agencies. In the event of dispute regarding the claim, the responsibility, liabilities etc. in respect of such facilities, the decision of the Engineer-in-charge shall be final.

9. CLEANING UP

a) The contractor shall at all times 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 contractor shall remove all rubbish from and around the premises and all tools, scaffolding equipment and materials which are not part of permanent structures except otherwise asked for or as provided under any other clauses of this contract, the premises will be left in a manner fully satisfactory to the Engineer-in-charge.

10. LAYOUT OF CONSTRUCTION ROADS

The contractor 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 will be binding on the contractor. If it is decided by the Engineer-in-charge to have some of the roads proposed by the contractor as common roads for common use of Corporation and other contractors or convenient and for compact and planned layout of work site, the contractor will be bound to construct them and allow them to be used simultaneously by other contractors and departments. In case of disputes, the decision of the Engineer-in-charge shall be final and binding on the contractor.

11. PERIOD AND HOURS OF WORK

The work shall be done usually during the day time. In the interest of progress if it is felt necessary to work during night, the contractor shall obtain specific permission of the Engineer-in-charge. If the work is to be done at night, prior permission of Engineer-in-charge should be obtained and adequate lighting arrangement shall be made as directed by the Engineer-in-charge.

12. SIGNING FIELD BOOKS, LONGITUDINAL SECTIONS, CROSS SECTIONS AND MEASUREMENT BOOKS

12.1 Before starting the work, and at the end before the work is covered, levels for plotting the longitudinal section (along the axis as decided by the Engineer-in-charge or his authorized representative) and cross sections of the portion of the work shall be taken by the authorized Engineer of the contractor in the presence of the Engineer-in-charge or his duly authorized representative and the same shall have to be got attested from the Engineer-in-Engineer or his authorized representative in token of acceptance. If the contractor fails to take measurements and sign them the measurements recorded by the Engineer-in-charge or his representative in the authorized books shall be final and binding on the contractor. For this purpose, suitable date or dates shall be fixed by the Engineer-in-charge and intimated to the contractor at least three days in advance. If the contractor or his duly authorized agent fails to attend on the appointed date or dates, the levels shall be taken in his absence and such levels and longitudinal sections and cross sections based thereon shall be final and binding on the contractor. The levels will be taken on such alignment and cross sections as will be useful for reference permanently and described under specifications for 'Excavation'. The point of locations for the level will depend upon the roughness of the area and will also be atleast in conformity with the requirements of specifications for 'Excavation' as far as possible.

13. PROGRAMME OF CONSTRUCTION

Work and Progress Schedules

The construction program is given in Annexure 'A' to Section I - Detailed Tender Notice / enclosed at the end of Schedule 'B' of tender document based on which the physical program is prepared. If the tenderer does not agree with this program, he shall submit his own program without changing total period of tender along with tender documents inclusive of the physical program as stated above, subject to the provision that 50% of the work shall be completed in 50% of the contract period.

In case, it is subsequently found necessary to alter this program agreed in contract document, including the changes in the sequence of the items, the contractor shall submit in good time a revised program incorporating necessary modifications proposed and get the same approved from the Engineer-in-charge.

Additional detailed program for each working season, beginning from October, showing the progress to be achieved month by month for controlling items shall also be submitted to the Engineer-in-charge not later than the 31st August proceeding the working season and got approved. The Engineer-in-charge is further empowered to ask for more detailed program, say week by week, for any items of special importance, and Contractor shall supply the same as and when asked for without delay.

The submission of the works program and approval to it by the Engineer-in-charge shall not relieve the contractor of any of his duties or responsibilities under the contract, like timely completion, the damages due to flood or other natural calamities etc. The contractor shall not be entitled for any claims for any damages caused, due to particular works program. It is the entire responsibility of the contractor to frame the program after anticipating the rains, floods etc. Actual work turned out shall be mainly taken into account and not just the sum total of the various payments made to the contractor. The advance on the material brought to the site of work will be accounted for while arriving at the progress achieved by the contractor in terms of proportions of the total work tendered for.

14. MATERIALS

1. Cement- (Procured by contractor)

The cement shall conform to I.S. 8112 -1989 and subsequent revisions for Ordinary Portland Cement and I.S.1489-1 and subsequent revisions for Pozzolana cement. All cement required for the work under this contract, if work cost is more than 100 lakhs, shall be procured well in advance by the Contractor in polythene bags of twenty to a metric ton (M.T.) as received from the cement factories.

The Contractor shall produce proof of purchase of cement from the cement factories. The purchase bill supported by delivery challan and excise gate pass shall constitute adequate proof of purchase.

Cement shall be stored in such a way as to allow the removal and use of cement in chronological order of receipt i. e. first received being first used.

Cement shall be kept in a store under double locking arrangement (one lock to be operated by contractor and second lock to be operated by the authorized person of Corporation) so that it can be taken out or fresh stock admitted with the knowledge of

supervising staff of the Corporation. The watch and ward of the cement stores shall be the responsibility of the contractor.

In the event of cement in branded bags remaining surplus due to authorized reduction in quantity of work certified by the Engineer-in-charge and as noticed after the issue of completion certificate, the contractor may choose either of the following three alternatives.

To transfer the cement in branded bags with prior written permission from the Engineer-in-charge to any of the contract work with the Corporation and account for the same therein.

To sell the cement in branded bags with prior written permission from the Engineer-in charge to any of the contractors carrying out the works on contract with the Corporation at a price to be negotiated by both the contractors and account for the same.

To sell the cement in branded bags with prior written permission from the Engineer-in-charge to the Corporation at the 'Ex-factory price + Sales Tax + Octroi if any + delivery at Corporation godown as directed by the Corporation. If the purchase price as paid by the contractor plus delivery at Corporation godown is less than the above, a lower of the two shall be considered. The Corporation will accept the cement in branded bags only if the same is as per the specification and of acceptable quality.

2. STEEL: (Procured by Contractor)

A. The Contractor shall procure steel from the market. The contractor shall make necessary arrangements at his own cost for samples from the available stock and shall conform with the specifications laid down by the Bureau of Indian Standards (vide the specifications Nos. IS 432 (part 1) of 1966, 1139-1966, 1786-1979).

B. The contractor should store the steel of 60 days requirement at least one month in advance.

C. The contractor will have to construct sheds for storing steel having capacity not less than the steel required for 90 days use at approved location. The Engineer in charge or his representative shall have free access to such stores at all times.

D. The contractor shall further at all times satisfy the Engineer in charge on demand, by production of records and books or by submission of returns and other proofs as directed that the steel is being used as tested and approved by the Engineer in charge for the

purpose and the Contractor shall at all times keep his records upto date to enable the Engineer in charge to apply such checks as he may desire.

E.

1) For bar diameters 20 mm and above, the steel should be procured from one of the main producers only. (SAIL, TISCO, RINL-VSP) with test reports in the format in Technical Specifications.

2) In respect of bar diameters from 6mm. to 20mm. the steel manufactured by ISI approved rolling mills can be accepted along with the supply of main producers like SAIL, ISCO, TISCO, RINLVSP provided the third party inspection is carried out and test certificate for the steel supplied by the convergent Agent and ISI approved re-rolling mill, as given in Para F below.

F) Quality of supply & Testing

1) All materials supplied shall be strictly as per specification laid down and in strict accordance with and as per I.S.I. Standard and the test shall give results on parameters &recommendation as below (TECHNICAL SPECIFICATIONS FOR STEEL)

2) The contractor should submit test certificates / reports (as detailed above) from the Manufacturers / from whom the supply is affected for respective quantity of material convergent Agent / ISI approved rolling mills.

3) The material of manufactured furnished steel product should be tested to ISI specification. The third party inspection and testing of steel bars be got done through one of the following agencies.

i) Loyd's Register Industrial Services (I) Ltd. Mumbai.

ii) Certification Engineers International Ltd. (A wholly owned subsidiary of Engineers India Ltd.) Mumbai.

iii) RITES, Mumbai.

iv) S.G.S. India Ltd. Mumbai.

v) Bureau Veritas Industrial Service (India) Pvt. Ltd. Mumbai.

vi) Tata Consultancy Services, Mumbai.

vii) ITENG Engineering Pvt. Ltd. Mumbai.

viii) MERI Nashik

All the tests viz. for parameters (Technical Specifications) as specified in the relevant Indian Standards shall be carried out by Third party inspection and inspection report

should be produced for M.S. Rounds (IS 2062 Grade A) and Tor steel / CTD bars (IS.1786), the physical and chemical testing should be witnessed by the inspector of the third party inspecting agency and the approval note should be given truck/Trailor wise by the third party inspecting agency. All the charges for the same would be borne by the Contractor.

4) The Quality Control Unit/Division/Circle may call for the reports as in 1 to 3 above. The same should be produced by the concerned.

15. LABORATORY FOR TESTING WORK

15.1 Whenever the testing of materials, concrete mixes, mortar and also of foundations of completed works etc. are required as per the detailed specifications or otherwise required by the Engineer-in-charge, the same shall be carried out at the laboratory, selected by the Engineer-in-charge at Corporations cost and the results given by this laboratory shall be considered correct and authentic by the contractor.

15.2 The materials, mixes and any other arrangements, including labourers, shall be supplied by the contractor to the Corporation free of cost. The samples for testing shall be taken in the presence of Engineer-in-charge or his representative present on site.

15.3 The contractor or his authorized representative shall have a free access in these laboratories, to get himself satisfied about procedures of testing etc. Even if the contractor or his representative fails to remain present while collecting samples or testing, the results will be considered as authentic and binding on the contractor.

15.4 On award of contract, the contractor will have to provide adequate quality assurance setup including Quality Assurance Engineer backed with suitable laboratory assistance, labours and well-equipped laboratory for taking necessary field test required as per specifications and as per instruction of Engineer-in-charge.

15.5 If he fails to fulfill the requirement, the required manpower for testing and field laboratory with required equipments will be deployed by the Engineer-in-charge and the charges will be recovered from the contractor (Clause 4 applicable) or the agreement will be revoked.

15.6 Personnel for Quality Assurance

Sr. No.	Personnel with Qualification	Nos.
1	Quality Assurance Engineer (Civil Engineering Graduate with 2 year experience in QA testing and report generation work)	One
2	Laboratory Assistant (Twelveth Pass with Science subject with 2 year experience in testing of material	Two to Four (As per Work)
3	Laboratory Attendants	Two to Four (As per Work)

15.7 Equipments

Sr. No.	Equipments	Apparatus for tests
1	Earth work -	Field density, Moisture content
2	Concrete work -	Silt Content, Moisture Content, Slump & Cube Moulds, Sieves for sand & metal

16. BILLS AND PAYMENTS

1) One running payment in a month is permitted. The bill shall be submitted by the contractor by the 25th day. Payment thereof shall be effected as stated above Non-submission of the bills on the scheduled dates may absolve the Corporation of the liability to make payment. The monthly payment will be made to the extent of availability of funds for the work under this contract.

2) The format of running bill on which the bills are to be submitted by the contractor will be supplied to the contractor by the Corporation. Printed copies of the bill forms as per this format shall be arranged by the contractor at his cost. The bills in five copies shall be submitted to the concerned Deputy Engineer, in the standard Proforma only.

3) The final bill shall be submitted within one month of the date of issue of completion certificate. The final bill shall be paid within six months of initial submission.

4) No claim, on account of delay in payment due to unavailability of funds for any period, shall be entertained.

17. SECURITY DEPOSIT

The security deposit accumulated for deductions from the running account bills may from time to time and at any time, on application by and at the cost of the Contractor, be converted into interest bearing Corporation securities, approved by and in the name of the Corporation. Should the market value of the securities fall, for any reason whatsoever below that specified, the contractor shall make good the same in cash or as may otherwise be acceptable whenever called upon to do so or to replace the security in other acceptable form to the Engineer-in-charge.

The contractor shall bear all charges for commission and brokerage incidental to the purchases, safe custody, withdrawal and collection of interest on these securities.

18. NO INTEREST ON MONEY DUE TO THE CONTRACTOR

No omission by the Engineer to pay the amount due upon measurements or otherwise shall vitiate or make void the contract nor shall the contractor be entitled to interest on any guarantee bond or payment in arrears nor on any balance which may on the final settlement of his account be found due to him.

19. OTHER CONTRACTOR FOR THE WORK

Corporation has the right to split-up the project work detailed in the **Work and Site Conditions**, into distinct items and this contract shall apply only to those items which shall have been specified in this contract.

Should Corporation enter into agreement with other contractors for specified items of the project work each contractor shall co-operate with others to the fullest extent and shall allow others every facility and co-operation for execution of their works simultaneously and satisfactorily, as intended in the designs, specifications and drawings.

Should there be a dispute or disagreement between the contractors for any cause whatsoever, the same shall be referred to the Engineer-in-charge whose decision regarding the coordination, cooperation and facilities to be provided by any of the contractors to others shall be final and binding on all parties and such a decision or decisions shall not vitiate any contract nor absolve the contractor of his responsibilities under the contract nor form the grounds for any claim of compensation.

20. CONTRACT DOCUMENTS AND MATTERS TO BE TREATED AS CONFIDENTIAL

All documents correspondence, decisions and other matters concerning the contract shall be considered as of confidential and restricted nature by the contractor and he shall not divulge or allow access thereto to any unauthorized person.

21. ACCESS TO THE CONTRACTOR'S BOOKS :

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

22. BREACH ON PART OF CORPORATION NOT TO ANNAL CONTRACT:

No breach or non-observance on the part of Corporation of any of the conditions contained herein shall anneal this contract or discharge the Contractor from the observance and performance thereof, but on application to the Engineer-in-charge, an extension of time may be given to the Contractor in respect of such breach or non-observance by the Corporation, which shall be governed by Clause 18A of C form.

The Contractor shall not, however, be entitled to consideration or any extension of time for any item of the work unless the contractor shall have made an application in witting to the Engineer-in-charge within one month of the arising of the cause needing such extension, but the Engineer-in-charge may at his discretion, which shall be conclusive, waive the condition regarding this period of one month.

23. LOCAL LAWS

All local laws in force at the time of entering into the contract and those enacted thereafter shall be binding on the Contractor and he shall abide by the same.

All import and excise duties, sales tax, local panchayat tax and other taxes shall be borne by the Contractor and they shall be deemed to have been covered by his quoted tender rates, except that the contractor shall not be liable to any land tax for the land handed over to him for the operation in connection with this contract or for his colony or appurtenant works constructed by him for the purpose of this contract.

The contractor shall also be liable to all relevant provisions of the Indian Income Tax Act, which may be applicable to him from time to time.

The contractor shall protect and indemnify Corporation against all claims or liabilities arising from or based on the violation of such laws, ordinances, regulations, bylaws by him or his employee.

24. PERSONNEL OF THE CONTRACTOR

The Contractor shall, at all times, maintain on the work, a staff of duly 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 Contractor shall also maintain at the work, a Works Manager of sufficient status, experience and office, and duly authorize him to deal with all aspects of the day to day work. All communications to and commitments by this Works Manager shall be absolutely binding on the Contractor.

The Contractor shall supply to the Engineer-in-charge details of names, qualifications and experience in regards to all supervisory staff employed by the Contractor and notify changes when made, and satisfy the Engineer-in-charge regarding the quality and sufficiency of staff thus employed.

The Engineer-in-charge will have the unquestionable right to ask for changes in the quality and number of contractor's staff. The contractor shall on the written directives of the Engineer-in-charge, remove from the works any person employed thereon, who may in the opinion of the Engineer-in-charge be incompetent or has misconducted himself. Such person shall not be employed again, on the work, without the written permission of the Engineer-in-charge. The contractor shall have to submit information regarding proof of payment of Professional Tax and the clearance certificate in format vide Appendix 'I'.

25. DEATH, BANKCORRUPTCY ETC.

If the contractor shall die or commit any act of bankruptcy or being a corporation, commences winding up except for reconstruction purposes or carry on its business under a receiver, the executors, successors or other representatives in law of the estate of the contractor or any such receiver, liquidator or any person whom the contract may become vested, shall forthwith give notice thereof in writing to the Corporation and shall for one month, during which he shall take all reasonable steps to prevent a stoppage of work, have the option of carrying out this contract subject to his or their providing such guarantee as may be required by the Corporation, but not exceeding value of the work for the time being remaining unexecuted. In the event of stoppage, of work, the period of the option under this clause shall be fourteen days only. Should the above option be not exercised, the contract may be terminated by Corporation, by a notice in writing to Contractor or his successor. The power and provisions reserved to Corporation in this contract of taking of the work out of the Contractor's hand shall immediately become operative. Copy of such notice shall be pasted on work site and advertised in newspaper.

26. NOTICES, HOW TO BE GIVEN

Where any legal or other notice or any other document or any other direction is to be given to or served upon the Contractor, it shall be deemed to be duly given or served, if it shall have been either delivered to him personally or to his recognized agent or Works Manager (including in the case of company, the Secretary of such Company) or delivered at or sent through the post, addressed to the last known place of business, or abode of the Contractor, a notice or other documents which shall be so given to or so served on any one of the partners in such firms, shall be deemed to have been given or served on all of them.

Work Order Book:

The Contractor shall maintain bound work order book at work site as the Engineer-in-charge may direct. This work order book shall have machine numbered pages in triplicate. The contractor shall make them available to the Engineer-in-charge or his representative, whenever called for.

Executive Engineer or his representative may record order about works, in this book, leaving the original copy in the book and removing the second and third copy with him.

The contractor or his authorized representative, shall also sign this work order, in token of its acceptances.

All orders recorded in these work order book, shall be deemed to have been served on the contractor. On completion of the work all the work order books may be handed over to the Executive Engineer.

In the event of refusal of the Contractor's representative on the spot to sign the work order book, Engineer-in-charge shall take the necessary further steps in respect of further communication and control, modification or stoppage of work as deemed fit at the entire responsibility of the contractor.

27. PASSING OF FOUNDATION ETC.

After the completion of the work of excavation, the same will be checked and passed by the Executive Engineer. No masonry or concrete or back filling shall be laid unless the foundation is so passed. No concreting shall commence unless the centering and the reinforcement is checked and passed by the Engineer-in-charge.

28. REFERENCE TO STANDARD SPECIFICATIONS

The specifications of the work as enclosed with this contract document are drawn with a specific reference to site conditions and do not everywhere include the details of the standard test and procedures which are already laid down and available in the current Indian Standard Specifications. Whenever such details are not specified in this contract, the provision under current Indian Standard Specifications and / or the Standard Specifications (1970) of the Government of Maharashtra shall be deemed to be applicable.

29. COMMUNICATIONS AND NOTICES BY CONTRACTORS

All communications and / or notices pertaining to works and concerning matters, such as passing and approving of foundation, reinforcement and formwork, measurements, mark outs, etc. shall not be addressed by the Contractor to an Officer below the rank Sub-Divisional Officer. All such notices communications, etc. shall be addressed in good time so as not to hold up the work.

30. NON-COMPLIANCE OF CONTRACT CONDITIONS

If the contractor shall neglect or fail to proceed with the works, with due diligence or he violates any of the provisions of the contract, the Engineer-in-charge may give notice to the contractor, identifying deficiencies in performance and demanding corrective action. The Engineer-in-charge, shall also clearly state in the notice the nature of action that shall be taken, if contractor fails to fulfill by necessary corrective action.

Depending on nature of default the Engineer-in-charge at his discretion, shall have two options, regarding action to be taken in case of default by contractor. He shall withhold any of the payments due to the contractor or shall terminate the contract in whole or in part. But Engineer-in-charge shall, clearly mention in his notice, the action that shall be taken if the contractor fails to take the corrective action. The period of 14 days shall be given to the contractor to take such corrective action after the issue of such notice.

No claims, for compensation of any sort, from contractor will be entertained for withholding the bills indefinitely till specified requirements are complied with by the contract.

After the issue of the notice about default by the contractor, the contractor shall not remove, from the site any plant, equipment and materials. The Corporation shall have a lien on all such plants, equipment's and materials, from the date of such notice, till deficiencies have been corrected.

31. EXTRA ITEMS

Extra item of work shall not vitiate the contractor shall be bound to execute extra item of work as directed by Engineer in charge. The rate for extra item will be governed by the provision of clause 14 & 30 of condition of contractor.

32. PRICE VARIATION

If during the operative period of the Contract as defined in condition(i) below, there is any variation in the Consumer Price Index (New Series) for industrial workers for **Nanded** Centre as per the Labour Gazette published by the Commissioner of Labour Government of Maharashtra and /or in the Whole-sale Price Index for all commodities, prepared by the office of Economic Adviser, Ministry of Industry, Government of India, or in the price of petrol/oil and lubricants and major construction materials like bitumen, cement, steel, various types of metal pipes etc., then subject to the other conditions mentioned below, price adjustment on account of

(1) Labour Component

(2) Material Component

(3) Petrol, Oil and Lubricants (POL) components

(4) TMT FE-500 Steel Component

(5) Cement Component.

Calculated as per formula here-in-after appearing, shall be made. Apart from these, No other adjustments shall be made to the contract price for any reasons whatsoever component percentages as given below are as of the total cost of work put to tender excluding star rate items. Total of Labour, Material & POL components shall be 100 and other components shall be as per actual.

(1) Labour Component – 23.68%

(2) Material Component – 54.77%

(3) Petrol, Oil and Lubricants (POL) components – 21.55%

(4) TMT FE-500 Steel Component-As per actual

(5) Cement Component– As per actual

STAR RATE FOR

(i) Cement :- **Rs. 288/-** per Bag Excluding GST (As Per मुख्य अभियंता (विनिर्दिष्ट प्रकल्प) जलसंपदा विभाग पुणे जा. क्र. मु अ (वि प्र)उ अ -६ /(धा. क्र. A /२४) Cement Rate सन २०२६ दि १२ /०१ /२०२६

(ii) Steel :- Rs. **53453.33/-** per MT Excluding GST (As per JPC Steel Rate date 06/10/2025)

1. Formula for Labour Component

$$V_1 = 0.85P\left[\frac{K_1}{100}\right]\left[\frac{L_1 - L_0}{L_0}\right]$$

Where,

V_1= Amount of price variation in Rupees to be allowed for Labour Component,

P =Cost of work done during the quarter under consideration minus Royalty charges

calculated at the rate specified in clause 4.8 of section IV minus the cost of Cement, TMT FE-500/ HYSD and Mild Steel, bitumen, Cl& Dl Pipes calculated at the basic star rates as applicable for the tender, consumed during the quarter under consideration.

K_1=Percentage of Labour Component as indicated above.

L_0=Basic consumer price index for **Nanded** center shall be average consumer price index for the quarter preceding the month in which the last date prescribed for receipt of tender falls.

L_1=The average consumer price index for **Nanded** center for the quarter under consideration.

2. Formula for Material Component

$$V_2 = 0.85P\left[\frac{K_2}{100}\right]\left[\frac{M_1 - M_0}{M_0}\right]$$

Where,

V_2 = Amount of price variation in Rupees to be allowed for materials component.

P = Same as worked out for labour component.

K_2 = Percentage of Materials Component as indicated above.

M_0 = The basic wholesale price index shall be average wholesale price index for the quarter preceding the month in which the last date prescribed for receipt of tender falls.

M_1 = Average wholesale price index during the quarter under consideration.

3. Formula for Petrol, Oil and Lubricant Component

$$V_3 = 0.85P\left[\frac{K_3}{100}\right]\left[\frac{P_1 - P_0}{P_0}\right]$$

Where,

V_3= Amount of price variation in Rupees to be allowed for P.O.L. Component,

P =Same as worked out for labour component,

K_3=Percentage of Petrol, Oil and Lubricant Component,

P_0=Average price of TMT FE-500/ H.S.D**.** at Mumbaifor the quarter preceding the month in which the last date prescribed for receipt of tender falls.

P_1=Average price of TMT FE-500/ H.S.D. at Mumbai during the quarter under consideration.

4.Formula for TMT FE 500/ H.Y.S.D. and Mild Steel Component

$$V_4 = S_0 \left[\frac{Sl_1 - Sl_0}{Sl_0}\right] T$$

Where

V_4= Amount of price variation in Rupees to be allowed for TMT/HYSD/Mild Steel component,

S_0= Basic rate of TMT FE-500/ HYSD/Mild Steel in Rupees per metric tonne as considered for working out the value of P,

Sl_1 = Average steel index for steel - published on the Web Site of Economic Advisor Govt. of India during the quarter under consideration,

Sl_0= Average steel index for steel - long published on the Web Site of Economic Advisor Govt. of India for the quarter preceding the month in which the last date prescribed for receipt of tender falls.

T = Tonnage of steel used in the permanent works for the quarter underconsideration.

5. Formula for Cement Component

$$V_5 = C_0 \left[\frac{CI_1 - CI_0}{CI_0}\right] T$$

Where

V_5= Amount of price escalation in Rupees to be allowed for cement component,

C_0= Basic rate of cement in Rupees per metric tonnage considered for working out the value P,

CI_1= Average cement index for OPC cement published on the Web Site of Economic Advisor Govt. of India for the quarter under consideration,

CI_0=Average of cement index for OPC cement published on the Web Site of Economic Advisor Govt. of India for the quarter preceding the month in which the last date prescribed for receipt of tender falls.

T=Tonnage of cement used in the permanent works for the quarter under consideration.

Godavari Marathwada Irrigation Development Corporation

The Following Conditions shall prevail

1. The Operative period of the contract shall mean the period commencing from the date of the work order issued to the contractor and ending on the date which the time allowed for the completion of the works specified in the contract for work expires, taking into consideration the extension of time, if any for completion of the work granted by Engineer-in-Charge under the relevant clause of the conditions of contract in cases other than those where such extension necessitated on account of default of the contractor. The decision of the Engineer-in-Charge as regards to the operative period of the contract shall be final and binding on the contractor, where compensation for liquidated damages is levied on the contractor on account of delay in completion or inadequate progress under the relevant contract provision, the escalation amount for the balance work from the date of levy of compensation shall be worked out by paging the indices L1, M1, C1, P1, B1, Sl1 and Cl1 to the levels corresponding to the date from which such compensation is levied.

   This price variation clause shall be applicable to all contracts in B1/B2 & C forms but shall not apply for piece works.

2. Price Variation under this clause shall not be payable for the extra items required to be executed during the completion of work and also on the excess quantities of items payable under the provisions of Clause 38/37 of the Contract, form B_1 /B_2 respectively and rates payable for the same shall be revised with reference to current SSR prevalent at the time on year to year basis or revised in accordance with mutual agreement thereon as provided for in the contract whichever is less.

3. This clause is operative both ways i. e. if the price variation as calculated above is on the plus side, payment on account of the price variation shall be allowed to the Contractor and if it is on the negative side the Government shall be entitled to recover the same from the contractor and the amount shall be deductible from any amounts due and payable under the contract.

4. To the extent that full compensation for any rise or fall in costs to the Contractor is not entirely covered by the provision of this or other Clauses in the Contract, the unit rate and prices included in the Contract shall be deemed to include amounts to cover the contingency of such other actual rise or fall in

costs.

33. COMPENSATION FOR DELAY IN COMPLETION OF WORK ON CORPORATION ACCOUNT

No compensation /or any financial claims for delay in completion of work on Corporation Account shall be allowed &/or entertained by the Corporation.

34. CO-ORDINATION WITH OTHER CONTRACTORS

The contractor should note that there will be other agencies including Corporation, working in the same area for works other than that included in this contract. The contractor shall co-operative with these agencies to the fullest extent and shall allow them reasonable facility and co-ordination for execution of work, simultaneously and satisfactorily as intended in the contract conditions, specifications and drawings.

Should there be a dispute or disagreement between the contractor and other agencies for any cause whatsoever, the same shall be referred to the Engineer-in-charge whose decision regarding Co-ordination and facilities to be provided by all the contractors to others shall be final and binding on all parties and, such decision shall not vitiate any contract or absolve the contractor of his responsibility under the contract, and shall not from ground for any claim or compensation.

35. UNDERTAKING UNDER CONTRACT LABOUR ACT.

The Contractor shall furnish the undertaking towards implementation of contract Labour Act as given in Appendix = F.

36. PHOTOGRAPHS OF THE WORKS

The contractor will not be allowed to take photographs showing field work or the general location of the work. The Engineer, may however, at his discretion, allow a few construction photographs to be taken for the purpose of the contractor's record. Prior approval of the Engineer-in-charge should be obtained in such cases and also in case such photographs are to be exhibited in public literature and calendars etc. in all such cases, negatives of the photos shall be submitted to the Engineer, after taking approved number of copies and the negative will become the absolute property of the corporation.

37. DATA, DRAWINGS TO BE FURNISHED BY THE CONTRACTOR FOR HIS WORK PLANT, MACHINERY, STORE YARD ETC.

a) Period to the commencement of the work the contractor shall submit to the Engineer-in-charge for approval, drawings or prints in white ammonia paper of size 1020mm x 690mm or 510mm x 345mm as may be suitable, in triplicate, showing the location of major plant, workshop, if any, roadways, temporary bridges, unloading facilities and storage yards etc. which he proposes to put at the site and the contractor is supposed to plan with respect to the land provided and it shall not be responsibility of the Corporation to make available the land suitable to the plan submitted by the contractor.

b) The contractor shall submit to the Engineer-in-charge for approval within one month from the date of his receiving notice to start work.

c) A layout plan of constructions plants and equipment's for the execution of the work which the contractor proposes to adopt at site and any changes in the approved layout will be subject to further approval from the Engineer-in-charge.

d) The approval of the drawings, however, will not relieve the contractor of his responsibility from any errors or omissions.

38. FENCING, LIGHTING AND VENTILATION

a) The contractor shall be responsible for the proper lighting, fencing, guarding and necessary health and safety measures while executing all works under this contract and for proper provision of temporary roadways, guards, footways, fences, caution notices, etc. as far as the same may be rendered necessary by reasons of the work, for the accommodation of workmen, foot passengers or other traffic and of owners and occupiers of adjacent property and of the public and shall remain responsible for any accidents that my occur on account of his failure to take proper and timely precaution.

b) **Maintenance of Services**

After all the work under this contract is completed and accepted as such, in case the Engineer-in-charge so directs, the contractor shall maintain the lighting, ventilation, communication facilities etc. upto a date determined by the Engineer-

in-charge, but not longer than for a period of twelve months. All reasonable charges for such maintenance otherwise not required by the contractor for his purposes under the contract will be borne by corporation. As regards the reasonableness of such charges, the decision of the Engineer-in-charge shall be final and binding on the contractor.

39. LIABILITY FOR ACCIDENTS TO PERSONS

It shall be contractor's responsibility to protect against accidents on the work site. He shall indemnify the Corporation against any claims for damage to the property, injury to workers or any other persons, death etc.

On the occurrence of an accident resulting in death or which is so serious as to be likely to result in death, the contractor shall within 24 hours, report in writing to the Engineer-in-charge, the facts stating clearly about the circumstances in which accident has occurred and the subsequent action taken. Other minor accidents causing minor injuries and loss to property should be communicated in writing, promptly to the Engineer-in-charge. In all cases the contractor shall indemnify the Corporation against all losses or damages resulting directly or indirectly from the contractor's failure to report in the manner aforesaid. The includes penalty or fines if any, payable by the Government as a consequence of failure to give notice under the Workmen's compensation Act or failure to conform to the provisions of the said Act in regard to such accidents.

In the event of accident in respect of which compensation may become payable under the Workman's Compensation Act VIII, of 1923 including all subsequent modifications thereof, Engineer-in-charge may retain the sums of money as may in the opinion of the Engineer-in-charge be sufficient to meet such liability out of the amounts payable to the contractor. These sums shall be recovered from the immediate payment due to the contractor in one installment or in more than one installment. The decision of the Engineer-in-charge regarding this shall be final and binding on the contractor. On receipt of award from the Labour Commissioner, the balance amount shall be reimbursed to or recovered from the contractor.

It should be noted that though Corporation is a Principal employer, the complete responsibility of compensation shall be on the contractor.

40. THE CONTRACTOR TO SUPPLY AND BE RESPONSIBLE FOR THE SUFFICIENCY OF THE MEANS EMPLOYED

The contractor shall supply and take upon himself the entire responsibility of the sufficiency of the scaffolding, timbering, machinery, tools, implements and generally of all the means irrespective of whether such means may or may not have been approved of or recommended by the Engineer-in-charge and the contractor must accept all risks of

accidents or damages from whatever cause they may arise, until the completion of this contract.

41. COVERING OF WORK

The contractor shall give not less than seven days' notice in writing to the Engineer-in-charge of the work which is proposed to be covered up or placed beyond the reach of measurements so that the measurements may be taken before the work is covered up or placed beyond the reach of measurements before ensuring that the measurement. No work shall be covered up or placed beyond the reach of measurements, before ensuring that the measurements of work to be covered up are recorded. Any work covered up or placed beyond the reach of measurements without such notice having been given or consent obtained, the same shall be uncovered at the contractor's expenses and in default thereof no payment or allowance shall be made for such work or for materials with which the same was executed.

42. QUANTITIES OF WORK

The quantities of work under the various items as estimated by the Corporation; have been provided as could be reasonably anticipated and should be taken as inductive only. The amount of work will depend upon the actual conditions that will be encountered in the construction and the results of detailed designs which will continue to be refined as more field data and information comes to hand.

43. ACCURACY OF LINES, LEVELS AND GRADES

Setting Out

a) The contractor shall be responsible for the true and proper setting out of the work and for the correctness of the position, levels, dimension, alignment of all parts of the work and for the provisions of all necessary instruments, appliances and labour in connection with this.

b) For the purpose of setting out, one permanent bench mark shall be established by the Corporation near the site, the value of which shall be given to the contractor, by the Engineer-in-charge on demand by the contractor. Similarly the reference line in the form of center line of junction wall and of some other components, if found by the Engineer-in-charge for complete setting out of the structure shall be

given. All the setting out shall be with reference to this bench mark and reference line.

c) If at any time during the progress of works the error shall appear or arise in the position, level, dimension or alignment or any part of the work, the contractor shall rectify such error to the satisfaction of the Engineer-in-charge without any extra cost to the Corporation.

d) The periodical checking of these by Corporation staff shall not absolve the contractor of his responsibility regarding accuracy. In case of deviation, the contractor shall make good to the discrepancy at his own cost and without any compensation for the additional work involved. Wherever such discrepancies, if any, are found to arise between the works of different contractors at the junction of their works, the relative liability to set right their respective discrepancies shall be fixed by the Engineer-in-charge, whose decision shall be final and binding on the contractors concerned. The Engineer-in-charge shall further have the unquestioned right to rectify the discrepancies and recover the costs from the contractor or contractors according to proportions as he may consider reasonable.

e) It is the responsibility of contractor to preserve the benchmark and the reference points established for setting out.

44. EXCAVATED MATERIAL

All the materials available from excavation will be the property of Corporation and shall be disposed off only as directly by the Engineer-in-charge. The materials of approved quality available from the excavation including that carried out by the Corporation may be used by the contractor in the items of works included in Schedule 'B' or for ancillary or preparatory work, free of cost. Prior approval of the Engineer-in-charge for such use shall, however, be taken. The contractor shall make proper arrangements for sorting out and stacking material of approved quality that he proposes to use as aforesaid. Corporation will be free to make use other materials not required or not likely to be required for use by the contractor as will be determined by the Engineer-in-charge.

The excavated material not to be used by the contractor as above or stacked for his use, but remaining unused at site after completion of works, shall be disposed off by the contractor at his own cost in a manner and at place shown in the drawings or as and where the Engineer-in-charge may direct.

45. SAFETY MEASURES

The contractor shall arrange for the safety in his operations as required including the provisions in the safety manual published by the Central Water and Power Commission, New Delhi. (Jan. 1962 Ed.) In case the contractor fails to make such arrangements the Engineer-in-charge shall be entitled to cause them to be provided and to recover the cost thereof from the contractor. The following are some of the measures listed, but the same are not exhaustive and the contractor shall add to and suggest these precautions on his own where necessary and should comply with the directions issued by the Engineer-in-charge in this behalf from time to time and at all times.

Providing protective head guard to workers in the works like deep excavation to protect them against fall of overburden materials.

Getting the workers in such jobs periodically examined for chest trouble due to too much breathing in fine dust.

Taking such normal precaution like fencing and lighting to excavations or trenches, not allowing, nails or metal parts or useless timber spread around, marking danger area for blasting whistles etc.

Providing sufficient suitable and safe accesses to all work sports including ladders, gangways, platforms, etc. avoiding naked wires, etc. such would electrocute the workers. Taking necessary steps towards training the workers concerned on the use of machinery before they are allowed to handle them independently and taking all necessary precautions in and around areas where machines hoists and similar units are working.

46. MAINTENANCE

After the works are completed in all respects in accordance with the contract condition, a completion certificate will be issued by the Engineer-in-charge.

From the date of issue of the completion certificates, till the expiry of period specified in memorandum at (i), the Contractor shall be liable for the replacement of any part of plant or work found to be defective from the causes arising from faulty materials or workmanship or other causes, for which in the judgments of the Engineer-in-charge, the Contractor is responsible and for making good any damage arising therefrom.

47. SUNDAYS AND HOLIDAYS

No work shall be done on weekly local holidays or on other Government holidays duly Gazetted or on holidays observed by local usage without the prior sanction of the Engineer-in-charge. Withholding of such sanction shall not form any grounds for compensation or extension of time limit.

If on the other hand, the Engineer-in-charge directs that the work shall be proceeded with on days and during hours otherwise not permissible under this contract, the Contractor shall proceed with the works as directed, without, on any way violating this contract or forming any grounds for compensation or clam.

The contractor shall, in his dealing with labour at all times during the period of this contract, have due regard to local festivals, religious and other customs.

48. BANK GUARANTEE

Bank guarantee shall be given on the stamp paper of Rs. 500/- in the form of prescribed by the Corporation. The bank guarantee shall be valid for the entire period of contract I till the date of issue of completion certificate as prescribed under para No.7 of conditions of contract. It will be the responsibility of the contractor to get validity of Bank Guarantee extended on the stamp paper of Rs.500/- at least one month prior to expiry date from time to time, failing which the Bank Guarantees shall be encashed by the Corporation well before expiry date of Bank Guarantees and cash accrued will be at the disposal of the corporation.

49. HANDING OVER OF WORK

All the work and materials, before being finally taken over by Corporation will be the entire liability of the contractor for guarding, maintaining and making good any damages of any magnitude. Interim payments made for such work will not alter this position. The handling over by the contractor and taking over by the Executive Engineer or his authorized representative will be always in writing of which copies will go to the Executive Engineer or his authorized representative and the contractor. It is however, understood that before taking over such work, Corporation will not put it into regular use as distinct from casual or incidental one, except as specifically mentioned elsewhere or as mutually agreed to.

50. INSPECTION OF WORKS

The Engineer or his duly authorized representative shall have at all times full power to inspect the work, whenever in progress either on the site, in the contractor's premises or the work site. Further, contractor shall not without written authorization, permit entry on site of work of any person except authorized representative of the Corporation or the Engineer or the contractor's staff and labour directly engaged on and in connection with the work.

The contractor shall, at his cost, provide all necessary facilities for proper inspection and supervision of the work gangways, platforms, scaffolding and ladders, etc. of suitable dimensions and sufficiently strong at appropriate locations and all accesses to passages etc. shall be well lighted and maintained in good order. The Engineer's decision about the sufficiency and adequacy thereof shall be final.

The contractor shall, during working hours, maintain supervisor of sufficient training and experience to supervise various items and operations of the work and the said supervisors shall remain present during inspections of the Engineer. All orders and directions given to such supervisors or other staff of the contractor shall be deemed to have been given to the contractor directly. Further the Engineer may, by due notice to the contractor, to be present on any specified inspection and the contractor shall comply with such directions.

51. INSTRUMENTATION

In case, it is proposed to have any instrumentation, in work, the instruments and their accessories will be procured and installed by the Corporation as per programme framed by the Engineer-in-charge. Care should be taken by the contractor to protect these instruments as well as their connections during various constructions operations. The contractor shall also extend all facilities for installation and observation of these instruments. All the operations required for facilitating the installation of the instruments shall stand included in the relevant items of tender. No claim, however shall be entertained due to any delay or obstruction that might be created due to installation or observation.

52. OPENING OUT WORKS

Should the Engineer consider, if necessary, in order to satisfy himself as to the quality of work the contractor shall at any time during the continuance of the contract pull down or

cut into any part of the work, and make such openings into and to such an extent through the same as the Engineer may direct and the contractor shall make good the same at his cost and to the satisfaction of the Engineer.

53. REMOVAL OF IMPERFECT WORK

If it shall appear, that the work has been executed with unsound, imperfect or of an inferior quality or otherwise not in accordance with the contract documents, the contractor shall at his own cost rectify, reform, remove or reconstruct the same, wherein whole or in part as may be, directed by the Engineer, whether or not, the value of any such work of material shall have been included in any payment made to the contractor. The decision of the Engineer-in-charge shall be final and binding on the contractor. The Executive Engineer may, if he thinks fit, allow such work to be paid at reduced rates and his decision will be final and binding, provided further that the rates fixed by the Engineer, be not acceptable to the contractor, he shall have the option to replace the defective work or materials with ones in accordance with the specified standards.

54. JURISDICTION OF COURT FOR DISPUTES

Disputes, if any, arising out of this contract shall be subject to the jurisdiction of the High Court of Mumbai bench at Chhatrapati Sambhajinagar.

55. MODE OF PAYMENT OF EXCAVATION QUANTITIES IN RUNNING BILL AND FINAL BILL

55.1 Payment of work done under items of excavation in soft strata and hard strata will be made at 90% of the contract rate in R.A. bills for all excavated quantities till the final designed cross section of components as decided by the Engineer-in-charge is reached. The component cross section as per design shall be deemed to have been reached only if no work remains to be executed between the two adjacent cross sections. 100% of payment at contract rate in R.A. bills may be released only after the work of excavation is completed between two adjacent cross sections and in continuous lengths from head reach to tail reach of Barrage. No intermediate lengths will be considered.

Corporation reserves the right to change the location of different components of works, amend the layout due to any reason, whatsoever. No claim of any nature due to above change shall be entertained.

55.2 Royalty Charges

The Royalty Charges are included in tender Part-B, hence contractor should submit the paid voucher of Royalty from Revenue or Competent Revenue Authority before submission of Running Bills

If contractor fails to submit the same in time, the recovery of Royalty Charges will be made from his running bills.

The charges paid by contractor to Revenue Authority shall be of full quantity, material required for the same work for which the running bill is submitted.

56. Change in Grade

If grade of concrete irrespective of grade mentioned or not mentioned, if changes during execution in that Case only Cost of Cement difference will be added or deducted for Payment, and no extra item will be considered.

57. Changes in Locations

The GMIDC reserves the right to change location of different components of work, amend the layout due to any reason whatsoever. No Claim of any nature due to above changes shall be entertained.

58. Force Majeure& Precautions During Flood

Neither party shall be liable to the other for any loss or damage coffined by or arising out of act of God such as unprecedented flood, volcanic eruption, earthquake or other convulsion of nature and other acts such as but no restricted to general strikes, invasion, the act of foreign countries. Hostilities or war like operations before or after declaration of war rebellion, military of usurped power which prevent performance of the contract and which could not have been foreseen or avoided by prudent persons the contractor should make his own arrangements for obtaining compensation on account of losses in the matter from the insurance company. GMIDC will not be responsible for payment of such losses to the contractor.

59. CONTRACTOR SHOULD SUPPLY, SURVEY INSTRUMENTS, ELECTRONIC ITEMS ETC. AS MENTIONED IN THIS CLAUSE:

DELETED

60. Verification of Lead by Contractor

All the leads mentioned in the estimate which are certified by the Engineer in charge should be 100% verified and agreed by the contractor himself. No claim should be entertained against this.

61. Precautions during the Floods

It shall be responsibility of the contractor to preserve and maintain in safe conditions of all the materials, machinery and tools from floods and rains and no compensation whatsoever will be payable to him on account of loss due to floods, rains, and other causes.

62. Labour Welfare Cess

The amount of labour welfare cess at the rate of 1% shall be recovered from contractor through every running/final bill as per direction given by the "Udyog and Urja Vibhag" Govt of Maharashtra vide resolution No. BCA-2009/CR-108/Labour 7A Dt. 17/06/2010.

63. Goods and Service Tax (GST)

The Government of India as made applicable Goods and Service Tax Act w.e.f. 01/07/2017. Accordingly work contract have been brought under purview of the GST Act 2017. The tender rates are exclusive of GST. The bidder shall study the prevailing structure of GST and quote offer accordingly without GST. The contractor must produce the proof of GST amount/purchase invoice in which GST amount paid by contractor shall be mentioned clearly and GST shall be pertaining to this work only. After verification of GST documents and amount paid by the contractor the GST shall be reimbursed at division level to the contractor (As per Marathi Govt. Circular/TDS-0918/(F.No. 590/18) MP-1, Mantralay, Mumbai, Date 13 Nov 2018)

TDS of GST shall be deducted as per prevailing order of Government of Maharashtra. It is mandatory for the bidders to register themselves under GST and documentary proof should be submitted in Envelope – 1.

64. Conditions relating to work insurance and labour welfare

The contractor shall made necessary payments towards work insurance and labour welfare as per Government Circulars:

शासन निर्णय विमा संचनालय, महाराष्ट्र राज्य, गृहनिर्माण भवन (म्हाडा मुंबई यांचे पत्र क्रं प्र वि नि १८०८/सिएआर/डब्ल्यूसी /गोमपाविमं/अहमदनगर/संकीर्ण/४८/१५११२/अभि/१ दि ४.३.२००९ अन्वये कंत्राटदारांनी कामाचा शासकीय विमा निधी ,मुंबई या कार्यालयाकडे उतरविणे आवश्यक आहे. अन्यथा प्रथम देयकातून निविदा स्वीकृत किमतीच्या १ टक्के रक्कम वसूल करून शासकीय विमा निधी ,मुंबई यांचे कडे जमा करण्यात येईल. कार्यारंभ आदेश देण्यापूर्वी / बांधकाम सुरू करण्यापूर्वी बांधकामाच्या एकुण मूल्याच्या १ टक्के दराने उपकर, कंत्राटदाराने इमारत व इतर बांधकाम कामगार (रोजगार व सेवा शर्ती नियम १९९६) च्या कलम ३ (१) अनुसार उपकर कामगार कल्याण मंडळाच्या निधी मध्ये जमा करावा अन्यथा प्रत्येक देयकातुन १ टक्के रक्कम वसूल करून महाराष्ट्र कामगार मंडळाकडे जमा करण्यात येईल.

Mode of Payment: Payment made by the contractor towards work insurance and labour welfare as mentioned above will be reimbursed on production of payment certificate or voucher of concern authority.

65. Completion Period

The period of completion of work is **24 months** (Twenty four months) including monsoon.

66. Field Visit

1. The bidder shall study in depth about the scope of work, get acquainted with project site, information in tender and other important locations. Contractor or his authorized representative shall visit the complete site, important locations ,quarries and ascertain the availability, sufficiency, suitability of necessary quality and quantity of minor minerals and materials, other construction materials, availability of labours, freight distances, etc. required to complete this work in given time before quoting the offer. Contractor shall be solely responsible for proper assessment of the site and work.
2. No additional Liability or Claims shall be entertained against insufficiency and unavailability of good quality and quantity of minor minerals and materials, unavailability of labour, additional extra lead due to additional freight, non availability of construction materials, etc.

For AUTHORISED USE ONLY

A Government of Maharashtra

(UNDERTAKING)

B 1 -TENDER

Name of Work:

Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Cost Put To Tender (Without GST): Rs. 1639.95 Lakhs (Rs. 163994857/-)

Tender Cost (With GST): Rs. 1932.42 Lakhs (Rs. 193242021/-)

VOLUME II
SPECIFICATIONS

CHIEF ENGINEER & CHIEF ADMINISTRATOR

COMMAND AREA DEVELOPMENT, CHHATRAPATI SAMBHAJI NAGAR.

SUPERINTENDING ENGINEER,

UPPER PENGANGA PROJECT CIRCLE, NANDED

EXECUTIVE ENGINEER,

UPPER PENGANGA PROJECT DIVISION NO.8

NANDED

Contractor Corrections Executive Engineer

CHIEF ENGINEER & CHIEF ADMINISTRATOR COMMAND AREA DEVELOPMENT, CHHATRAPATI SAMBHAJI NAGAR.

SUPERTENDING ENGINEER,
UPPER PENGANGA PROJECT CIRCLE, NANDED

EXECUTIVE ENGINEERUPPER PENGANGA PROJECT DIVISION NO.8, NANDED.

Name of Work:

Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Cost Put To Tender (Without GST): Rs. 1639.95 Lakhs (Rs. 163994857/-)

Tender Cost (With GST): Rs. 1932.42 Lakhs (Rs. 193242021/-)

'Draft Tender Papers Submitted for Approval'

Sub-Divisional Officer **Upper Penganga Project** **Subdivision No. – 19** **Mudkhed**	**Divisional Accounts Officer** **Upper Penganga Project** **Division No.8** **Nanded**	**Executive Engineer** **Upper Penganga Project** **Division No.8** **Nanded**

'Recommended for Approval'

Superintending Engineer,
Upper Penganga Project Circle,
Nanded.

'Approved'

Chief Engineer & Chief Administrator,
Command Area Development,
Chhatrapati Sambhajinagar.

Contractor Corrections Executive Engineer

INDEX

Sr. No.	Particulars	Page No.	
		From	To
1	2	3	4
1	**SECTION NO 1** : General specification	5	17
2	**SECTION NO 2:** Excavation	18	42
3	**SECTION NO 3** : Embankment	43	51
4	**SECTION NO 4** : Cement concrete	52	81
5	**SECTION NO 5** : C.C. Bed Lining	82	87
6	**SECTION NO 6** : C.C. Side Lining	88	95
7	**SECTION NO 7** :Cement Concrete (1:3:6)	96	97
8	**SECTION NO 8:** Reinforcement	98	103
9	**SECTION NO 9:** Clearing Site	104	106
10	**SECTION NO 10** :Dewatering	107	111
11	**SECTION NO 11** : Stripping	112	113
12	**SECTION NO.12** :Porous Rails	114	115
13	**SECTION NO.13** : Back filling	116	118
14	**SECTION NO.14** : Preparation of Sub Grade	119	121
15	**SECTION NO.15** : C. C. (1:2:4) for Steps and Templates	121	123
16	**SECTION NO.16** : Providing LDPE film	124	125
17	**SECTION NO.17 :** Providing U.C.R. Masonry	126	132
18	**SECTION NO.18 :** Removing dry silt	133	134
19	**SECTION NO.19 :** Removing wet silt	134	135
20	**SECTION NO.20 :** Cutting down trees	136	139

GENERAL SPECIFICATION

1.0.0	Scope
1.1.0	General Description of the Project
1.1.1	Work and site conditions
1.1.3	Climatic conditions
1.1.4	Labor availability
1.1.5	Location
1.1.6	Rail routes
1.1.7	Roads
1.1.8	Water supply
1.2.0	Electric power
1.3.0	Telephone and telegrams
1.4.0	Colony - Establishment of colony
1.4.1	Sanitation and upkeep of colony
1.4.2	Camp regulations, medical aid, General
1.5.0	Materials
1.5.1	Petrol Oil and Lubricants
1.5.2	Stone for rubble masonry and for metal
1.5.3	Sand
1.6.0	Precautions during the floods
1.7.0	Contract drawings, working drawings and specifications
1.8.0	Embedded items
1.9.0	Signing the fields books, Longitudinal Sections, Cross section and measurement books
1.10.0	Cement & Steel supplied by Corporation
1.10.1	Cement
1.11.0	Steel
1.12.0	Royalties
1.13.0	Advance on construction materials
1.14.0	Payment
1.15.0	No interest on money due to the contractor
1.16.0	Difficulties in land acquisition
1.17.0	The measurements for work
1.18.0	Handing over of completed reaches and letting out water for Irrigation

SECTION - 1

GENERAL SPECIFICATION

1.0.0 SCOPE:-

The general specifications shall apply to all the items of Schedule 'B' under this Tender.

1.1.0 GENERAL DESCRIPTION OF THE PROJECT:

The information is given in Annexure - A to Section - I Detailed Tender Notice.

1.1.1 WORK AND SITE CONDITION:

It shall be presumed that the Contractor has fully informed himself as to the nature and locations of works, general and long conditions and particularly those having bearing on approaches to the site, location of stone and sand quarries, availability and transport of material, tools and plants, machinery, disposal areas, availability of labour, weather conditions and river stages etc. and has estimated his cost accordingly. Corporation will bear no responsibility for any lack of such acquaintance with the site conditions on the part of the contractor and the consequences thereof to the contractor. The information and data about site conditions shown in the drawings and mentioned herein is furnished as a rough guide only but Corporation will not be responsible for the accuracy, thereof or for any deductions, interpretations and conclusions drawn there from by the contractor.

1.1.2 Results of trial pits and exploratory bores taken along the Canal axis are as shown in the drawings. The Corporation does not accept any responsibility for any variation in strata classifications found in actual excavations.

1.1.3 CLIMATIC CONDITIONS:

The information is given in Annexure-A to Section -I Detailed Tender Notice.

1.1.4 LABOUR AVAILABILITY:

Some local unskilled labour may be available during non-agricultural season but skilled labour may not be available. Contractor must however make his own enquiries.

1.1.5 LOCATION: The information is given in Annexure-A to Section-I Detailed Tender Notice.

1.1.6 RAIL ROUTE: The information is given in Annexure-A to Section-I Detailed Tender Notice.

1.1.7 ROADS:

The information is given in Annexure - A to Section - I Detailed Tender notice.

1.1.8 WATER SUPPLY:

The Contractor will have to make his own arrangements for the water supply required for his work, staff and labour. He will have to provide all arrangements for making water potable and safe for drinking by his staff, labours and other dependents on Contractor's services. Disinfection of all drinking water by chlorination will be obligatory, on the part of Contractor.

Fresh and potable drinking water shall be made available by the Contractor to all persons working at works spots in clean and hygienic earthen or other pots at all working places and in sufficient quantity.

1.2.0 ELECTRIC POWER:

Electric power, if required shall be arranged by the Contractor at his own efforts and cost and he shall have to make his own arrangements for laying, installation maintaining the power lines etc. He should observe all requirements of the Indian Electricity Act 1910, 1948.Indian Electricity Rules 1956, and rules in existence and framed from time to time, failure to which Corporation accepts no responsibility for any damage, injury or compensation.

1.3.0 TELEPHONE AND TELEGRAMS:

Nearest telephone and telegraphs facilities are available at the places indicated in annexure - A to Section - I of Detailed Tender Notice.

1.4.0 COLONY:

ESTABLISHMENT OF COLONY:

The Contractor shall be allowed to construct his own colony for his workers and supervisory staff within the limits of Corporation land, if available.

The land used by the Contractor for his staff and labour colony shall be handed over back to the Corporation within three months after the physical completion of work or termination of the contract whichever is earlier duly cleared

and fairly brought to the original condition. No structure or constructions shall be left on the land at the time of vacating it without the specific approval of the Engineer-in-charge. The Contractor shall prepare and submit his proposed plan of colony layout and get it approved from the Engineer-in-charge before establishing any colony either for the labours or for the supervisory staff.

The contractor shall have to construct and maintain all access and approach roads etc. in his colony areas at his own cost. Any modifications, changes and alterations suggested by the Engineer-in-charge in respect of area of colony, layout of roads etc. will be binding on the Contractor and shall have to be done at his cost.

1.4.1 SANITATION AND UP-KEEP OF COLONY:

The contractor shall be responsible for maintaining satisfactory water supply and sanitary facilities in his labour camp and for his other staff. He will take precautions not to allow any unhealthy and insanitary conditions in his camp. The Engineer-in-charge shall have the right to inspect the contractor's colonies at any time and to suggest improvement, modifications etc with special regards to cleanliness and sanitation, silages water and garbage disposal, any other nuisance, and proper layout, which shall be binding on the Contractor.

The Contractor shall provide adequate number of portable chemical closet for use, and urinals and water closets, and make proper lighting and scavenging arrangements to the satisfaction of Engineer-in-charge. Separate arrangements should be made for female labour.

1.4.2 CAMP REGULATIONS:

The Contractor shall be responsible for maintaining law and order in his camp and on his work and to that end shall employ such officer, watchman labour etc. as required. Unauthorized and undesirable persons shall be expelled from the camp and from the work. If in the opinion of Engineer-in-charge any employee or agent of the Contractor misbehaves or causes obstruction in proper execution of the work or otherwise makes himself undesirable, the Contractor shall on receipt of instructions from the Engineer-in-charge remove him from premises.

1.4.3 MEDICAL AID:

The contractor shall arrange all the necessary medical facilities for his staff and labour at his own cost and to the satisfaction of the Engineer-in-charge.

1.4.4 GENERAL:

The cost of sanitation and supply of drinking water is deemed to have been included in the unit rates of items of work.

1.5.0 MATERIALS:

1.5.1 PETROL, OIL AND LUBRICANT

The contractor shall have to install his own supply pumps for petrol and diesel at the site. The location of pumps shall have to be got approved from the Engineer-in-charge and usual pre-cautions which necessary for such installation will have to be taken as per the prevailing rules laid down by Government.

1.5.2 STONE FOR RUBBLE, MASONRY AND FOR METAL :

The contractor shall make his own investigation regarding locations of quarries, quality of stone and adequacy of the various sources of stone in quarry areas known to him. Excavated material of hard rock excavation dumped on the site. Contractor can make use of this material. Material has to be sorted out by contractor at his cost and should be got approved from the Engineer-in-charge before its use in the work. However it is for contractor to investigate the quarries which will yield stone in sufficient quantities and of required quality. Over burden on quarry shall have to be removed by the contractor at his own cost.

The location of quarries has to be such that they do not affect permanent structures and should not be near the existing or proposed habitations. The locations and size of the quarries shall be subject to the approval of Engineer-in-charge,. However, if quarry locations, approved by the Engineer-in-charge, on it's opening does not yield adequate or suitable stone, no claims can be raised against the Corporation. In that case other quarries will have to be established by the contractor at his own cost and risk and the stone got approved from the Corporation for it's quality before using it in the work.

If the stone quarries are located in the lands acquired by the Corporation, the contractor will be allowed to quarry the rubble from these areas. If the quarries located are in private properties, the contractor shall negotiate with the respective owners and shall attend to legal right and attend to payments etc. to the concerned parties for operation of these quarries at his own cost. Similarly, he

shall make arrangements for roads leading to and from the stone quarries to the work site at his own cost.

1.5.3 SAND:

The contractor is advised to make his own enquiries regarding adequacy, proper quality and cost of sand, approaches to quarries etc. The sand quarry to be used and any change in location shall have prior approval of the Engineer-in-charge

The contractor shall, however, obtain permission from Revenue and other authorities before removing the material and shall pay royalty and other taxes. duty, escort fee, if any, for sand which shall not be reimbursed. The contractor shall also have to make his own enquiries regarding legal rights and attend to the aspect of payments due etc. for the operation of the quarries.

The extent of annual replenishment of the sand sources is unknown. The contractor may therefore choose to collect the sand in advance of its use for the work.

The contractor shall make his own arrangements for quarrying and transport of sand from the quarries to the work site. Approach roads to the quarries shall also be constructed and maintained by the contractor at his own cost. All the cost of transport of sand shall be borne by the contractor and no claims on this account will be entertained.

Use of crushed sand conforming to the required gradation and specifications can be permitted with specific approval of the Engineer-in-charge.

1.6.0 PRECAUTIONS DURING THE FLOODS:

It shall be the responsibility of the contractor to preserve and maintain in safe condition, all materials, machinery and tools from floods and rain and no compensation whatsoever will be payable to him on account of loss due to floods, rain and any other causes.

1.7.0 CONTRACT DRAWING WORKING DRAWING AND SPECIFICATIONS:

On acceptance of the tender, sets of copies of contract drawings to a maximum of three, will be supplied to the Contractor free of charge. On request by the Contractor and in the discretion of the Engineer-in-charge, the Contractor may be supplied additional copies of contract documents and drawing to be charged at the rate of Rs. 5000/- (Rupees Five thousand only) per set.

The drawings which form part of this contract show the work to be done in such details as is possible to do for the present. They will be supplemented or superseded by such additional detailed working drawings as may be necessary as the work progresses. The Contractor shall carry out the work in accordance with these additional or revised working drawings, as the case may be and at the applicable rates as per the contract. The Contractor shall be supplied a maximum number of three copies of each of all such working drawings free of charge. Should the Contractor require any additional copy for his use the same may be at the discretion of the Engineer-in-charge and the Contractor will be charged Rs. 100/-(Rupees One hundred only) for each additional copy of each drawing.

The contractor shall check all drawings carefully and advice the Engineer-in-charge immediately of any errors or omissions discovered. The contractor shall not take advantage of any kind of errors or omissions in the drawing supplied.

1.8.0 EMBEDDED ITEMS:

Before placing concrete and or masonry care shall be taken to see that all embedded items are firmly and securely fastened in place as indicated on the drawings or as directed all embedded items shall be cleaned free from all foreign matter such as scale, rust, oil paint etc. The contractor shall be responsible for correctly embedding the parts as directed without any charge., the cost of such embedding being deemed to have been included in the item of concrete and or masonry as the case may be. No extra payment will be made for the installations of this embedded work or for delays, or for interruptions arising therefore.

1.9.0 SIGNING THE FIELD BOOKS, LONGITUDINAL SECTIONS, CROSS SECTIONS AND MEASUREMENT BOOKS:

Before starting the work for intermediate payments and at the end before the work is covered, levels for plotting the longitudinal section (along the axis as decided by the Engineer-in-charge or his authorized representative) and cross sections of the portion of the work shall be taken by the authorized engineer of the contractor in the presence of Engineer-in-charge or his duly authorized representative. The contractor or his authorised engineer shall have to sign the field books and plans showing longitudinal sections and cross sections of the portion of the work in token of acceptance. If the contractor fails to sign them, the levels recorded by the Engineer-in-charge or his representative in the authorized

books shall be final and binding on the Contractor. If the contractor or his duly authorized agent fails to attend, the levels shall be taken in his absence and such levels and longitudinal sections and cross sections based there on shall be final and binding on the contractors. The levels will be taken on such alignments and cross sections as will be useful for reference permanently and will be in harmony with the mode of the measurements for payments as described under Specifications. The point locations for the levels will depend upon the ruggedness of the area and will also be at least in conformity with the requirements of specifications.

1.10.0 CEMENT AND STEEL SUPPLIED BY CORPORATION:

No material will be issued by the Corporation on Schedule-A. The contractor is responsible for all materials including cement, steel, explosives, hume pipes etc.

1.10.1 CEMENT PROCURED BY CONTRACTOR :

A) The contractor shall procure Cement 43 grade conforming to IS 269 of 1976 from recognized manufactures as per para 14 of Special Conditions of Contract in standard packing of 50 kg. per bag from the authorized manufacturers. The contractor shall make necessary arrangement at his own cost to the satisfaction of Engineer-in-charge for actual weighing of random sample from the available stock and shall conform with the specifications laid down by the Bureau of Indian Standards (vide their specifications No. IS 43 grade) or higher in quality as per para 14. Cement shall be got tested in the laboratory of recognized institute. In case of any dispute about the results, the cement shall be tested in M.E.R.I., Nashik where decision will be final. The cement bags brought and kept at site godown shall be tested for all the tests as directed by the Engineer-in-charge atleast one month in advance before actual use of cement.

Cement brought on site shall be as fresh as possible to the satisfaction of the Engineer-in-charge. The old stock, if rejected, shall be immediately removed from the site at the contractor’s cost.

Cement bags required for testing shall be supplied by the Contractor free of cost. However, the testing charges for cement will be borne by the employer. If the tests prove unsatisfactory then the charges will be borne by the Contractor.

B) The use of admixture and agents shall be made as per instruction of the Engineer-in-charge. The cost of cartage / storing / handling / batching / mixing shall be borne by the Contractor and shall be included by them in unit prices tendered for concrete.

C) The contractor should maintain throughout the tenure of the work adequate stock of the cement (min 30 days requirement) so as to ensure that, at no time, work is stopped for want of cement. At the same time, no cement of age older than 60 days from the date of dispatch from the manufacturing unit shall be used on the work. No cement shall be removed from the site without the permission of the Engineer-in-charge.

The contractor shall forthwith remove from the works area any cement, that the Engineer-in-charge may disallow for use on account of failure to meet with the required quality and standard.

Cement stock of ONE month's requirement shall be kept on site atleast one month in advance. Samples for testing of the cement brought to the site shall be given free of cost by the contractor, as and when required.

D) The Contractor will have to construct sheds for storing cement having capacity not less than the cement required for 60 days use at approved locations along the canal. The Engineer-in-charge or his representative shall have free access to such stores at all times.

E) The contractor shall further at all times satisfy the Engineer-in-charge on demand by production of records and books or by submissions of returns and other proofs as directed that the cement is being used as tested and approved by the Engineer-in-charge for the purpose and the Contractor shall at all times keep his records up-to-date to enable the Engineer-in-charge to apply such checks as he may desire.

1.11.0 STEEL (Procured by Contractor) :

A) The Contractor shall procure steel from the market. The contractor shall make necessary arrangements at his own cost for sample from the available stock and shall conform with the specifications laid down by the Bureau Of Indian Standards (vide their specifications NosI.S.432[Part-1]of 1966,1139-1966,1786-1979).

B) The Contractor should store the steel of 60 days requirement at least one month in advance.

C) The Contractor will have to construct sheds for storing steel having capacity not less than the steel required for 90 days use at site. The Engineer-in-charge or his representative shall have free access to such stores at all times.

D) The Contractor shall further, at all times satisfy the Engineer-in-charge on demand by production of records and books or by submission of returns and other proofs as directed that the steel is being used as tested and approved by the Engineer-in-charge for the purpose and the Contractor shall at all times keep his records up-to-date to enable the Engineer-in-charge to apply such checks as he may desire.

E) Contractors shall procure the steel from main producer such as SAILS, TISCO, ISCO. Rerolled steel will not be acceptable. They should bring the test certificate of steel procured by them from the manufactures.

F) The steel procured should conform to standard specification of Bureau of Indian Standards I.S.No.1786 of 1979 for Tor Steel and I.S.432 of 1966 for mild steel.

G) Steel samples required for testing shall be supplied by Contractor free of cost. However the testing charge for steel will be borne by the Corporation.

1.12.0 ROYALTIES :

The Contractor shall arrange for the materials from the approved quarries. It is necessary for the Contractor to obtain permission from Revenue Authorities or other relevant authorities before removing the materials and pay Royalties.

1.13.0 ADVANCE ON CONSTRUCTION MATERIALS:

Deleted

1.14.0 PAYMENT:

1.14.1 Generally the Corporation will pay a running bill in month i.e. on 25th day of each month provided that the Contractor submits his bill by this date. The recoveries for various advances shall be affected from these bills. The total recovery on all accounts shall be limited to 50 percent (Fifty percent) of the gross bill and the balance if any shall be recovered from the succeeding monthly bills. The payment of the bills will be made to the extent availability of funds for the work.

1.15.0 NO INTEREST ON MONEY DUE TO THE CONTRACTOR:

No omission by the Engineer-in-charge to pay the amount due upon measurements or otherwise shall vitiate or make void, the contract , nor shall Contractor be entitled to get interest on any guarantee bond or payment in arrears nor any balance which may , on the final settlement of his account be found due to him.

1.16.0 DIFFICUILTIES IN LAND ACQUISITION

If due to difficulties in land acquisition, land does not become available, the same cannot be handed over to the Contractor. In such a situation the Contractor shall not be entitled to any claim. If the lands do not become available upto 50 percent of the time limit of the tender, the execution of the quantities of works under various items pertaining to such, lengths shall be optional.

1.17.0 HANDING OVER OF COMPLETED REACHES AND LETTING OUT WATER FOR IRRIGATION.

1.17.1 On the request of the contractor the continuous completed reaches of Distributory and Minors including Sub-Minors would be taken over by the Corporation provided if it fulfills the conditions specified below:

1.17.2 The item “completed” under 1.18.1 above should be deemed to be inclusive of structures and selective lining ready to receive flow of water for irrigation.

i) The unit for taking over of Distributory will be in stages with a completed minimum length of not less than 500 Mtr. only at a stretch from head reach (or starting point of contract length) continuous in length.

ii) The unit for taking over of completed Minors and Sub-Minors will be one complete Minor with its Sub-Minors from Head reaches ((or starting point of contract length) taking off from completed distributory lengths as described in sub-para (i) above . Reaches of canal in continuous length as specified in (i) and (ii) above may be taken over by recording final measurement. In case silting of canal takes place or scouring damages due to flow of rain water/ flood water entered through incomplete reaches, it would be the responsibility of the Contractor to rectify it.

1.17.3 Water is likely to be let out in Distributory and Minors including Sub-Minors in the completed reaches handed over to the Corporation for irrigation purpose. However in reaches not handed over to the Corporation maintenance liability of the Contractor would continue to be for the entire period of contract with maintenance period of six months after completion, while for reaches handed over the maintenance period of six months would commence from the date of taking over by the Corporation irrespective of whether water is let out for irrigation.

1.17.4 Water is available free of cost for use on work when water is let out in the Distributory /Minor for irrigation purpose. However, during closure periods the Contractor has to make his own arrangements for storage of water for use in works. In case Distributory /Minors are closed for intervals the Contractor has to make his own arrangement of water at his cost. No claim of any kind will be entertained on this account.

1.18.0

The measurements for the work shall be taken by Contractor’s authorized engineer in the presence of Engineer - in - charge or his authorized representative and recorded in the authorized books. The contractor shall obtain the signature of

Engineer-in-charge or his authorized representative on such recorded measurements in token of acceptance. If the contractor fails to take such measurements, then the Engineer-in-charge will cause to record the measurements which will be final and binding on the contractor.

This para is applicable to all items.

SECTION – 2

EXCAVATION

2.0.0	Excavation
2.1.0	Scope
2.2.0	Clearing the site
2.3.1	Line out
2.4.0	Excavation
2.4.1	Scope of work
2.4.5	Excavation in rock
2.4.8	Removal of loose rock etc.
2.5.0	Classifications
2.5.3	Pay lines
2.6.0	Maintenance of slopes in Excavation
2.6.2	Slips - Government not responsible
2.7.0	Use of excavated stuff
2.7.2	Deposition of excavated stuff, clear off traffic lines etc.
2.8.0	Sorting & stacking of materials
2.9.0	Surplus materials
2.9.1	Stacking in stock and waste piles
2.9.2	Excavated materials shall be within area approved by Engineer-in-charge
2.10.0	Mode of measurement
2.11.0	Silting of excavation
2.11.1	Silting of site due to flood, Corporation not responsible
2.12.0	Box excavation
2.13.0	Excavation in wet condition and dewatering

2.13.1	Contractor to dewater whenever required
2.14.0	Preparing and testing of foundation
2.14.1	Scaling and trimming of foundation
2.14.2	Treatment of weak local spots
2.14.3	Final finished surface of foundations
2.14.4	Testing of soundness
2.14.5	Excavation outlines & Payment lines
2.14.6	Overcut
2.14.7	Mode of measurement and payment
2.15.0	Blasting
2.15.1	Observing rules regarding blasting
2.15.2	Storing of explosives
2.15.3	Restrictions on blasting
2.16.0	Excavation in hard stratum with chiseling and / or controlled blasting
2.16.1	Excavation in hard strata
2.16.2	Chiseling manually or excavation by pneumatic rock breakers
2.16.3	Contractor responsible for damage
2.16.4	Contractor responsible for damage
2.16.5	Payment - to cause damage

SECTION 2
EXCAVATION

2.1.0 SCOPE

The item includes clearing site, excavation to the designed section, removal of the material, their sorting out as specified and their depositing either in spoil banks or in bank work in layers as specified including all leads & lifts and dewatering / bailing out water.

2.2.0 CLEARING SITE :

The site excavation shall be cleared of all grass vegetation, fencing, bushes, and trees as directed by the Engineer-in-charge. The material obtained from such clearance shall be the property of the Corporation and shall be stacked on the maintenance land strips so as not to cause obstruction to the work.

2.3.1 LINE OUT :

All materials such as pegs, bamboos and templates for making out slopes, and labour required for line out shall be provided by the Contractor at his own cost. The center 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 center line, beyond the canal edges so that they are not disturbed during the construction period. The position of these stones will be marked on the cross section.

2.3.2 No change in the sanctioned plans and design is permissible without the written permission of Engineer-in-charge.

2.3.3 Before starting the work the Contractor shall have to sign the field books and plans showing the working longitudinal sections and cross section of the portions of the alignment, that he has to tackle If the Contractor fails to sign them within three days of being called upon to do so, the levels & sections as recorded by Engineer-in-charge or his assistants will be binding on the Contractor.

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

2.3.5 For the points which are not covered by these specifications, the written instructions given by the Engineer-in-charge shall be final & binding on the Contractor .

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

2.4.0 EXCAVATION

2.4.1 SCOPE OF WORK :

Along with the Excavation and removal of excavated material and its disposal in a manner here in after specified, the rate for the item of excavation will also include:

i) Clearing of Site

ii) Setting out works profiles etc. according to sanctioned plan, or as directed by the Engineer-in-charge and setting up bench marks and other reference marks.

iii) Providing and subsequently removing shoring and strutting if and when necessary.

iv) Bailing and pumping out water during the excavation.

v) Necessary protection including labour, materials and equipments to ensure safety and protection against risk of accident.

vi) Supply of facilities for inspection and measurements at any time to the concerned Corporation officials.

vii) Compensation for injury to life damage or property, if any caused by Contractor's operations connected with this item.

2.4.2 Canal section shall be excavated as shown on the drawings or as directed by the Engineer-in-charge. Both edges of the banks, specially the inner one shall

be neatly aligned symmetrically to the centerline of canal. They shall be absolutely straight at reaches and smoothly curve at bends

2.4.3 Suitable arrangements for drainage shall be provided to take surface water clean off excavation during the progress of work.

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

2.4.5 EXCAVATION IN ROCK :

Excavation in rock shall be such that all sharp points of rock are chipped off so as not to extend into the canal profile. Blasting in a manner which is likely to produce over breakage which in the opinion of Engineer-in-charge in excessive, shall not be permitted. Special care shall be taken to prevent over breakage, or loosening of materials on bottom and slopes, Excavation in excess of the prescribed canal section shall not be permitted beyond pay line and no payment will be made for such excess excavation.

2.4.6 The materials excavated in a chain of 20/30 meters shall be stacked on either side of the chain as specified on the drawing or as directed by the Engineer-in-charge

2.4.7 The excavation shall be carried out according to the dressing with accurately graded bed fall and sides properly sloped as shown in the drawings and as directed by the Engineer-in-charge. The cross section adopted in cutting is likely to change in side slopes according to the depth of different strata during actual excavation. The Contractor therefore should get clear instructions from Engineer-in-charge, before commencing any cutting work.

No claims for any variations in quantity of excavation resulting from the deviation from the instructions of the Engineer-in-charge, would be accepted. To account for this, the central box cutting with the canal bed width as its width have to be taken to canal bed level first, before the side slopes are determined and attacked (except for deep cutting of more than 6 m depth). In portions where deep cutting of more than 6 m. is to be done, the mode of excavation to be followed must be got approved from the Engineer-in-charge, before starting the work in such reaches and in any case, width of excavation to be tackled initially shall not be more than bed width + depth.

The excavation should initially be carried out in steps. The steps should have such width and depth that after they are cut, the required final slopes is attained.

Cutting of steps should be done after bed level is reached and after one monsoon. If cutting is in soft strata, cutting of steps should be done just prior or preparing the side slopes for laying lining.

2.4.8 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 ending the workmen on the project shall be stripped. The method employed shall be such as will not shatter or tender 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 portion shall be promptly and satisfactorily removed. The cost of such clearing shall be deemed or have been included in the unit rates accepted under the different items under excavation.

2.5.0 CLASSIFICATIONS:

2.5.1 The classification of strata shall be as under:

i) SOFT STRATA:

This shall include all kinds of rock or shale, indurate clay, soil, slit sand and gravel, soft murum, and hard murum, soft rock and any other material which can best be removed with a shovel after loosening with a pick axe and /or bar. It shall also include isolated boulders up to 0.113 cubic meter each, which does not need blasting and could be removed with a pick bar and shovel.

ii) HARD STRATA:

This shall include all rock occurring in masses which could be removed by blasting where such blasting is permissible. It shall also include rock by means of chisels or wedges. it shall also include boulders in mass and insulated boulders over 0.1 cum each which requires blasting or wedging and breaking for easy removal. Merely the use explosive in excavation shall not be considered a reason for classification in the hard strata unless regular blasting is clearly necessary in the opinion of the Engineer in charge. The hardness of strata or material to be excavated, presence of different type of geological constituents requiring increased drilling efforts, consumption of explosive, labour and use of machinery shall not be considered as reason for claim/increase in contract rates.

While excavating in hard strata, if soil seams are struck, they will be considered as part of hard strata if the depth of individual seams is upto 15 cm.

2.5.2 In case of the disputes over the classification of strata met with during execution, the decision of the Engineer-in-charge will be final.

2.5.3 PAYMENT LINE (PAY LINES):

The minimum excavation line is the line within which no unexcavated portion of any kind shall be allowed to remain i.e. neat profile line for unlined and underside of the lining proposed is any for works of canal and disnets.

Payment shall be made for the work done as per the pay lines prescribed in various strata and side slopes as below.

2.5.3.1 FOR SIDES:

a) In case of hard strata where upto side slopes upto 0.5:1 are provided minimum thickness of 20 cm, Chip masonry in C.M.(1:8) shall be provided. Payline for payment for excavation and back fill shall be limited to 30 cm average. if any overcuts are more than this limit, no payment for additional overcuts and backfill will be paid for.

In case, excavation beyond minimum line of excavation (i.e. underside of lining) is in between 0 to 10 cm payment, for backfill with Chip masonry in C.M.(1:8) proportion shall be limited to average 5 cm for payment.

In case the excavation exceeds the above limit of average of 5 cm. the extra work involved of backfill shall be carried out by the Contractor at his cost or he shall have options for backfilling with chip masonry of 20 cm. minimum thickness at his own cost.

b) In case of canal excavation with side slopes 1:1 in hard strata , pay line of 10 cms. shall be permitted for payment of excavation and backfill with Chip masonry in C.M.(1:8)

c) In case of canal excavation with side slopes 1:5:1 & above in hard strata pay line upto 10 cm. shall be permitted for payment of excavation and backfill with chip masonry in cm (1:8). In case the average excavation beyond minimum line of excavation is upto 5 cm. backfill shall be also done with chip masonry in cm (1:8). Apart from the standards given above for the pay lines, the Contractor shall take care to see that the slopes are stable and no accidents or slips would occur.

Tolerance for overcut beyond pay lines arising out of peculiar nature of rock at the site and other site conditions shall be decided by the Superintending Engineer-in-charge of the work. Payment for excavation beyond pay lines upto tolerance lines in such specific cases shall be made @60% rate of the particular item of the work. No tolerance shall however be permitted in soft strata.

2.5.3 FOR BED :

Payline in case of bed shall be 10 cm. Extra excavation in bed beyond designed section shall be backfilled with murum.

In case of soft strata no pay line is admissible. Extra excavation in bed beyond designed section for sides in soft strata shall be backfilled with murum.

2.5.4.1 EXTRA EXCAVATION FOR BLACK COTTON SOIL :

Wherever the canal bed and side upto T.B.L.are in B.C.soil, extra excavation depth is to be done as per design and as directed by Engineer in-charge for having murum back filling and this will be measured under respective items. Murum filling will be paid under item of casing from quarry or excavated stuff.

EXCAVATION IN HARD STRATA :

2.5.4.2 While excavating in hard strata, if softness are struck, they will be considered as part of hard strata if the depth of individual seams is upto 15 cm. When depth of soft seams is more than 15 cm. it will be paid under item of soft strata.

2.6.0 MAINTAINANCE OF SLOPES IN EXCAVATION :

2.6.1 Any shoring and strutting required during excavation and afterwards shall be deemed to be covered by the rates quoted for the items.

2.6.2 SLIPS-CORPORATION NOT RESPONSIBLE :

Slips shall be avoided, but if any slip occur on account of any reason, the excavation shall be promptly restored to stability. No extra claims shall be entertained for such slips.

The contractor shall have to make good work at his cost.

2.7.0 USE OF EXCAVATED STUFF :

2.7.1 Excavation shall be done systematically so that the excavated stuff will be used on banks without double handling.

2.7.2 DEPOSITION OF EXCAVATED STUFF CLEAR OFF TRAFFIC LINES ETC.

Disposal of all materials from excavation shall be as per approved disposal plan or instructions of Engineer-in-charge. The location and deposition of the stock piles, spoil banks or embankment before any excavation is started shall be carefully planned so as not to obstruct normal 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 in lifting of pumping device, stacking construction material etc.

2.8.0 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 out. The material not useful for bank work shall be deposited as directed by the Engineer-in-charge. Material useful in bank work shall be sorted out to be used in hearting or casing. Each stock pile of unrequited material shall be regular size and not less than 5 M. in height.

b) HARD STRATA :

Rubble and boulders from hard strata shall be stacked in separate areas as directed by the Engineer-in-charge. Stock piles shall be of regular shapes allowing easy measurement. No stock piles shall measure more than 200 sq.m. in plan and more than 1.5 m. in height unless specifically permitted by the Engineer-in-charge in writing.

2.9.0 SURPLUS MATERIALS :

The excavated materials, if not required for embankment, should 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. In partial

banks where a side embankment is required to retain water, its limit should be lined out before starting the excavation so that the soil may be disposed off properly.

2.9.1 STACKING IN STOCK AND WASTE PILES :

After sorting is done, useful materials of various types shall be stacked in stock piles and rest may be disposed off as directed at place shown within the lead specified.

Useful materials shall be stacked in separate areas as directed with reference to the nature of the material. Stock piles shall be of regular shapes allowing for easy measurement. No stock pile shall measure less than 60 m. in length and 5 m. in height unless specially permitted by the Engineer-in-charge.

2.9.2 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 is taken by the Contractor. In addition to non-payment of such work suitable amounts as directed by the Engineer-in-charge will be recovered from the Contractor and deposited towards any extra cost which Corporation may have to bear on account of the Contractor's unauthorized action.

2.9.2.1 All the materials available from excavation will be the property of Corporation and shall be deposited as directed by the Engineer-in-charge. The material of approved quality may be used by the Contractor in the item of work included in Schedule 'B' of the tender or on ancillary for preparatory work free of charge even from the surplus laying in the adjoining reaches. Prior approval of the Engineer-in-charge for such free use shall however be taken.

2.10.0 MODE OF MEASUREMENT :

2.10.1 Classification of the excavation will be made from the cross sections visible at the sides of the excavation and from measurements of ridges which shall be left at 20 m. or less as directed by Engineer-in-charge, which must be removed immediately after the final measurements have been taken except when order are specially given to retain these ridges.

2.10.2 As a rule, measurement of the excavated material on stacks shall not be permitted. However, when it is not possible to get a record of the excavated material in cross section, measurement of the excavated material on stacks may be permitted in writing. In such a case the stacks shall be on level ground rectangular in shape and shall not be more than 1 meter in height. The deduction for voids at the following percentage shall be made from the gross quantities of stack measurements to arrive at the net quantity.

	when measurements are taken before passing of a mansoon	After passing of atleast one mansoon after laying the stacks
i) Soft Strata	25%	15%
ii) Hard Strata	40%	40%

2.11.0 SILTING OF EXCAVATION :

2.11.1 SILTING OF SITE DUE TO FLOODS - CORPORATION NOT RESPONSIBLE:

If excavated pits get silted due to intervening floods, slips or any other cause, till completion of work, the Contractor shall excavate and restore the pits and section to the required shape and dimensions without any extra cost.

2.12.0 Initially box excavation shall be carried out up to top of hard stratum. Thereafter stable slopes may be cut in soft strata as stated hereafter.

On striking hard rock in foundation trench the surface of this rock should be exposed on all area of the trench and it should be brought to the notice by the Contractor to the Engineer-in-charge who will cause levels of the top of hard stratum taken along predetermined sections. Thereafter further excavation in hard strata can be continued upto foundation level to be fixed by the Engineer-in-charge. Failure to do so by the Contractor will not entitle him to get payment for the work that may have been done under item of hard stratum.

2.13.0 EXCAVATION IN WET CONDITION AND DEWATERING:

No distinction will be made as to whether material being excavated is dry, moist or in wet condition. Dealing with the ground water or rain water collected and its disposal is covered under this items.

2.13.1 CONTRACTOR TO DEWATER WHENEVER REQUIRED:

The area under all the works pertaining to this tender and adjoining areas necessary shall be maintained free of water.

The area shall also be maintained free of water after any part of the work is completed for inspection, safety and installation by Corporation, or for any other reasons determined as necessary by the Engineer-in-charge. The sumps shall be well lighted and shall be readily accessible for inspection. The Contractor shall pump out all water from the site and appurtenant works and shall keep the foundation free of water, while excavating, concreting and placing masonry and continue to keep the works free of water for a period as may be required for proper setting of mortar or concrete or otherwise required for the completion of works.

The contractor shall have to construct and maintain during construction of structures cofferdams, diversion channels and other diversions or protective works as necessary after approval from Engineer-in-charge. The contractor shall not be entitled.to any claims or damages on account of or by reason of any amount of water leaking through, under or around cofferdams, diversion channels and other diversion or protective works or over topping of diversion works.

2.14.0 PREPARING AND TESTING OF FOUNDATION:

2.14.1 SCALING AND TRIMMING OF FOUNDATION:

After rough excavation to the required depth is completed, scaling and trimming operations for the removal of all pieces loosened during excavation or partly separated from main rock mass by seams or cracks shall be carried out to the satisfaction of the Engineer-in-charge.

2.14.2 TREATEMENT OF WEAK LOCAL SPOTS:

All weathered or partly or decomposed pieces of rock shall be removed so as not to leave any rock on the foundation other than that which is an integral part of the rock mass. Areas of low bearing capacity, steep inclined seams, faults and crushed zone in an otherwise good foundation, if permitted to be kept shall be cleared out to a sufficient depth and refilled and plugged with masonry or concrete as directed by the Engineer-in-charge.

2.14.3 FINAL FINISHED SURFACE OF FOUNDATION:

The finally prepared foundation shall present a rough surface in cross section to give added resistance to sliding. All smooth surfaces shall be roughened artificially to give a good bond. The surface shall be free from steep angle and the edges of benches shall be chamfered approximately to 45^0, pinnacles of sharp projection shall be knocked off and prominent knobs flattened.

2.14.4 TESTING FOR SOUNDNESS:

The finally finished foundation rock shall be tested by striking with a heavy hammer and if loose portion of foundation rock is revealed by hollow sound, it shall be excavated further (without blasting) till a clear ringing sound is obtained.

2.14.5 EXCAVATION OUTLINES AND PAYLINES:

All excavation shall be performed in accordance with the lines, grades, levels, and dimensions shown in the drawing or established by the Engineer-in-charge. The dimensions shown in the drawing are tentative. During the progress

of work, it may be necessary or desirable to vary the slopes or the dimensions of excavation from those specified in the drawing. The side slopes of the excavation shall be steep as wouldstand with safety as decided by the Engineer-in-charge. If the slops established are found to be sleeper and likely to slip, they shall be made flatter by removing the additional material and introducing suitable berms if possible and stable faces established. The additional excavation will be paid at the rate accepted for excavation for particular class of material.

EXCESS EXCAVATION:

No payment shall be made for the work done beyond specified pay lines. Pay lines for different strata for excavation are defined as the lines starting from the outer dimensions of the masonry or concrete at foundation level. Any or all excess excavation carried out by the contractor beyond approved paylines, for any purpose or reason, shall unless ordered in writing be at the expenses of the contractor and if the unauthorized excavation has to be filled with concrete or masonry or with materials approved as filling so needed shall be carried by the contractor as per specifications of the respective items of work at his own expense. Tolerance for over cut beyond paylines arising out of peculiar nature of rock at the site and other site conditions shall be decided by the superintending Engineer-in-charge of the work. Payment for excavation beyond paylines upto tolerance lines in such specific cases shall be made @ 60 % of tender rate of the particular item of the work. No tolerance shall however be permitted in soft strata.

2.14.6 OVERCUT:

Overcut is defined as quality of excavation beyond payment lines and the unit rate for the volume payable within covers the cost of overcut unless otherwise specified.

Overcut in soft strata shall be filled with the materials specified for the back fill back to the same standard of placement as stipulated for the backfill and is covered by the payment under backfill item upto pay line unless otherwise specified.

2.14.7 MODE OF MEASUREMENT AND PAYMENT :

The measurements shall be based on areas of cross-sections taken normal to the axis of the structure or its part of the original ground surface and the

surface of the finally completed excavation within the paylines, taken at every 10 meters along the axis of structure or its part. Where there is abrupt change in depth additional cross sections may be taken at the discretion of the Engineer-in-charge. Levels along the cross sections shall be taken at every 15 to 20 meters or 5 meters as per necessity of work.

During the excavation of the work, running payment for the items of excavation will be made to Contractor at 90 percent of his tendered rate for the item. The remaining payments for these items shall be progressively released depending upon the progress of completion of the item of excavation. This part rate will be reviewed by the Engineer-in-charge when he feels necessary and decision of the Engineer-in-charge shall be final and binding on the Contractor. During the execution of the work running payment for the items of excavation will be made to the Contractor on the basis of cross sectional measurements.

Quantities shall be computed from the cross sectional area by the trapezoidal formula.

2.15.0 BLASTING :

2.15.1 OBSERVING RULES REGARDING BLASTING :

In conducting blasting operations, proper precautions shall be taken for the protection of persons, the work and property. All Government laws relating to the design and location of magazine transport and handling of explosives & other measures for the prevention of accidents shall be strictly observed, warning sings of accidents shall be prominently displayed on the magazines, and warning signals given for each blast. Specifications for blasting given under the separate section shall be carefully and rigidly observed.

2.15.2 STORING OF EXPLOSIVES :

Explosive 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 damages 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 Contractor.

2.15.3 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 or a permanent structure shall not be permitted.

C) Progressive blasting shall be limited to two third of the total remaining depth of excavation.

D) No large scale blasting operation will be resorted to when the foundation excavation reaches the last meter. Only small charges, preferably black powder may be allowed so as not to shatter the foundation.

E) Rules of blasting are as appended.

2.16.0 EXCAVATION IN HARD STRATA WITH CHISELLING AND / OR CONTROLLED BLASTING :

2.16.1 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 the correct sections as shown in the drawings with chiseling and/or controlled blasting and depositing the excavated stuff as and where directed within specified leads and lifts.

The contractor shall obtain written permission of the Engineer-in-charge before undertaking the work under this item for specific reaches.

In addition to the specifications under paras2.1.0 to 2.12.0 of Section 2. The following specifications will apply to this item.

The holes for blasting will be drilled for a depth of only 40 cm. thus increasing the number of holes and correspondingly decreasing the charges required for each hole.

The holes as far as possible will be slant. All the holes after charging will be covered by grill of steel rods which will be suitably loaded by gunny bags filled with sand or murum.

The steel grill will be so lowered over the holes as not to cause any damage to the fuse wire or charges and care will 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 will be securely anchored to the adjoining rock by chains. Chiseling manually or excavation by pneumatic rock breakers will be resorted to as directed by Engineer-in-charge where blasting cannot be permitted.

2.16.3 Any alternative technique approved by the Engineer-in-charge may be used, but approval to execute the work by the above mentioned method or alternative technique will not relive the Contractor of the responsibility of damage to the power line and properties.

2.16.4 The contractor will be responsible for any damage caused to the power line and properties and he shall indemnify the department for the same.

2.16.5 Payment under this item will be made only where in the opinion of the Engineer-in-charge the blasting operations of the over throw of rock spoils resulting from the blasting operation is likely to cause damage to the nearby power line and properties. However payment will not be made where chiseling is resorted to for dressing etc. More use of the controlled blasting methods or chiseling will not entitle the contractor for payment under this item. Payment will be made on cubic meter basis, the volume being calculated by sectional measurements.

RULES FOR BLASTING OPERATION

GENERAL :

1. The contractor shall acquaint with all applicable laws and regulations concerning storing handling and the use of explosives. All such laws regulations and rules etc. current from time to time shall be binding on the contractor.

2. The provisions detailed in these rules are supplementary to above laws rules and regulations etc. are applicable except where they conflict with the aforementioned laws etc. from time to time. Further the Engineer-in-charge may

issue modification, alternations or new instructions fromtime to time. The contractor shall comply with the same without these being made a cause.

MATERIALS :

3. All materials such as explosives, donators, fuses, tamping materials etc those are proposed to be used in the blasting operations shall have the prior approval of the Engineer-in-charge

4. Black powder and safe explosive shall be wherever possible. Explosive with nitroglycerine shall only be used under exceptional circumstances and where the above explosives are not effective.

5. The use of fuse with only one protective coat is prohibited. The fuse shall be sufficiently water resistant as to be unaffected when immersed in water for 30 minutes. The rate of burning of the fuse shall be uniform and less than 4 sec. per 25 cmsof length with 10% tolerance on either side. Before use , the fuses shall be inspected and the moist, damaged or broken one are discarded. The rate of burning of all new types of fuses, or when they have been stocked for long shall be tested before use.

6. The detonator used shall be capable of giving effective blasting of the explosives. Moist or damaged detonator shall be discarded.

PERSONNEL :

7. Excavation by blasting will be permitted only under personal supervision of competent and licensed persons and trained workmen.

8. All supervision and workmen in charge of making up, handling storage and blasting work, shall be adequately insured by the Contractor.

9. The storage shall be in charge of a very reliable person approved by the Engineer-in-charge who may, if necessary, cause police enquiries being made as to his reliability, antecedents etc. The contractor shall have to produce a security for the person in charge of explosives if and as required by the Engineer-in-charge of the Civil Authorities of the District.

10. The Contractor shall make sure that his supervisors and workmen are fully conversant with all the rules to be observed in storing, handling and use of the explosives. It shall be assured that the supervisor-in-charge, is thoroughly acquainted with all the details of the handling of the blasting operations.

11. No tools or implements, other than those of copper, brass gunmetal or wood shall be allowed inside the magazine. All tools shall be used with extreme gentleness and care.

12. Box of explosives shall not be thrown or dragged along the floor and shall be stacked on wooden trestles. Where there are white ants, the legs of the trestles should rest in shallow copper, lead or brass bowls containing water. Open boxes of dynamite shall never be exposed to the direct rays of the sun.

13. Empty boxes of loose packing material shall not be kept inside the magazine.

14. The magazine shall have a lightening conductor which shall be got tested at least once in a year by any officer authorized by the Engineer-in-charge. The testing fees shall be charged on the Contractor. The contractor shall, within 15 days, comply with all the recommendations made by the officer testing the lightening conductor, failing to which Engineer-in-charge shall be entitled to comply with the same at the Contractor's expenses which shall not be open to question or may take any action that he may consider fit.

15. A notice shall be hung near the store prohibiting entrance of unauthorized persons.

16. The following shall be hung in the lobby of magazine.

a) A copy of the rules in English and in the language with which the workers concerned are familiar with.

b) A statement showing the up-to-date stock in the magazine.

c) A certificate showing the last date of testing lightening conductor.

d) A notice that smoking is strictly prohibited.

17. The magazine will be inspected at least twice a year by the officer representing the Engineer-in-charge, who will see that all the rules are strictly complied with. He will notify all omissions etc. to the Contractor, who shall rectify the defect within a period of 15 days from the date of receipt of the notice, failing which the Engineer-in-charge may take whatever action he considers suitable.

USE OF EXPLOSIVES :

18. For the transport of the explosives and detonators between the stores and the sites closed and strong container made of a soft material as timber, zinc, copper, leather and the like shall be used.

19. Explosives and detonators shall be carried in separate boxes and transported separately for the conveyance of primer, special containers shall be used.

STORAGE OF EXPLOSIVES:

20. The Contractor shall build a magazine for storing the explosive. The site of the magazine, its capacity and design shall be subject to the approval by the Engineer-in-charge and the inspection of the controller of Explosive before the construction is taken up. As a rule, the explosives should be stored in a clean, dry, well ventilated bullet proof building on the isolated site.

21. The explosives, detonators and fuses shall be separately stored.

22. A careful and day account of the use of explosives shall be kept by the contractor in an approved register and in approved manner. The register shall be produced by contractor for inspection of the Engineer-in-charge when so required by the later. The Engineer-in-charge may also pay surprise visits to the storage magazine. In case of any unaccountable shortage of the explosive or if the account is not found to have been maintained in the manner prescribed by the Engineer-in-charge, the Contractor shall be liable to be penalized with forfeiture of the security deposit lodged by him with the

Government or his tender shall be liable to be cancelled in which case, he shall not be entitled to any compensation for the losses etc. The action taken under this clause shall be in addition to that which will be taken by the competent civil authorities in court of law.

23. The magazine shall at all times be kept clean.

24. No unauthorized person shall at any time be admitted inside the magazine.

25. The magazine shall, when not in use of authorized person, be kept well and securely locked.

26. The magazine shall on no account be opened during or in the approach of thunderstorm and no person shall remain in the vicinity of the magazine during such period.

27. Magazine shoes without nail shall at all times be kept in the magazine and wooden tub or cement trough 30 cms high and 45 cm in diameter filled with water shall be fixed near the door of the magazine.

Persons entering the magazine must put on the magazine shoes which shall be provided by the contractor for the purpose and be careful,

i) Not to put their feet on the clean floor unless they have the magazine shoes on.

ii) Not to allow the magazine shoes to touch the ground outside the clean floor.

iii) Not to allow any dirt or grit to fall on the clean floor.

28. Person with bare feet, shall before entering the magazine, dip their feet in water and then step directly from the tub over the barrier (if there be one) on to the clean floor.

29. A brush or broom shall be kept in the lobby of the magazine for cleaning out the magazine on each occasion it is opened for the receipt, delivery or inspection of explosives.

30. No matches, or inflammable material shall be allowed in the magazine. Lights shall be obtained from an electric storage battery latern.

31. No person having article of steel or iron on him shall be allowed to enter the magazine.

32. Workmen shall be examined before they enter the magazine to see that they have none of the prohibited articles on their person.

33. Cotton rags waste and articles liable to spontaneous shall not be allowed inside the magazine.

34. The boxes and containers used shall be kept well closed.

35. Explosives shall be stored and used chronologically to ensure the one reviewed earlier being used first.

36. A makeup house shall be provided at each working place in which cartridge will be made up by an experienced man as required. The makeup house shall be separated from other building, only electric storage battery lamps shall be used in this house.

37. No smoking shall be allowed in the makeup house.

DISPOSAL OF DETERIORATED EXPLOSIVES :

38. All deteriorated explosive shall be disposed off in an approved manner. The quantity of the deteriorated explosives to be disposed off shall be intimated to the Engineer-in-charge prior to its disposal.

PREPARATION OF PRIMERS:

39. The primers shall not be prepared near open flames or fires. The work of preparation of primers shall always be entrusted to same personnel. Primers shall be used as soon as possible after they are ready.

CHARGING OF HOLES:

40. The work of charging shall not commence before all the drilling work at the site is completed and the supervisor has satisfied himself to that effect by actual inspection.

41. While charging open lamps shall be kept away. For charging with powdered explosives, naked flames shall not be allowed.

42. Only wooden tamping rods without any kind of metal on them shall be allowed to be used.

43. Bore holes must be such a size that the cartridges can easily pass down them.

44. Only one cartridge shall be inserted at a time and gently pressed then with the tampering rod. The sand, clay or other tampering material used for filling the hole completely shall not be tempered too hard.

BLASTING :

45. Blasting shall be carried out during fixed hours of the day which shall have the approval of the Engineer-in-charge. The blasting hours once fixed shall not be altered without prior written approval of the Engineer-in-charge.

46. The site of blasting operations shall be prominently demarked by red danger flags. The order to fire shall be give only by the Supervisor-in-charge of the work and his order shall be given only after giving the warning signal three time to reach to safe shelter and after having ascertained that nobody is within the danger zone.

47. A bugle with a distinctive note shall be used to give the warning signals. The bugle shall be used for any other purpose. All the labourers shall be made

acquainted with the sound of the bugle and shall be strictly warned to leave the work immediately at the first warning signal and to make for safe shelter and not to leave the shelter until the clear signal has been given.

48. All the roads and footpath leading to the blasting area shall be watched.

49. In special cases suitable extra precautions shall be taken.

50. For lighting the fuses, a lamp with a strong flame such as carbide lamp shall be used.

51. The supervisor shall watch the time required for firing the fuses and shall see that all the workmen are under safe shelters in good time.

ELECTRICAL FIRING :

52. Only the supervisor-in-charge shall keep the key of the firing apparatus and shall keep it always with himself.

53. Special apparatus shall be used as a source of current for the blasting operations, power lines shall not be tapped for the purpose.

54. All the detonators shall be checked before use.

55. For blasts in one series, only detonators of the same manufacture and of the same group of electrical resistance shall be used.

56. Such of the electrical lines as could constitute danger for the work of charging shall be removed from the site.

57. The firing cable shall have proper insulating cover so as to avoid short circuiting due to contact with metallic part of rock.

58. The use of the earth as a return line shall not be permitted.

59. The firing cable shall be connected to the source of current only after ascertaining that nobody is in the area of blasting.

60. Before firing the circuit shall be checked by a suitable apparatus.

61. After firing, with or without an actual blast the contact between firing cable and the source of current shall be cut off before any persons are allowed to leave the shelters.

62. During storms charging with electrical detonators shall be suspended. The charges already placed into the holes shall be blasted as quickly as possible after taking all safety precautions and giving necessary warning and signals, if this is not possible, the site shall be abandoned till the storm has passed.

PRECAUTIONS AFTER BLAST AND MISFIRE:

63. If it is suspected that part of the blast has failed to fire or is delayed sufficient time shall be allowed to elapse before entering the danger zone. When fuses and blasting caps are used, safe time should be allowed and then the supervisor alone shall leave the shelter to see the misfire.

64. Drilling near the hole that has misfired shall not be permitted until one of the two following operations have been carried out by the supervisor.

i) The supervisor should very carefully (when the tamping is of damp clay) extract the tampering with a wooden scraper of jet water or compressed air (using a pipe of soft material) and withdraw the fuse with the primer and detonator attached. A fresh primer and detonator with fuse shall then be placed in this hole and fired.

ii) The supervisor shall get one foot of the tamping cleared off and indicate the direction by placing a stick in the hole. Another hole may then be drilled at nine inches away and parallel to it. This hole should then be charged and fired. The balance of the cartridge and detonators found in the rock shall be removed.

65. Before leaving his work, the Supervisor should inform the Supervisor of the relieving shift of any case of misfire and shall point out the position with a red cross denoting the same and also state what action, if any, he has taken in the matter.

66. The Supervisor shall at once report to the office in all cases of misfire, the cause of the misfire, and the steps taken in connection therewith.

67. The names of supervisor-in-charge of day and night shift may be noted daily in contractor's office.

68. If misfire has been found to be due to defective detonator or dynamite the whole quantity of box from which the defective article was taken must be returned to the authority as may be directed by the Engineer-in-charge for inspection to ascertain whether the whole box contains defective material.

69. Re-drilling the holes that have misfired either wholly or partly, shall not be permitted.

PRECAUTIONS AFTER BLASTING :

70. After the blast, the Supervisor shall carefully inspect the work and satisfy himself that all the charges have been exploded.

SECTION NO 3

EMBANKMENT

3.0.0	Embankment
3.1.0	Scope
3.1.1	Clearance of site
3.1.2	Materials
3.1.3	Zoning of embankment
3.1.4	Stretches of embankment
3.2.0	Allowance for settlement
3.2.1	In height
3.3.0	Use of excavated materials
3.4.0	Borrow pits
3.5.0	Deposition of material
3.6.0	Watering and compaction
3.6.3	Tamping / compaction
3.6.5	Dressing
3.7.0	Laying & Testing
3.7.2	Field density
3.8.0	Providing pervious material having C.N.S. properties for sub grade behind lining
3.9.0	Mode of measurement & Deduction in sectional measurement

SECTION NO. - 3

EMBANKMENT

3.0.0 EMBANKMENT :

3.1.0 SCOPE OF WORK :

The item shall include contractors own material brought upto site of work, deposition spreading in final position and consolidations as herein after specified. Wherever the embankment is formed by utilizing excavated stuff from the excavation. The item also includes re-handling and picking up of the excavated stuff and its sorting wherever necessary.

3.1.1 CLEARANCE OF SITE :

Before commencing the embankment, the site should be cleared of stones, sand, shrub, vegetation etc. without any charges. If the soil on which the bank is to be placed is not suitable for laying banks the whole or the portion of the same should be stripped off as directed in writing by the Engineer-in-charge and materials so stripped if suitable shall be utilized for bank work or filling of the stripped up portion, as directed by him.

3.1.2. MATERIALS :

The embankment shall be constructed of soil, hard murum of approved quality as approved by the Engineer-in-charge and also laid as directed in the appropriate zones of the section, approved by the Engineer-in-charge. Materials harder than soft rock shall not be used for casing except with the written permission of the Engineer-in-charge, who may allow hard rock partly to be used on outer slopes of the work.

3.1.3 ZONING OF EMBANKMENT :

The embankment shall consist of :

1) Soil core / Hearting Material

2) Murum casing as shown in the drawing.

SOIL CORE / HEARTING MATERIALS :

The zones shall be formed with selected impervious soil as approved by the Engineer-in-charge available from excavation specified in Para No. 2.7.1, 2.8.0 (a) and 2.9.0 or available from borrow pits as the case may be. Earth for hearting zone shall be free from roots and vegetable or other organic matter. All clods and lumps upto 5 cm. cubes shall be broken up as the work proceeds. The earth to be used for hearting shall be from the quarry approved by the Engineer-in-charge.

MURUM CASING :

Casing shall be pervious soils consisting of murum of approved quality to the desired section.

Materials for casing shall be free from roots and vegetable mounds or other organic matter. All clods and lumps upto 10 cm. cubes shall be broken up as the work proceeds. The materials to be incorporated in the casing zone shall be got classified from the Engineer-in-charge with regard to its suitability before being used in bank work.

3.1.4 STRETCHES OF EMBANKMENT:

The embankment shall be made of 150 to 250 meter in lengths and not in small bits.

3.2.0 ALLOWANCE FOR SETTLEMENTS:

3.2.1 IN HEIGHT:

The banks will be extra height at a rate of 5 cm. per meter of designed height to allow for probable settlement of banks. The widths at base and top in this case remain unchanged. The extra work so done will be measured and paid for under the respective items of banking after deductions of specified shrinkage allowance.

3.3.0 USE OF EXCAVATED MATERIALS:

3.3.1 All the materials required for the construction of the appropriate zones of the canal embankment shall come from following sources in order of priority.

1) The materials obtained from the excavation of canal and approved for use in the embankment by the Engineer-in-charge.

2) After utilizing the materials obtained as above the remaining materials required for construction of embankment shall be taken from the approved borrow areas of the contract. The materials so obtained from the borrow should also be got approved prior to its use.

The material already excavated and stacked along the side cuts in the reaches will be permitted to be used free of cost in the respective zones of the embankment. In respect of suitability of use of such materials, decision of Engineer-in-charge shall be final. Rate of this item includes cost of sorting out of material from the spoil bank.

3.3.2 The quantity of earthwork from borrow are mentioned above will be worked out by deducting the total usable soils of excavation in the appropriate zones whether actually used or not 10 % wastage for utilization will be allowed in excavation quantities. The utilization of the excavated material should be so planned that these materials shall be use directly in the embankment with minimum lead. No change will be paid for re-handling or if material is used with a longer lead, when it can be used within shorter lead. The quantities to be deducted for the utilization in embankment in appropriate zones as detailed above will be arrived on the basis of the following conversion table.

Sr. No.	Type of materal	Exavation measured in place i.e. direct measurements	Converted compacted banks measurements for the purpose of reduction
1.	All soft material for hearting	1 cubic meter	0.9 cubic meter
2.	Hard material for casing	1 cubic meter	1.0 cubic meter
3.	Soft rock	1 cubic meter	1.2 cubic meter
4.	Hard rock	1 cubic meter	1.4 cubic meter

3.4.0 BARROW PITS :

No Borrow pits shall be allowed in the Corporation land acquired for canal site, etc.

3.5.0 DEPOSITION OF MATERIAL :

All materials obtained from excavation or from borrow areas shall be laid in regular layers not exceeding 23 cm. loose thickness. The layers of each shall have slight slopes towards the center of bund which shall be formed by the dumping earth from the sides towards the center. During monsoon, a small crown shall be maintained at the middle of the bank work facilitate easy drainage of rain water. The material shall be laid to the section inclusive of pride. The profiles shall show the total heights and slopes including allowances for settlement. The bank is to be constructed evenly to the full section of the set out. The finished bank work shall be dressed neatly to the sections of the set out. The finished bank work shall be dressed neatly to the sections and slopes shown by the profile.

3.6.0 WATERING AND COMPACTION :

3.6.1 Compaction of bank shall be done by 8 to 10 tones vibratory rollers. Before consolidation, the layer will be moistened with adequate quantity of water to bring the percentage of O.M.C. with variation of (+ or -) 2 % of O.M.C. The rate of the item includes charges for rolling and for providing sprinkling water with all leads and lifts required for the purpose. Before laying the next layer the previous layer shall be scrapped and picking done if required so as to ensure good bond with the new layer. Subsequent layer shall only be allowed after the first layer is satisfactorily consolidated. If contractor fails to give required compaction, the Corporation shall employ additional rollers at contractor’s cost. The hearting and casing shall be raised simultaneously in order that the whole embankment may be raised evenly.

3.6.2 The compaction will have to be uniform over the full width of the bank. The vibratory roller should be made to travel over the entire design section of each layer so that the earth is fully consolidated and leaves no visible marks on the surface or as directed by the Engineer-in-charge. Where, smooth rollers are used, the surface of each layer of compacted material shall be roughened with a horrow and thoroughlyhorrowed or raked before depositing the

succeeding layer of material and care shall be exercised to avoid the occurrence of horizontal seams. Earth work should be continuous from day to day. In case of break in consolidation exceeding four days, the dried surface shall be well watered and harrowed before a fresh layer of earth is laid on it.

The spreading of the next layer shall be carried out only after the whole underlying layer has been properly consolidated.

The contractor shall arrange for the water required for the work and no extra charges will be allowed on this account. Water required to bring up the moisture content to its optimum figure shall be sprinkled uniformly over the entire area and not poured in ditches. The contractor should give all facilities for the departmental staff to conduct the optimum moisture content and dry density tests at site.

3.6.3 TAMPING / COMPACTION:

In those parts of the embankment inaccessible to the specified rolling equipment around and in account with structures and in proximity of structures where the rolling equipment shall not be permitted to operate, compaction shall be accomplished either with manual or mechanical tampers of approved type. Roller shall not be permitted to operate within one meter of concrete or masonry structures and all fill within this distance shall be tamped by manual or mechanical tampers. All materials to be tamped shall be spread in layers not over 8 cm. thick when loose. The moisture content of the material may be +2 percent water then O.M.C. and amount of tamping shall be such as to produce a degree of compaction equal to the specified for rolled fill. Special care shall be exercised to obtain a good contact and bond with surface of concrete and masonry structures.

3.6.4 EMBANKMENT.

In order to achieve compaction up to the edges of the embankment, the embankment section shall be widened on inner side by minimum 30 cm. or more to get which required for rolling as directed by Engineer in charge.

3.6.5 DRESSING:

DRESSING OF BANK:

After completion of work, the bank including spoil shall be dressed evenly to the required section as directed with no extra cost to Corporation.

3.6.6 The side slopes shall be accurately dressed to required slope & section by stretching string between the template faces. Dressing should be accompanied by watering and ramming including replacing or refilling the murum material. Dressing should be done just before commencing the lining as per direction of Engineer-in-charge.

3.7.0 LAYING AND TESTING:

The material placed in the embankment shall be laid in 15 to 23 cm. and shall be properly watered and compacted to attain dry density of not less than 95% of the proctor density for the material under consideration. The soil shall be brought to + or - 2% of O.M.C. as determined in the laboratory by adding the required amount of water either at the borrow pits or on the embankment.

In case of canal embankment a dry density upto 90% of optimum dry density(standard proctor density) will be accepted but shall be paid at reduced rate to be approved by the Superintending Engineer.

3.7.2 FIELD DENSITY:

The field density tests shall be conducted to ascertain that a density of 95% of the proctor density is attained. The number of such tests shall not be less than one for every 500 cubic meters of the rolled or compacted earthwork per layer or two per day whichever is more.

3.8.0 PROVIDING PERVIOUS MATERIAL HAVING C.N.S.PROPERTIES FOR SUB- GRADE BEHIND LINING:

3.8.1 Most of the proposed embankment quantity under banking item is required for preparing sub-grade behind lining in B.C. zone. As sub-grade in B.C.zone requires a good foundation for good lining special care will have to be taken for it.

3.8.2 The thickness of bed and side sub-grade shall be as per design and drawing or as directed by the Engineer-in-charge in writing.

3.8.3 Only approved quality of murum should be used. Murum shall be laid in horizontal layers of 15 to 23 cm and the same shall be laid for bed first and then for sides. Murum shall be laid in long reaches at a stretch and in any case the reach shall not be less than 100 meters

3.8.4 Each layer will be watered adequately and compacted as specified in this section. Mechanical slope compactors shall be used for compaction. In small section where mechanical device cannot be used, manual tamping is allowed provided that compaction is done to the requirement.

3.8.5 Sub-grade will be inspected by the Engineer-in-charge or his field officer before the lining work is started and certificate regarding the stipulated thickness and quality of sub-grade will be recorded and kept on records. Testing shall be done as per para 3.7.1 to 3.7.2 and test results shall conform to be standard requirement in above paras.

3.8.6 Payment will be for one cum of work done quantity which will be computed by taking actual measurement.

3.8.7 Construction of service road along Canal/Distributory/Minor

i) This work consist of leveling the ground after removing grass etc.

ii) Filling the ruts and depressions

iii) Spreading available spoils for sub-grade and compaction

iv) Spreading murum in layers and compaction

3.8.8 After removing bushes and grass the ground will be leveled. Ruts and depressions if any shall be filled with available soil and the entire width of service road will be leveled. Available excavated material from cutting for accommodation back fill, should directly placed to act as sub-grade for murum road, this should be watered and compacted.

3.8.0 MODE OF MEASUREMENTS AND DEDUCTION IN SECTIONAL MEASUREMENT:

All measurements shall be taken on cross section of bank. For this purpose detailed cross section of the ground shall be taken at the interval of 20 m or less as directed before a embankment of a particular reach starts. The quantities of bank work shall be worked out on the basis of areas and distances of these cross sections by Prismoidal formula. Deduction in quantities of bank work and C.N.S. Bank shall be made for shrinkage at the rate of 10% of intermediate measurements, 7 % after one monsoon and 5% for final measurements of earth work if the final measurements are taken after two or more monsoons.

SECTION NO 4

CEMENT CONCRETE

4.0.0	Cement concrete
4.1.0	Scope of Work
4.3.0	Cement
4.4.0	Sand
4.4.1	Source and size
4.4.2	Quality
4.5.0	Coarse aggregate
4.5.2	Impurities
4.5.3	Grading
4.6.0	Water
4.7.0	Grading and relative proportions
4.8.0	Mix variation
4.9.0	Design mix
4.9.1	Cement
4.10.0	Tests for cement concrete
4.10.1	Stipulated crushing strength
4.10.2	Preliminary laboratory test
4.10.3	Works test on concrete
4.10.4	Standard of Acceptance
4.10.5	Slump test
4.11.0	Forms
4.11.1	General
4.11.2	Design
4.11.3	Material
4.11.4	Fabrication
4.11.5	Treatment of the inner sides of forms
4.11.6	False work
4.11.7	Erection & removal of forms
4.11.8	Re-use of forms .

4.11.9 Inspection

4.12.0 Placing concrete

4.12.2 Rock surface

4.12.3 Masonry surface

4.12.4 Concrete surface

4.12.5 All surfaces

4.12.6 Time for use

4.12.7 Method of placement

4.12.8 Rate of placing

4.12.9 Concreting at night time

4.12.10 Concreting during rains

4.13.0 Compaction

4.14.0 Curing and protection

4.15.0 Finishing

4.15.1 General

4.15.2 Formed Surfaces

4.15.3 Dry patching

4.15.4 Finishing permanently exposed surface

4.15.5 Finishing concealed surface

4.15.6 Finishing un formed surface

4.15.7 Chipping & roughening concrete surface

4.15.8 Damage due to Floods-Corporation not responsible

4.16.0 Nominal mix

4.17.0 Payment

SECTION NO. - 4

CEMENT CONCRET

4.1.0 SCOPE OF WORK:

The work covered by this item shall consist of

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) Installation of all embedded parts stands included in the rates. 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 of furnishing all materials, equipments and labour for the manufacture, transport, erection, keeping in place with necessary fixtures and support oiling etc. complete.

iv) Necessary sampling and tests for materials and concrete.

v) Compensation for injury to person and damages to work or property.

4.2.0 The following specifications will apply in general for all types of concrete work including R.C.C. Work.

4.3.0 CEMENT :

Cement shall be obtained by the Contractor and shall confirm to the Indian Standard Specification for Portland cement. **(I.S. 269 - 1976)**

4A.4.0 NATURAL SAND:

4A.4.1 SOURCE AND SIZE:

The Contractor own sand as per the specification shall be used. The sand used for mortar shall be natural river sand. The maximum size shall be limited to 4.75 mm.

4A.4.2 QUALITY:

The sand shall consist of hard, dense, durable uncoated, gritty material obtained from natural source; it shall be free from injurious amounts of dust lumps, soft &flaky Particles, shale, alkali organic matter, loam, mica and other deleterious

substances. The maximum percentage of deleterious matter in sand as delivered for use in mortar shall not exceed the following values.

PERCENTAGE BY WEIGHT

Materials passing 75 micron I.S. Sieve 00029”)	3 Percent
Shale	1 Percent
Coal	1 Percent
Clay lumps	1 Percent
Total of other deleterious substances such as alkali	
Mica, coated grains, soft and flaky particles	2 Percent

The sum of percentages of all deleterious substances shall not exceed 5 % by weight. The sand shall be free from injurious amounts of organic impurities. Sand producing a color darker than the standard in the calorimetric tests for organic impurities shall be rejected. If the impurities are beyond the acceptable limits stated above, the sand shall be washed or otherwise cleaned to the entire satisfaction of the Engineer -in-charge.

4A.4.3MECHANICAL ANALYSIS:

The natural sand shall be well graded and the sieve analysis of the sand shall conform to the following limits of gradations.

ASTM sieve No.	**Equivalent S.S.No.**	**Cumulative percentage by weight retained on Sieve.**
3/8” mesh	40 mm	Nil
4 mesh	4.75 mm	Nil
8 mesh	2.36 mm	10 to 25
16 mesh	1.18 mm	25 to 45
30 mesh	600 micron	50 to 70
50 mesh	300 micron	75 to 90
100 mesh	150 micron	90 to 97
Max. F.M		3.00
Min. F.M.		2.60

The gradation curve of the natural sand shall lie within the enveloping curve of gradation specified as above.

4A.4.4. a) FINENESS MODULUS:

The fineness shall be computed by adding cumulative percentages of sand retained on the 6 standard screen from No. 4 to Nos. 100 inclusive A.S.T.M. standard (or as above of the I.S.I.) and dividing the sum by 100 Any deviation from the specified range of gradation and fineness modulus shall not be permitted without the written permission of the Engineer-in-charge. Corrective measures if any required for improving the fineness modules shall be arranged by the Contractor at his own cost as directed by Engineer-in-charge.

b) ALLOWANCE FOR BULKAGE:

If the sand as obtained from quarry or after its washing is found to be moist, bulkage will be measured and allowed provided that the sand is stacked at site at least for 48 hours before use. Bulkage of such a stack will be measured regularly as directed by the Engineer-in-charge and allowed according to these observations. Observations for bulkage will be made as per Indian Procedure and allowance will be made as under

BULKAGE OBSERVED	ALLOWANCE TO BE MADE
Below 5 %	Nil
5 to 10	5 Percent
10 to 15	10 Percent
15 to 20	15 Percent
20 to 25	20 Percent
25 to 30	25 Percent
30 to 35	30 Percent

4B.4.0 CRUSHED SAND:

The properties of "Crushed Sand" shall confirm to the provisions of **IS 383:2016.**

By-products during crushing of rocks are not Crushed Stone Sand. Crusher Dust (or Quarry Dust) produced from fine screening of quarry crushing cannot be called Crushed Stone Sand. The fine particles obtained, as by-products during crushing of rocks to produce coarse aggregates (by crusher and/or cone crusher) are known as Quarry Rock Fines/ Quarry Dust/ Crusher Dust. These by-product are not suitable for concrete or mortar as they contain higher percentage of dusty, flaky particles of un-controlled sizes with high water absorbent property. If the crusher dust is flaky and angular in shape, the workability will be very difficult. There is no plasticity in the concrete and mortar which makes it even difficult for the mason to work, whereas if it is cubical in shape with grounded edge, superior gradation and good plasticity to concrete will be obtained. Refer Government of Maharastra Water Resources Department Circular No. शासन परिपत्रक क्रमांक - पीएलएन-2020/ प्र.क्र.32/जंस(धोरण) दि. 11 ऑगस्ट 2020.

B.4.1 SOURCE AND SIZE:

The Contractor own sand as per the specification shall be used. The sand used for concrete shall be manufactured from automatic Vertical Shaft Impact **(VSI)** type crusher only. The maximum size shall be limited to 4.75 mm.

4B.4.2 QUALITY:

- The "Crushed Sand" shall be free of dust and other Deleterious material.
- The "Crushed Sand" shall be manufactured using "Automatic Vertical Shaft Impact "type Crusher only.
- Sand shall have a fineness modulus between 2.4 to 3.8.
- The quantity of Micro fines (Particles below 75 microns) in "Crushed Sand" shall not be more than 7%.

- The Contractor shall intimate the Engineer In-Charge regarding the source of supply of "crushed sand". The source of supply of "crushed sand" shall be got approved by the Executive Engineer (Engineer-In-charge) prior to the start of work.
- Each Load of crushed sand whenever brought on site shall be tested for "Fineness modulus". Fineness modulus shall be within permissible limits, If it doesn't fall within acceptable limits, it shall be rejected.
- The Test of Compressive strength of concrete / Mortar using "Crushed sand" shall he carried out in presence of Department's Engineer as given below.....
  1) 100% Cube testing in presence of Junior /Asst./Sectional Engineer.
  2) 25% Cube testing in the presence of sub divisional Engineer
  3) 5 % Cube testing in the presence of Executive Engineer. (Engineer-In-charge)
- The flakiness index and elongation index tests shall be within permissible limits.
- The Concrete mix design for each grade of concrete using "Crushed sand" shall be carried out only in Government approved Quality Control laboratory and the same Mix Design shall be adopted after approval of S.E.
- As far as possible freshly produced "Crushed sand" shall be used. Stored "Crushed sand" shall not be used.
- For Plastering purpose, if the use of crushed sand is proposed. it shall be used with addition of super plasticisers at the rate of 100ml/bag of cement without any extra
- The following tests shall be carried out for the use of "Crushed sand''
  1) Sieve Analysis
  2) Specific gravity
  3) Water absorption
  4) Bulk density
  5) Alkali aggregate reaction
  6) Soundness
  7) Deleterious Material
  8) Organic impurities

9) Micro fines Content
10) Test for sit and clay.
11) Fineness Modulus test.

- Necessary Bond regarding the use of “Crushed sand" shall be submitted by the Contractor clearly stating that, if any defects are observed during execution and in defect liability period. the same shall be rectified at his own risk and cost.
- Grading zone I and II mentioned under Clause 6.3 table 9 of fine aggregates in IS 383:2016 shall only be used for concreting.
- Reversible drum type / Batch mix plant (pan type) concrete mixer shall be used for Concrete.
- Use of Concrete from Ready Mix Plant (RMC) shall be strictly Prohibited.
- "Crushed sand" shall not be used for pre-stressed concrete works.

The sand shall consist of hard, dense, durable uncoated, gritty material obtained from natural source, it shall be free from injurious amounts of dust lumps, soft &flaky Particles, shale, alkali organic matter, loam, mica and other deleterious substances.

4.5.0 COARSE AGGREGATE:

4.5.1 Coarse aggregate for concrete shall consists 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.

4.5.2 IMPURITIES:

The broken stone shall be free from dust and dirt and shall be washed if necessary to ensure that all faces of the stones are perfectly clean. The maximum individual percentage by weight of deleterious substances of any size of coarse aggregate shall not exceed the following values.

Materials passing through No. 150 microns I.S. sieve one percent by weight.

Shale	.....	1 Percent by weight
Coal	.....	1 Percent by weight
Soft	.....	1 Percent by weight
Clay lump	.....	1/4 Percent by weight
Other deleterious substances	.....	1 Percent by weight

The sum of the percentages by weight of all the deleterious substances in any size shall not exceed five percent by weight.

The aggregate containing impurities above the specified permissible limits shall be screened / washed / or treated as directed before use in producing concrete.

4.5.3 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.

Max. size of	Normal	Percentage of coarse aggregate fraction (mm.)				
aggregate	range 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 36	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 after sieving river sand for winning fine aggregates shall be permitted in the blending of coarse aggregate if asked for after suitable experiments and without rate variations.

4.5.4 SIZE:

The maximum size of coarse aggregate for a particular grade of concrete shall be as large as possible but normally not greater than 1/4 th of minimum thickness of the concrete member provided that in the case of R.C.C, this size presents no difficulty to surround the reinforcement thoroughly and fill up the corners of the form work fully and is less than the minimum cover of 6 mm.

For heavily reinforced concrete members such as ribs of beam etc. the maximum size of aggregate shall be restricted to 6 mm less than the minimum clear lateral distance between the reinforcement bars or 6 mm, less than the cover whichever is smaller.

Generally a maximum size of 20 mm should be found satisfactory for reinforced concrete work.

The grading between the maximum size and minimum size 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.

4.5.5 The Contractor shall at all times maintain a minimum storage of all grades of aggregate for the days requirements, failing to which work may not be commenced. The Contractor shall furnish representative samples of aggregate proposed for use in the work at least two months before aggregates are required for use.

4.6.0 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 for mixing shall not be more than 200 parts per million and shall preferably be lower.

4.7.0 GRADING AND RELATIVE PROPORTION:

Grading of the aggregate (fine and coarse) brought on the site shall be done by the contractor and shall be got approved from the Engineer-in-charge. The grading of sand and coarse aggregates liable to be modified beyond the limits specified above to suit local conditions in order to obtain required strength and workability. The grading as well relative proportions of sand and coarse aggregate are liable to be changed at the discretion of the Engineer-in-charge. In order to produce dense concrete without segregation in a given ratio of cement and total aggregate (sum of volume of sand and coarse aggregate) No compensation is payable for adjustment in relative proportion and grading of aggregate.

4.8.0 MIX VARIATION:

Cement variation in the concrete mix shall not constitute an extra item.

In case the ratio of cement to total aggregate is modified by changing the cement under specific orders of the Engineer-in-charge, the contractor shall be paid increased or reduced rate according to variation in the cost of cement alone resulting from change in mix proportion, calculated as per table given below, at the rate given in Annex "A" in Tender Volume-I.

Sr. No.	Normal mix proportion of the concrete by volume	Equivalent I.S.I. mixes (ISI 456 - 2000)	Assumed cement consumption per one cubic meter of concrete
1.	1 : 2 : 4	M - 15	282Kgs
2.	1 : 3 : 6	M - 10	220Kgs

Fine and coarse aggregate shall be measured by dry volumes in suitable wooden boxes.

Overall cement consumption for individual items during working season shall be within (+) or (-) 2 %. If the cement consumption is less than 2 % than that specified the work shall be paid at reduced rate.

4.9.0 DESIGN MIX: (To be applicable for work costing more than Rs. 1 Crore)

The ratio of the volumes of the fine and coarse aggregate may be varied within limits 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 to 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 while computing water content as indicated in I.S. 456-2000.

Nominal mix proportions of concrete are given in para 4.8.0. However, the exact proportions in which the materials are to be used for different parts of the work shall be determined by carring out mix design to obtain the specified strength of the concrete. The design of mix, shall be submitted by the contractor and got approved from the Engineer-in-charge at least one month before the 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 L.S. applicable. The tests shall be made by Corporation at frequent intervals as decided by the Engineer-in-charge, So as to secure the required workability, density, impermeability, strength and economy.

All the materials going in each batch of concrete shall be weighed before use. The amount of each individual size of aggregate entering each batch of concrete shall be determined by direct weighing. The amount of water shall be added after weighing or volumetric measure. All measuring equipment shall be calibrated correctly and certificate from the competent authority shall be obtained as and when demanded by the Engineer-in-charge. All measuring equipment shall be so designed and operated that the combined inaccuracies in feeding and measuring the materials will not exceed, one and half percent for water or cement and two and half percent for each size of aggregate. Any batch of concrete not satisfying this requirement is liable to be rejected. No cement older than 60 days from the date of dispatch from the manufacturer shall be used on the work. The cement to be used shall be in the order of its receipt so that no stock remains unused for duration longer than 60 days. Cement older than 60 days shall be removed from site as per the directives of Engineer-in-charge.

The ingredients of concrete shall be properly mixed in mixers, designed so as to positively ensure uniform distribution of all the component materials through the mass, at the end of the mixing period. The mixing of each batch shall continue about one and half to two minutes depending upon the revolutions per minute of the mixer and experience after all materials, except for the full amount of water are added in the mixer. The minimum mixing period specified above assumes proper control of the rotation of the mixer and of introduction of the

materials, including water. The mixing time shall be increased at the discretion of the Engineer-in-charge when the charging operation fails to produce concrete of the required uniformity of composition and consistency within the batch and from the batch to batch, contractor shall not be entitled for, any extra payment for such increase in mixing time Excessive mixing requiring the addition of the water to preserve the required concrete consistency shall be avoided. If the mixing and charging operations are such that the required uniformity of the concrete is obtained in shorter mixing time than the minimum specified without sacrifice of needed workability, the mixing time may be shortened under orders of the Engineer-in-charge. Mixing shall be done by mechanical means only.

Materials corresponding to one bag mix or half bag mix (depending upon the mixer capacity) shall be placed in the skip in sequence of metal, cement and sand. The skip shall then be emptied into the drum and specified quantity of water added to material in drum. The following general principles shall be followed in operation of mixing.

a) The ingredient shall be fed into the mixer simultaneously.

b) A portion of water (between 5 and 10 percent) shall follow introduction of the other materials. The remainder of the water shall be added uniformly and simultaneously with the other materials.

c) Care shall be taken that mixing of concrete in the mixture shall be uniform.

4.9.1 CEMENT:

The cement shall be produced as per para 14 of Special Conditions of Contract in standard bags as received from the manufacturer and shall conform with the specifications, laid down by the Bureau of Indian Standards (vide their specifications No. I.S. 269 of 1976) for Portland cement and I.S.I. (vide there specification No. I.S. 1489-1976 and subsequent revision) for Pozzolana cement.

4.9.2 Water Reducing Admixture (As per IS code 10262- 2019)

The main constituents of water reducing admixtures (plasticisers) are lignosulhonates or selected carbohydrates The typical dose of superplasticizer shall be in the range of 0.5 to 1.5 percent

4.10.0 TEST FOR CEMENT CONCRETE :

4.10.1 STIPULATED CRUSHING STRENGTH :

The crushing strength in Newton per square millimeter on works cubes, at 28 days for nominal mix shall be as under.

Nominal mix	Equivalent ISI mixes	Preliminary test at 28 days (N / mm^2)	Stipulated crushing strength in works tests	
			At 7 days (N / mm^2)	At 28 days (N / mm^2)
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

4.10.2 PRELIMINARY LABORATORY TEST :

The Preliminary tests of cubes shall be carried on in the laboratory well in advance of commencement of work. These tests should indicate an adequate margin over the stipulated specified in para 4.10.1

4.10.3 WORKS TESTS ON CONCRETE :

Tests for crushing strength shall be made on standard cubes as per the relevant Indian standard specifications. For works tests, samples shall be taken on the job as and when directed. For works tests, samples shall be taken once for every 30 cubic meter of each type of concrete laid and at least three times a day, if output is more than 75 cubic meter. The sample for work test is defined as a set of three cubes. The materials required for the samples (Concrete, cement, sand and coarse aggregate) shall be supplied by contractor free of cost and collection of samples, casting of cubes and transportation of samples for testing from site to laboratory shall be done by contractor at his cost and testing shall be carried out by the Corporation cost.

4.10.4 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 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 present 30 cum. concrete and corresponding quantity of concrete showing crushing strength less than stipulated strength shall be paid at reduced rates as under :

1)	Equal to or more than 95 %	...	At full rates in occasional cases.
2)	Equal to or more than 90 % but less than 95 %	...	5 % reduced rate
3)	Equal to or more than 85 % but less than 90 %	...	10 % reduced rate.

The reduced rate shall be approved by the Superintending Engineer.

If the crushing strength falls below 85 % of the stipulated crushing strength then the quantity of concrete represented by these samples will not be paid for. Defective parts, if noticed shall be removed and redone by the contractor at his cost. Unit for acceptance of these tests will be one working season in addition to the 28 days strength test, the Engineer-in-charge may, at discretion take 7 days strength test and / or 3 days (accelerated curing) strength test and fix up the relation between such strength and 28 days strength after studying the actual values realised. If at any time the test i.e. 7 days or 3 days (accelerated curing strength indicates that the strength may not be achieved as specified by the Engineer-in-charge, he shall have authority to suspend the work of laying concrete

until the reasons for low strength have been investigated and corrected. The Contractor shall comply with such suspension until the reasons for the variations are investigated and corrected and such suspension shall not be accepted as reason for any claims. The Engineer-in-charge may at his discretion also order suspension of the work when the variation in the strength of the individual work test cubes from average of the set is in his opinion excessive. The Contractor shall comply with such suspension until the reasons for the variations are investigated and corrected and such suspension shall not be accepted as reason for any claim.

The average crushing strength shall not be less than stipulated crushing strength for each nominal mix .

4.10.5 SLUMP TESTS :

In order to test the consistency of the mixed concrete, slump test shall have to be made by the Contractor 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.

4.10.6 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.

4.10.7 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.

4.10.8 For vibrated concrete slump shall range between 2.5 cm to 5 cm. The slump shall be determined as detailed in Appendix ‘G’ of I.S. 456-2000 and maintained throughout the concreting operation of a member.

4.11.0 FORMS :

4.11.1 GENERAL :

Forms to confine the concrete and shape it to the required line 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 Contractor shall have to get the design and drawing of the centering approved from the Engineer-in-charge before erection. Form work for concrete shall be of any of the following types.

a) Wooden shuttering with steel plates lining or plywood shuttering.

b) Steel shuttering.

For works costing more than Rs. One Crore, only steel shuttering to be used. However as per need of site, wooden shuttering would be allowed only if it is free warping and is fabricated true to line and shape. The decision of the Engineer-in-charge as to the suitability of wooden shuttering as per (a) above to be used by the contractor will be final and binding on the Contractor. The surface of all forms in contact with concrete shall be clean, rigid, watertight and smooth. Suitable devices shall be used to hold corners, adjacent ends of panel of other forms together in accurate alignment.

4.11.2 DESIGN :

The detailed designs of the form work and false work shall be prepared by the Contractor and got approved by the Engineer-in-charge well in time. Such an approval however, will not relieve the Contractor of his responsibility for the adequacy and strength of the form work and false work. Forms shall be as designed and constructed as to be removable in sections without damaging the surface of the concrete and with facilities of removal in ascending order without disturbing the remaining forms required to be removed later.

4.11.3 MATERIAL :

The forms and false work shall be made of wood or metal. The timber from which the forms are prepared should preferably be partially seasoned. It shall be free from sap, shakes, loose knots, worm holes or other defects. The planks and scantlings shall be sawn straight and all edges and planes shall be straight and free from warps. Partially seasoned soft wood is generally preferable for form work as it is difficult to drive nails in hard wood. The dimension of scantlings should conform to the design. The strength of the wood shall not be less than that assumed in a design.

In metal forms, steel sheets of the designed gauge strengthened with framing of angle or other section shall be used.

Wooden forms may also be lined within thin steel sheet or plywood to give the required surface or finish.

4.11.4 FABRICATION :

The timber planks and scantlings of the designed dimensions shall be used in the form work with appropriate spacing of studs, yokes, joists, girders etc. as provided in the designs. All timbers in contact with concrete shall be brought on one face and two edges, the unbrought face being on the outside. The joints should be made mortar tight. This may be done either by providing tongued and grooved or riveted joint or by caulking or nailing to the construction operations. The nuts and bolt heads inside the form work adjoining the concrete should be countersunk. The form work should allow finished concrete to have a smooth surface and conform to the shapes, lines and dimensions shown on the plans and true to line and grade. The effect of vibrations shall be taken into account in the design and fabrication of the form and false work.

4.11.5 TREATMENT OF THE INNER SIDES OF FORMS :

Before placing concrete, the inner sides of the forms, which come in contact with the concrete, shall be coated with mineral oil or any other suitable materials approved by the Engineer-in-charge which will prevent adhesion of concrete to the forms but will not discolor the concrete. When oil is used, it shall

be applied before reinforcement is placed. Care shall be taken to see that reinforcement does not come in contact with coating. All chippings,saw dust and other rubbish shall be removed from the interior of the forms before concreting.

4.11.6 FALSE WORK :

False work shall be build on foundation or base of sufficient strength to carry the loads without settlement. False work cannot be found on solid footing must be supported by piles or other similar devices. False work shall be designed to carry the full loads including that due to construction operation coming upon it.

4.11.7 ERECTION AND REMOVAL OF FORMS :

The false work and form work shall be erected with an eye for absolute safety of the form work and concrete work before and after pouring concrete. Watch should be kept to see that the behavior of centering and form is satisfactory during concreting. Erection should also be such that it would allow removal of forms in proper sequence without damaging either the concrete or the forms to be removed later.

If there is failure of false work and / or form the Contractor shall be responsible for all the consequent damages to work, injury to life and damage to property and make good the damage at his cost.

i) Before placing concrete the surface of forms shall be oiled with a suitable no staining oil such as raw linseed oil so as to prevent sticking of concrete and facilitate removal of form.

ii) The oil shall cover the forms fully and evenly without excess over drip. Care shall be taken to prevent oil from getting on surface of the construction joints on reinforcement bars. Special care shall be taken to oil thoroughly the forms strips for narrow grooves so as to prevent swelling of the forms and consequent damages to concrete prior to or during removal of forms. Immediately before concrete is placed, care shall be taken to see that all forms are in proper alignment and the support and fixture are thoroughly secured and tightened.

iii) Where forms for continuous surface are placed in successive units, the form shall fit tightly over the completed surface so as to prevent leakage of mortar from the concrete and to maintain accurate alignment of the surface.

iv) Forms shall be left in place until their removal is authorised and shall then be removed with care so as to avoid injury to concrete.

v) Removal of forms shall never be started until the concrete is thoroughly set and hardened adequately to carry its own weight beside the live load which is likely to come on work during construction. The length of time for which the forms shall remain in place shall be decided by the Engineer-in-charge, with reference to weatherconditions, shape position of the structure or structural member and the nature and amount of dead and live loads.

In normal circumstances forms shall be struck after the expiry of the following period.

a)	Walls, columns and vertical faces of all structural members	24 to 48 hrs. as may be decided by the Engineer-in-charge
b)	Slabs (props left under)	3 days
c)	Beam soffits (props left under)	7 days
d)	Removal of props under slabs	
	1) Spanning upto 4.5 m.	7 days
	2) Spanning over 4.5 m.	14 days
e)	Removal of props under beams and arches	
	1) Spanning upto 6 m.	14 days
	2) Spanning over 6 m.	21 days

NOTE : The number of props left under and their size and disposition shall be such as to be able to carry the full dead load of the slab, beam or arch as the case may be together with any live load likely to occur during curing or further construction.

In no case shall forms be removed until there is assurance that removal can be accomplished without damaging the concrete surface. No loads will be allowed to damage the concrete surface. Heavy load shall not be permitted until after the concretehas reached its designed strength. The forms shall be removed with great caution and without harming the structure or throwing heavy forms upon the floor.

4.11.8 RE-USE OF FORMS ETC. :

Forms required to be used more than once shall be maintained in serviceable conditions and shall be thoroughly cleaned and smoothened before reuse. Where metal sheets are used for lining forms, the sheets shall be placed and maintained on the forms with minimum amount of wrinkles, humps or other imperfections. All forms shall be checked for shape and strength before reuse.

4.11.9 INSPECTION :

The forms and false work will be inspected, checked and approved by the Engineer-in-charge before concreting commences. But this will not relieve the Contractor of his responsibility for strength, accuracy and safety of the form and false work.

4.12.0 PLACING CONCRETE :

4.12.1 Concrete shall be placed only in locations where authorized and no concrete or mortar shall be placed until form work, installations of embedded parts, preparation of surface or necessary clean up has been approved.

4.12.2 ROCK SURFACE :

Rock surface upon or against which concrete is to be placed, shall be prepared as specified in section of excavation for foundation.

4.12.3 MASONRY SURFACE :

i) Masonry surfaces on which or against which concrete is to be placed shall be prepared as per specifications. The unit rate for masonry shall cover the cost of such preparation.

ii) If the old layer of masonry which has been paid for is required to be removed as mentioned, it shall be back filled with concrete along with upper concrete layer at no extra cost.

4.12.4 CONCRETE SURFACES:

Before lying of concrete the surface of the concrete in day to day work shall be cleaned by a wire brush and jets of water, so that the surface is thoroughly cleaned and wetted, but pools of water are avoided. If the old concrete surface has remained exposed for more than two weeks, it shall be prepared got roughened by chipping to a depth of two centimeters and the surface coated or covered with a layer of cement mortar (1:2) for a depth of 5 to 8 cm. The unit rate of concrete shall cover the cost of such preparation and also of the cost of cement mortar. The concrete removed for roughening shall not be paid for.

4.12.5 ALL SURFACES:

i) The cleaned rock, masonry or concrete surface shall beapplied with cement slurry and then cement mortar coat as mentioned.

ii) The first few batches of concrete may, if required, contain half the regular size of coarse aggregate without any extra claim.

iii) The cost of such preparation work stands included in the unit rate of cement concrete.

4.12.6 TIME FOR USE :

All concrete shall be placed directly in its final position within thirty minutes of mixing. Any concrete which has become so stiff that proper placing cannot be assured without re-tempering shall be wasted and shall not be paid for. All surface of forms and metal work including reinforcement bars that have become

uncrushed with dried mortar of grout concrete previously placed shall be cleaned of all such mortar or grout before surrounding or adjacent concrete is placed.

4.12.7 METHOD OF PLACEMENT:

Before starting placing of concrete, it should be made certain that the transporting and placing equipment is clean in proper order and that equipment along with the operating staff is arranged to deliver the concrete in the final positions without undue delays and objectionable segregation. The methods and the equipment used for transport and placing of concrete shall be such as will permit the delivery of concrete of the required consistency into the work without objectionable segregation, porosity or excessive loss of workability. Excessive segregation from whatever cause shall be prevented in handling and placing operation by avoiding or controlling lateral movement of the concrete as in dumping at an angle depositing continuously at one point and allowing the concrete to flow. Concrete shall not be dropped from excessive heights and free fall should be kept to a minimum. Concrete shall be deposited continuous horizontal layers in a thickness of approximately 30 cm. in normal work to 45 cm for mass concrete except that nothing herein shall be constructed to permit placement of the additional horizontal layers of mass concrete before the entire area to be concreted is covered by previous layers. On flat, horizontal surfaces where congestion of steel near the forms makes placing of concrete difficult, mortar of the same cement, sand ratio as used in the concrete shall be first deposited to cover the forms and shall stand included in unit rate of concrete before the entire area to be concreted is covered by previous layers.

4.12.8 RATE OF PLACING:

Concreting should be continued without interruption until the structure or section is completed or until satisfactory construction joints can be made. Location of construction joints shall be as directed by the Engineer-in-charge. Concrete shall not beplaced, faster than the placing crew can compact it properly. In placing the thin members and columns precautions shall be taken against too rapid placement which may result in movements or failure of the forms due to excessive lateral pressure. An interval of at least 12 hrsand preferably 24 hrs. should elapse between the completion of columns and wall and the placing of slabs, beams, or girders supported by them in order to avoid cracking due to settlement. All concrete shall be placed in approximately horizontal lifts not exceeding 1.25 m. in thickness per day. Concrete in arches shall be done in strips extending from one pier to another. No through joints shall be kept in the span.

4.12.9 CONCRETING AT NIGHT TIME :

If concrete to be placed at night adequate lighting arrangements shall be made, as directed by the Engineer-in-charge.

4.12.10 CONCRETING DURING RAINS :

When concerting is required to be done or continued while it is raining it shall be seen that the concrete is not damaged due to rain while it is being transported and placed. After placing the green concrete it shall be adequately covered for a period of 24 hours when it will be capable for being cured by splash of water. The surface of fresh concrete should be maintained on a slope sufficient for result in the self-drainage of the rain water. The work shall however be discontinued when the rain is so severe that water collects in pools or washes the surface of the fresh concrete and it is not possible to provide adequate shelter.

4.13.0 COMPACTION :

4.13.1 GENERAL :

In all concrete works, required numbers of vibrators, withstand by in working condition will be kept ready at site as per instructions of the Engineer-in-charge.

4.13.2 All concrete shall be vibrated by mechanical vibrator of approved type so as to insure dense concrete. Hand tamping and rolling shall not be used for compaction of concrete except in special circumstances with the prior permission of the Engineer-in-charge. When immersion type vibrators are used they shall be used vertically at about 45 cm apart .The vibrators shall be inserted to the full depth of the newly laid concrete layer. The concrete shall be thoroughly compacted during depositing to get a dense concrete and thoroughly worked into the edges and corners of the form work and also along its faces and around reinforcement in the case of R. C. C. by means of suitable tools such as trowel, rods to get a good finish withouthoneycombing. The vibrator shall however not re-vibrate concrete which has commenced its final set. Special care shall be taken to see that the vibrator touching the reinforcement of embedded part does not disturb the concrete below which has commenced its final set. The concrete shall not be vibrated excessively so as to cause segregation.

4.13.3 Each layer of concrete, for surfaces which is required to be smooth and for all surfaces which will be permanently exposed to weather, and for all surfaces next to embedded metal work shall be worked and vibrated by mechanical vibrator of approved type, only so as to obtain a concrete of maximum density and imperviousness and to assure close contact of the concrete with forms, reinforcement bars and other embedded parts. If the methods of transporting and placement have been conductive to air entrainment, segregation of stiffening, the work or compaction should receive special attention.

4.13.4 For concrete surfaces exposed to flow of water special precaution shall be taken to minimize and to prevent surface pitting and protrusions without

resorting to over manipulation of the concrete mix to the forms. No plastering for getting a smooth finished shall be permitted at these locations. Any protrusion shall be ground smooth.

4.10.0 CURING AND PROTECTION:

All concrete shall be protected against injury until final acceptance. Exposed finished surface of concrete shall be protected from the direct rays of sun of at least 72 hrs. after placement. Concrete shall be kept continuously moist for not less than 21 days. Constructions joints shall be cured in the same ways as other concrete and shall also be kept moist for at least 72 hrs, prior to the placing of additional concrete upon the joints. Approximately horizontal surfaces shall be cured by sprinkling, pounding or by covering, or by damp sand or by cured by the use of wet quilts or mats. Vertical surfaces shall be cured by covering with wet jute bags. If damp sand or quilting is used for curing, it shall be removed completely later. Should the concrete that has become dry or powder through neglect of curing the contractor shall rectify the work at his own extra cost. If curing arrangements by the contractor are not satisfactory, the Engineer-in-charge may in his discretional engage labour and provide material and equipment for curing and recover expenditure thus involved from contractor.

4.15.0 FINISHING :

4.15.1 GENERAL :

Finishing of formed and unformed surfaces shall be performed only by skilled workmen. All exposed concrete surface shall be clean of all in incrustations of cement mortar or grout. Unsightly stains shall be removed.

4.15.2 FORMED SURFACES :

Surface of concrete finished against form shall be smooth, free from projections and filled thoroughly with mortar. Immediately upon removal of forms, all unsightly ridges or fines shall be removed and any local bulging on exposed surfaces shall be remedied by tolling and rubbing. All holes left by the removal off fasteners shall, after being reamed with toothed reamer, neatly filled with dry patching mortar. All porous and fractured concrete and surface concrete to which

additions are required to bring it to the prescribed lines shall be sharp edged and keyed and shall be filled to the required line with fresh concrete used for filling shall be reinforced and dowelled to the surface of the opening. Honey combed surfaces and which give a hallow sound shall be rectified by guniting at the Contractors cost within the unit rate accepted for concrete.

4.15.3 DRY PATCHING :

Dry patching mortar shall consist one part of cement and two parts of sand by volume and just enough water so that the mortar so used will together on being molded into a ball by a slight pressure of hands and will not exclude water when pressed but will leave the hand damp. The mortar shall be placed in layers of not more than 2 cm thickness. After being compacted each layer shall be roughened by being scratched to provide an effective bond with succeeding layers. The last of finishing layer shall be smooth to form a surface continuous with the surrounding concrete. All patches shall be bonded thoroughly to the surface of the chipped opening and shall be sound and free from shrinkage cracks.

4.15.4 FINISHING PERMANENTLY EXPOSED SURFACE:

Except as otherwise specified or directed all permanently exposed concrete surface and other waterway surface requiring durability under water (except the outlet) shall be finished in the following manner. Immediately upon removal of the form, the surface shall be wetted and all surfaces pits and air bubbles filled by rubbing mortar composed of cement and fine sand in proportion (1:2) into the pits with burlap so as to secure a normally dense and smooth face.

The rubbing shall be performed in such a manner as to leave the surface free from mortar not used for filling the pits. Should the filling operation be unduly delayed and the surfaces of the pits become coated with dirt or other contaminating materials, they shall be thoroughly cleaned and washed and shall

be maintained in a moist condition, until the mortar filling is placed. Such cleaning should be done by means of air and water jets and chipping or brushing or other satisfactory means without damaging the surrounding concrete. All operations in connection with the filling of surface pits shall be handled as practicable to minimize the period during which the concrete and mortar filling are exposed to the drying when the treatment of surface has been completed. Surfaces shall be neat and of the same color and texture as the adjoining concrete.

4.15.5 FINISHING CONCEALED SURFACE :

For exterior concealed surfaces below ground or backfill level or like surfaces not otherwise specified, no finish is necessary except that sand streaks, metal pockets, honey combing or other imperfections which are of consequence affecting strength, water tightness or protection of reinforcing steel from corrosion shall be corrected and repaired as prescribed for formed surface.

4.15.6 FINISHING UNFORMED SURFACE :

Unformed surface shall be finished by one more of the operation of scribbling floating and toweling of the surface should be done at proper time employing experienced men and should be just sufficient to produce the desired finish. Scribbling which gives the surface its approximate shape by striking off surplus concrete immediately after compaction shall be accomplished, by moving a straight edge or template with a sawing motion across wood or metal strips that have been established as guides. Where the surface is curved special screed should be brought true to form and grade by working it with a wooden float, if a coarse textured finish is desired or if the surface is to be steel troweled a section or final floating should be performed after some stiffening has occurred and the surface moisture film or shine has disappeared. Where smooth dense finish is desired floating shall be followed by steel trowellingsometime after moisture film or shine has disappeared from the floated surface and where the concrete has hardened sufficiently to prevent fine material and water from being worked out the surface. Excessive trowel ling particularly at early time shall be avoided.

4.15.7 CHIPPING AND ROUGHENING CONCRETE SURFACE :

Surface upon or against which additional concrete is to be placed shall be chipped and roughened to a depth not greater than 25 mm. Roughening shall be performed by chipping or other satisfactory methods and in such manner as not to loosen, crack or shatter any part of the concrete beyond the roughened surface. After being roughened the surface of the concrete shall be cleaned thoroughly of all loose fragments, dirt and other objectionable substances and shall be sound and hard in such conditions as to assure good mechanical bond between old and new concrete. All concrete which is not hard, dense and durable shall be removed to the depth required to secure a satisfactory surface.

4.15.8 DAMAGE DUE TO FLOODS - CORPORATION NOT RESPONSIBLE:

In case of damage of any of the concrete works due to floods, Corporation will not be responsible and whatever corrective measures are required to be adopted shall be done by the Contractor at his cost.

4.16.0 NOMINAL MIX :

The locations indicated in column No.6 of the statement below are only suggestive. The nominal mix used for different components shall be as directed by the Engineer-in-charge according to requirements of detailed design. The Contractor shall not be entitled for any extra claim on account of the changes in location.

Sr. No	Nominal Mix	Cement content in kg/cum.	Maximum size if aggregate in mm	Stipulated strength at 28 days on 15 cm x 15 cm cube (works test) N/mm2	Indicated probable locations for use
1.	1:2:4 (M-15)	282	20	15	Bed Lining Side Lining Steps and Templates

4.17.0 PAYMENT:

4.17.1 Payments shall be on the net quantity of concrete after deducting quantities for openings and other class of work. No deductions shall be made for anchor bars, reinforcement, grout holes and bore or weep holes or any opening not exceeding 100 square centimeters in cross section. Rate shall be subject to paragraph 4.10.4 above. Measurements of concrete shall be taken within the specified pay lines for the structure or as indicated on the drawings. Any concrete placed in the excavation beyond the line of structures to avoid use of forms, shall not be paid for.

Payments at the rate of 10 % shall be withheld in running payment. Engineer-in-charge shall inspect the work in relation to finishing, level and line of concrete laid, and release such withheld payment suitably, if he is satisfied with the work of finishing of the item.

The measurement shall be on Cubic meter basis and paid accordingly. The cost of form work, centering and staging etc. required for concrete including dewatering ,construction and removal of coffer dams and filling cut-off trenches etc. shall be deemed to be included in the unit rate of concrete items.

SECTION NO. 5

C.C.BED LINING AND TOP SLAB

5.1.0 GENERAL:

5.2.0 PREPARATION OF BED FOR LAYING CONCRETE

5.3.0 LAYING CONCRETE IN BAYS

5.4.0 LAYING & COMPACTION OF CONCRETE

5.5.0 CURING

5.6.0 JOINTS

5.7.0 USE OF POLYFIBRE:

5.8.0 MODE OF MEASUREMENT AND PAYMENT

SECTION NO. 5

C.C.BED LINING AND TOP SLAB

5.1.0 GENERAL :

The lining for canal shall consist of cement concrete of the nominal mix by weight in the proportion as directed by Engineer-in-charge. The specifications for cement sand, coarse aggregate and water as per relevant paras. of section 4 shall apply here also. The size of the coarse aggregate shall be 20 mm. maximum of the gradation shown in para 4.5.0 and with any modifications therein to get a design mix as approved by the Engineer-in-charge.

All relevant paras of specification in section 4 of cement concrete relating to materials, mixing, laying ramming, curing and finishing tests and form work for concrete shall also apply for this item.

5.2.0 PREPARATION OF BED FOR LAYING CONCRETE:

All relevant paras of specification of sub grade preparation related to cleaning, removing bushes, scrubs, trees, excavation of existing section upto underside of lining, filling over cuts, rain cuts, ramming, trimming etc. shall apply for this item.

5.3.0 LAYING CONCRETE IN BAYS:

5.3.1 The base shall be thoroughly moistened, before laying concrete. Alternative bay method should be adopted for laying the concrete. The length of the bay along canal bed should be 2 meter and width equal to canal bed width.

5.3.2 The bays should be laid alternately and an interval of 24 hours should be allowed before intermediate bays are laid.

5.4.0 LAYING & COMPACTION OF CONCRETE:

5.4.1 The concrete shall be spread up evenly and compacted.

5.4.2 Good finishing of concrete in canal lining is important. Hence the concrete should be finished to an even and smooth surface free from pockets or exposed aggregates. This should be obtained by careful use of long handed steel trowel. The concrete laid which is not having desired finish is liable for rejection and shall be removed and made good by the contractor at his own cost.

5.5.0 CURING :

12 Hours after laying of concrete, small bunds longitudinal and cross wise consisting of earth materials or lean mortar (1:15) shall be laid for a height of 8 cm. for purpose of curing. The water will be kept always pounded in these bunds for continuous 14 days. The curing of side slopes may be done by constructing masonry drains with weep holes or perforated pipes on th coping at the top of lining or by laying gunny bags covering 90 % area of concrete or by sprinklers.

5.5.1 SURFACE DRAINAGE:

Concurrently with the curing operation, surface drainage arrangement of the bank such as construction of Dowels, bank surface slope away from the lining and construction of longitudinal drain on the outer wedge shall be completed. This is necessary to prevent surface and subgrade erosion and consequent damage to lining.

5.6.0 JOINTS :

The specific joint pattern as per (IS 3873-1978) shall be approved by engineer in charge before laid the lining.

a) Expansion Joints - Expansion joints shall not be provided except where intersects the canal.

   i) At intersecting structure an expansion joints of 25mm width filled with sealing compound confirming to IS 5256-1968 shall be provided.

   ii) Construction Joints – Construction joints is placed at any location where it is suited as an exigency to construction (interruption of work). Usually it later performs the function of a transverse, longitudinal, expansion joints.

b) Contraction Joints- Contraction joints shall be provided at places shown on the approved joint pattern or directed by engineer in charge.

i) Transverse Contraction joints- Transverse contraction joints shall be spaced at maximum spacing of 20 meters. It shall be placed where lining operations are continuous as per IS 3873-1978 for 7.5 cm thick lining and 10 cm thick lining – spacing at 4 to 5 m shall be provided.

ii) Longitudinal Contraction joints- Longitudinal contraction joints shall be introduced when the weighted perimeter is more than 6.00 m such joints are also placed at about 3 m centre. The first longitudinal joint shall be provided at about 18 times thickness of lining below the top of edge (viz. 1.35 m for 7.5 cm thick lining). The shape, spacing and tensioning of contraction joints shall be as shown in the drawing, the joints shall extend to at least 1/3 lining thickness with a top width 14 mm maximum and long to 11 mm to join a 45 degree groove at bottom. The contractor must be cutting that the grooves are of specified dimensions, acceptable to the engineer in charge.

C) **FILLING OF JOINTS**

i) Filling of joints shall be taken up only after CC lining has finally set hardened. A minimum period 14 days should be allowed prior filling of joints through a period of 28 days would be desirable. The grooves shall be cleaned thoroughly to their full depth and width with brush, air jet, water jet etc. All loose particles and foregin matter shall be removed and the grooves shall be thoroughly cleaned and dries to the satisfaction of Engineer in charge or his representative so as to ensure good adhesion to the sealant. The primer shall than be applied by means of brush or any other suitable applicator to cover the grooves completely before the application of sealing compound.

ii) **Composition of Sealant-**

Unless otherwise specified, the sealant shall be prepared from following materials:

i)	Bitumen 85/25	55 %by volume
ii)	Sand (FM-1 to 1.50)	43 % by volume
iii)	Asbestos powder (white colour)	2 % by volume
	Total	100% by volume

iii) Procedure-

The sealant shall be prepared by heating the bitumen to 375 degree F and sand also to the same temperature separately. The sand shall be mixed with 2/3rdquantity of bitumen first and then asbestos powder shall be added to it. The remaining 1/3rd quantity of bitumen shall be added to this mix and stirred thoroughly. The grooves shall be covered with wooden strip a long and held on slopes with help of clay puddle put along the sides. The wooden strips shall be coated with grease on inner side so that it may not stick to the filler compound. The wooden strip shall be gently removed after about 30 minutes and the next joint shall than be filled in similar manner. The joint shall finished with hot trowel and any hole shall be refilled with sealant. Filling joints shall commence from bottom of slopes or the sealing compound conforming to the relevant Indian Specifications shall be procured and used by the contractor to fill the contraction joint as approved by Engineer in charge.

5.7Synthetic Polypropylene Fibre:-

The specifications and technical details of Synthetic Polypropylene fiber shall be used in the bed lining concrete as per below-

1. Size /length of fibre- 6-18 mm, specific graivity-1.33- 1.40gm/cm3, melting point- 24 to 260 deg c
2. Direction of use:- Spread the contents of Synthetic Polypropylene fiber on the depo(heap) of dry concrete and mortar aggregates. Mix the fibers thoroughly with dry components for at least 2 to 3 minutes till the fibers are dispersed uniformly throughout cement, aggregates and sand mix. The mix can applied as per normal working conditions.

5.8 MODE OF MEASUREMENT AND PAYMENT :

The rate for this item shall be as per schedule of payment on percentage basis. This rate shall be in full compensation of furnishing, hauling and placing of material including the joint materials preparation and conditioning the base as directed and specified and for furnishing all labour, equipment, tools and incidental necessary to complete the item.

Payment shall be made on cubic meter quantity basis and payment at the rate of 10% shall be withheld in running payment. Engineer-in-charge shall inspect the work in relation to finishing, level and line of concrete lay, and release such withheld payment suitably, if he is satisfied with the work of finishing of the item.

SECTION NO. 6
C.C. SIDE LINING

6.1.0 GENERAL

6.2.0 PREPARATION OF CANAL SLOPES FOR LAYING LINING

6.3.0 LINING CAST-IN-SITU M-15 GRADE CONCRETE FOR LINING IN PANELS

6.4.0 LAYING SPECIFIED GRADE CONCRETE FOR LINING

6.5.0 LAYING CAST IN SITU CONCRETE FOR TOP SLAB (KEY SLAB)

6.6.0 IMPERFECT WORK

6.7.0 CURING

6.8.0 JOINTS

6.9.0 MINIMUM PERIOD BEFORE LINING

6.10.0 USE OF POYFIBRE

6.11.0 MODE OF MEASUREMENT AND PAYMENT

SECTION NO. 6
C.C. SIDE LINING

6.1.0 GENERAL :

This lining is provided on the sides of the canal section everywhere and consist of :

i) Preparation of bed for laying the concrete.

ii) Preparation and laying cast-in-situ templates of specified grade concrete longitudinal / transverse or both ways as shown in the drawing and placed in the position.

iii) Providing and laying of specified thickness cast-in-situ of specified grade concrete for side lining as shown in drawing.

iv) Providing construction and expansion joints as shown in the drawing.

6.2.0 PREPARATION OF CANAL SLOPES FOR LAYING LINING:

6.2.1 PREPARATION OF SUB-GRADE IN CUTTING IN STRATA WHERE SIDE SLOPES ARE 2:1

For excavation in hard stratum where side slopes of 2:1 are recommended the over breaks at 10 cm depth perpendicular to the slope from underside of the lining are permitted.

6.2.2. ACCURATE FINISHING OF SUB-GRADE :

After the templates are laid and cured, finishing of the sub-grade along the slope etc. shall be accurately done bringing the surface to the required line and slope by fine cutting or by laying needed quantity of murum tamping and watering in case of cutting in soft stratum and banking.

6.3.0 LINING CAST-IN-SITU M-15 GRADE CONCRETE FOR LINING IN PANELS

The bed for lining shall be properly watered and tamped by wooden rammer of size 10 cm. x 15 cm. x 1.5 m. with handles at both the edges.

Para No. 4.3.0 to 4.12.0 and 4.16.0 of the specification of cement concrete shall apply to this item. The mix of the concrete shall be designed in the laboratory before starting the work for which purpose, the contractor shall supply the required quantity of materials for the purpose to use free of cost. The mix as designed shall be adopted by him as long as there is no change in materials.

6.3.1 The concreting shall be done panel wise along the slope and in alternate bays, the sizes of the panels being 2 m. Concrete shall be laid in one depth of specified thickness The finished surface of concrete shall be in line with hydraulic section of the canal. After concrete is laid to full depth, it shall be compacted thoroughly by tampers and or wooden sleepers to the satisfaction of the Engineer-in-charge, and also the concrete shall be compacted by mechanical plate or screed vibrators as directed by the Engineer-in-charge.

A day after completion of the concreting of all panels between two templates, concreting of key slab, shall be done in the same manner, on the prepared bed.

6.3.2If the area on which the concrete is to be placed is under water, it shall be pumped dry and kept so throughout the period of laying concrete and 12 hours thereafter, without any damage to the concrete. The rate of the lining item shall include the costs of any dewatering so required.

.

6.4.0 LAYING SPECIFIED GRADE CONCRETE FOR LINING:

Good finishing of concrete in canal lining is important. Hence the concrete should be finished to an even and smooth surface free from pockets or exposed aggregates. This should be obtained by careful use of long handed steel trowel carefully. The concrete laid which is not having desired finish is liable for rejection and shall be removed and made good by the contractor at his own cost.

6.4.1 Para No. 4 .3. 0 to 4.12.6 and 4.16.0 of the specification of cement concrete shall apply to this item. The mix of the concrete shall be designed in the laboratory before starting the work for which the contractor shall supply the required quantity of materials for the purpose free of cost. The mix as designed shall be adopted by him till there is no change in materials.

6.4.2 The concreting shall be done along the slope according to the drawings or as directed. Concrete shall be laid in one depth of specified thickness. The top finished surface of the concrete shall be in line with hydraulic section of the canal. After concrete is laid to full depth, it shall be in compacted thoroughly to the satisfaction of the Engineer-in-charge.

6.4.3 If the area on which the concrete is to be placed as under water , it shall be pumped dry and kept so throughout the period of laying concrete and 12 hours thereafter, without any damage to the concrete. The rate of the lining items shall include the cost of any dewatering so required. No further finishing operation will be required. Surface irregularities shall not exceed 3 mm for bottom slab and 5 mm for side slope, when tested with a straight edge of 1.5 meter length.

6.5.0 FINISHING:

a) All exposed concrete surfaces shall be cleaned of impurities, lumps of mortar grout and unsightly stains. The finished surface shall be even, smooth and free from pockets and equivalent to that obtainable by effective use of a long handle steel trowel. Where the surface produced by lining machines meets specified requirements

b) The surface of concrete finished against form shall be smooth and shall be free from projections, honey combing and other objectionable defects. Immediately on the removal of forms, all unsightly ridges or lips shall be removed and undesirable local bulging on exposed surfaces shall be remedies by tooling and rubbing.

c) Repairs to concrete surface and additions where required shall be made by cutting regular openings into the concrete and placing fresh concrete to the required lines, chipped openings shall be sharp and shall not be less than 75 mm in depth.

6.6.0 IMPERFECT WORK:

The work should be executed as per line, levels and directions of Engineer-in-charge or his duly authorized representative. All right about the quality and perfectness is reserved with the corporation if the Engineer-in-charge not satisfied for the quality or perfection of work. The contractor has to remove such substandard work partly or fully as decided by Engineer-in-charge at contractor's cost and no payment will be given by corporation for such work.

6.8.0 CURING:

All exposed area of concrete will be covered with gunny bags etc. and the surface of covered shall be kept continuously watered. For the purpose of curing steel water tanks of 9,000/ liters capacity shall be placed on platform at edge of service road at the rate of one for 500 m. length of lining, which shall be kept filled with water with arrangement of outlet and flexible hose of the least 300 m length. Water will be continuously sprinkled on the gunny bags keeping them wet for 14 days. Sprinkling will be done during night time also.

6.9.0 MINIMUM PERIOD BEFORE LINING:

6.9.1 In position of banking, lining will be carried out after one monsoon is allowed to pass, after the banking work is completed.

6.9.2 SURFACE DRAINAGE:

Concurrently with the curing operation, surface drainage arrangement of the bank such as construction of Dowels, bank surface slope away from the lining and construction of longitudinal drain on the outer wedge shall be completed. This is necessary to prevent surface and sub grade erosion and consequent damage to lining.

6.10.0 JOINTS :

The specific joint pattern as per (IS 3873-1978) shall be approved by engineer in charge before laid the lining.

a) Expansion Joints - Expansion joints shall not be provided except where intersects the canal.
    i) At intersecting structure an expansion joints of 25mm width filled with sealing compound confirming to IS 5256-1968 shall be provided.
    ii) Construction Joints – Construction joints is placed at any location where it is suited as an exigency to construction (interruption of work) . Usually it later performs the function of a transverse, longitudinal, expansion joints.
b) Contraction Joints- Contraction joints shall be provided at places shown on the approved joint pattern or directed by engineer in charge.

i) Transverse Contraction joints - Transverse contraction joints shall be spaced at maximum spacing of 20 meters. It shall be placed where lining operations are continuous as per IS 3873-1978 for 7.5 cm thick lining and 10 cm thick lining – spacing at 4 to 5 m shall be provided.

ii) Longitudinal Contraction joints- Longitudinal contraction joints shall be introduced when the weighted perimeter is more than 6.00 m such joints are also placed at about 3 m centres. The first longitudinal joint shall be provided at about 18 times thickness of lining below the top of edge (viz. 1.35 m for 7.5 cm thick lining) . The shape, spacing and tensioning of contraction joints shall be as shown in the drawing, the joints shall extend to at least 1/3 lining thickness with a top width 14 mm maximum and long to 11 mm to join a 45 degree groove at bottom. The contractor must be cutting that the grooves are of specified dimensions, acceptable to the engineer in charge.

C) FILLING OF JOINTS

i) Filling of joints shall be taken up only after CC lining has finally set hardened. A minimum period 14 days should be allowed prior filling of joints through a period of 28 days would be desirable. The grooves shall be cleaned thoroughly to their full depth and width with brush, air jet, water jet etc. All loose particles and foreign matter shall be removed and the grooves shall be thoroughly cleaned and dries to the satisfaction of Engineer in charge or his representative so as to ensure good adhesion to the sealant. The primer shall than be applied by means of brush or any other suitable applicator to cover the grooves completely before the application of sealing compound.

ii) **Composition of Sealant-**

Unless otherwise specified, the sealant shall be prepared from following materials:

i)	Bitumen 85/25	55 %by volume
ii)	Sand (FM-1 to 1.50)	43 % by volume
iii)	Asbestos powder (white color)	2 % by volume
	Total	100% by volume

iii) Procedure-

The sealant shall be prepared by heating the bitumen to 375 degree F and sand also to the same temperature separately. The sand shall be mixed with 2/3 rd quantity of bitumen first and then asbestos powder shall be added to it. The remaining 1/3rd quantity of bitumen shall be added to this mix and stirred thoroughly. The grooves shall be covered with wooden strip a long and held on slopes with help of clay puddle put along the sides. The wooden strips shall be coated with grease on inner side so that it may not stick to the filler compound. The wooden strip shall be gently removed after about 30 minutes and the next joint shall than be filled in similar manner. The joint shall be finished with hot trowel and any hole shall be refilled with sealant. Filling joints shall commence from bottom of slopes or the sealing compound conforming to the relevant Indian Specifications shall be procured and used by the contractor to fill the contraction joint as approved by Engineer in charge.

6.11Synthetic Polypropylene Fibre:-

The specifications and technical details of Synthetic Polypropylene fiber shall be used in the bed lining concrete as per below-

1 Size /length of fibre- 6-18 mm, specific graivity-1.33- 1.40gm/cm3, melting point- 24 to 260 deg c

2 Direction of use:- Spread the contents of Synthetic Polypropylene fiber on the depo(heap) of dry concrete and mortar aggregates. Mix the fibers thoroughly with dry components for at least 2 to 3 minutes till the fibers are dispersed uniformly throughout cement, aggregates and sand mix. The mix can applied as per normal working conditions.

3

6.12.0 MODE OF MEASUREMENT AND PAYMENT:

The rate for this item shall be as per schedule of payment on percentage basis completed and accepted canal concrete lining of specified proportion, strength and thickness on the basis of surface area including the expansion joint. This rate shall be full compensation for furnishing, hauling and placing all materials including jointing materials and conditioning the base as directed and specified and for furnishing all labours, equipment, tools and incidentals necessary to complete the item including breakages or damages if any. Payment shall be made on cubic meter quantity basis and payment at the rate of 10% shall be withheld in running payment. Engineer-in-charge shall inspect the work in relation to finishing, level and line of concrete laid and release such withheld payment suitably, if he is satisfied with the work of finishing of the items.

SECTION NO. 7

CEMENT CONCRETE (1:3:6)
BACK FILLING BELOW SIDE LINING & FOUNDATION

7.1.0 Materials

7.2.0 Preparation of foundation for laying concrete

7.3.0 Mode of Measurement and Payment

SECTION NO. 7

CEMENT CONCRETE (1:3:6)

BACK FILLING BELOW SIDE LINING & FOUNDATION

7.1.0 MATERIALS :

The material required for this item will be cement, sand, coarse aggregate, water. The specification for these materials given in section 4 of the specifications shall be applicable for this item. The maximum size of coarse aggregate shall not be more than 40 mm. Tests shall when directed by the Engineer-in-charge be made in accordance with the standard practice.

7.2.0 PREPARATION OF FOUNDATION FOR LAYING CONCRETE:

7.2.1 The foundation shall have been prepared and passed in writing by the Engineer-in-charge, before concreting is started. Just before starting concreting, the bed shall be cleaned of all loose materials and slightly moistened if dry, to prevent absorption of water from the concrete. In case of rock, it shall be washed clean and excess water if any be removed.

7.2.2 If the area on which the concrete is to be placed is under water, shall be pumped dry and kept so throughout the period of laying concrete and 12 hours after completing concreting without causing damage to concrete.

7.2.3 No payment shall be made for the work done beyond the specified section shown in the drawing attached.

7.2.4 When C.C.(1:3:6) is used for back fill 0.5:1 side slopes, the back fill and the side lining concrete may preferably be monolithic.

7.3.0 MODE OF MEASUREMENT AND PAYMENT:

The rate for this item shall be for a unit of cubic meter of completed and accepted work of specified proportion strength and dimensions. This rate shall be in full compensation for furnishing, hauling and placing all materials for preparation, all materials for conditioning the base as directed and as specified , and for furnishing all labour, equipment, tools and incidentals necessary to complete the item and including necessary excavation.

SECTION NO. 8

REINFORCEMENT

8.1.0 Scope of work

8.2.0 Reinforcement bars

8.3.0 Binding

8.4.0 Distance between bars

8.5.0 Splicing

8.6.0 Cover

8.7.0 Inspection before concreting

8.8.0 Anchor bars

8.9.0 Mode of Measurement and Payment

SECTION NO. 8
STEEL REINFORCEMENT

8.1.0 SCOPE OF WORK :

This item shall include supplying, bending and erecting in position steel reinforcement conforming to relevant Indian standard Specifications.

8.2.0 REINFORCEMENTBARS :

8.2.1 Steel reinforcement bars and fabrics shall be placed in the concrete as shown in the drawing or as directed. Before steel reinforcement is placed in position the surface of the reinforcement shall be cleaned of rust, scale, dirt and grease and other objectionable foreign substances (heavy flaky rust and Mill scale that cannot be removed by firm rubbing with burlap, or equivalent treatment is considered objectionable). The fact that light or early stage rust has to detrimental effect on bond and hence could be discharged shall not be used as excuse of careless handling and storage of steel. In storing bars of the same size, length, shapes and grade shall be assembled in racks and marked distinctly.

Before the reinforcement bars are fixed in position it shall be verified that they are of specific size and bent in accordance with the plans and specifications. They shall be accurately placed and secured in position by means of built in concrete block, metallic chairs, hangers spacers and other suitable devices , at sufficiently closed intervals so that they will not sag between supports , not be displacing of the concrete or by any operation of the work.

8.2.2 Special care shall be exercised to prevent any disturbance of the reinforcement in concrete that has already been placed. The reinforcement after being placed in position shall be maintained in a clean condition until it completely embedded in concrete to prevent further damage to the concrete or unsightly rust stains on exposed concrete surface.

8.2.3 Reinforcement shall not be straightened or bend in a manner that will injure or weaken the materials. Bars with links or bends not shown on the plans shall not be used.Bars shall be bent to the shape and dimensions shown on the drawing or as directed using a bar tender, operated by hand or power to attain the proper bending radius. The radius of bend shall not be less than 4 times the nominal size of the bar. Heating of reinforcement bars to facilitate bending will not normally be

permitted when, however such heating is permitted in the case of large diameter bars, the temperature of the steel shall not exceed the corresponding to a cherry red color.

8.3.0 BINDING :

Wire for tying reinforcement shall be of soft and annealed steel. The wire may be of 1.22 mm to 1.63 mm dia. and shall have to confirm to IS 280-1962. Metal support and spacers shall be fabricated from non-corrodible metal. Dissimilar metals shall not be placed in concrete in intimate proximity with each other or be joined by a connector especially in the continued presence of moisture unless it is known that galvanic action will not result.

8.4.0 DISTANCE BETWEEN REINFORCEMENT BARS :

8.4.1 The distance between two parallel reinforcement bars shall be except as provided below in 10.4.2 not less than the greatest of the following distances.

a) The diameter of either bar, if their diameter be equal

b) The diameter of the larger bar, if their diameter be unequal

c) 6 mm more than the nominal maximum size of the coarse aggregate comprised in such concrete

Note : A greater distance should be provided when convenient

The vertical distance between two horizontal main steel reinforcement or the corresponding distance at right angles to two inclined main steel reinforcement shall not be less than 12 mm except at a splice or lap and except where one of such reinforcement is transverse to the other.

8.4.2 The pitch of the main bars in a reinforced concrete solid slab shall be not more than three times the effective depth of such slab or 60 cm whichever is less.

8.5.0 SPLICING :

Bar splices as indicated in the drawing or as specified by the Engineer-in-charge shall only be allowed. The lapped ends shall be placed to ensure full bond on each bar. Splicing shall not be done in the region of maximum bending moment, and splicing of adjacent bars shall be avoided as far as possible.

Welding of bars for splicing may be allowed in place of lapping at the discretion of the Engineer-in-charge at approved locations. When welding is resorted to instead of lapping, the bars to be spliced shall be lap welded or butt welded by electric arc welding. Ends of bars to be spliced shall be cleaned of all dirt , scales , rust , paint

and foreign matter before welding .All welding shall conform to the relevant Indian standard Specification. Any weld will be considered unsatisfactory if it fails to sustain a tensile stress of atleast 90 % of the tensile stress of the bar in which the weld has been made. The contractor shall make necessary arrangements for carrying out the tests as directed by the Engineer-in-charge and with the accepted unit rate for reinforcement.

8.6.0 COVER :

8.6.1 Sufficient concrete cover shall be provided to protect reinforcement from corrosion or as indicated in the drawing. All protruding bars from concrete or masonry to which other bars are to be spliced and which will be exposed to action of weather for and indefinite period shall be protected from rusting by a thin coat of neat cement grout.

8.6.2 The thickness of concrete cover (exclusive of plaster or other decorative finish) shall be as follow

a) At each end of reinforcement bar, a cover not less than 25 mm nor less than twice the diameter of such rod or bar.

b) For a longitudinal reinforcing bar in a column cover not less than 40 mm nor less than the diameter of such rod or bar. In the case of column of minimum dimensions of 180 mm or under those bars which do not exceed 12 mm diameter, 25 mm cover may be used.

c) For a longitudinal reinforcement bar in a beam a cover not less than 25 mm nor less than the diameter of such rod or bar.

d) For tensile, compressive shear or other reinforcement in a slab, a cover, not less than 12 mm nor less than the diameter of such reinforcement.

e) For all external work, for work against each faces & also for internal work where there exists particularly corrosive conditions, the cover of the concrete shall be increased by 12 mm beyond the figures given above [a to d].

8.6.3 Where because of splicing, the thickness of concrete in between reduces to less than the maximum size of aggregate, a concrete with reduced maximum size of aggregates shall be used so as to allow development of bond in the splice. The extra cost of such special concrete shall be deemed to have been included in the unit rate for the main concrete and shall be paid at the same rate.

8.7.0 INSPECTION BEFORE CONCRETING :

No concreting shall be started unless the reinforcement as laid is finally checked and certified by the Engineer-in-charge or his authorized representative. Before starting the concreting the Contractor shall make certain, that the measurements of the reinforcement placed in have been recorded and that the Engineer-in-charge certifies the correctness of reinforcement used. Failure to do so may mean no payments or payment at the discretion of the Engineer-in-charge for the reinforcement in concrete.

8.8.0 ANCHOR BARS :

The cost of anchor bars proper shall be paid under the item of reinforcement.

8.9.0 MODE OF MEASURMENT :

Accurate records shall be kept at all times of number, size, length and weight of bars placed in position for different parts of work. The reinforcement shall be paid as the weight of actual quantity of steel reinforcement placed in the structure arrived at the time of measuring the actual length of bars used and placed as shown in the bar bending schedules including hooks, bends and laps. The length of the bar shall be measured to the next nearest 10 cm a fraction less than 5 cm being neglected and fraction of 5 cm more taken as 10 cm. Weight shall be computed from the standard table weights.

8.9.1 The unit rate accepted for the reinforcement shall include the cost of supplying, cutting, bending, cleaning, straightening, fixing and maintaining in position the reinforcement . Supplying and attaching binding wire. Supports, separators, hangers etc. shall be deemed to be included in the unit rate for reinforcement and shall not be measured nor paid where welding is permitted. Splicing shall not be paid for separately. Chairs if any provided as per instruction of Engineer-in-charge will be paid separately.

8.9.2 TABLE OF WEIGHT FOR REINFORCEMENT :

Sr.No.	Diameter bar . in mm	Weight in kg per meter	
		M.S.Round bars	Ribbed Tor / TMT steel
1	6	0.222	0.222
2	8	0.395	0.395
3	10	0.617	0.617
4	12	0.888	0.888
5	16	1.58	1.578
6	20	2.470	2.466
7	22	2.980	2.980
8	25	3.850	3.854
9	28	4.830	4.830
10	32	6.310	6.313

(Ref :- I.S.I. Code No. 456 REVISED EDITION 2000

SECTION 9
CLAERING SITE

9.1.0	General
9.2.0	Clearing Site
9.3.0	Disposal of stuff removal
9.4.0	Disposal of stuff removed
9.5.0	Item to Include

SECTION – 9

CLEARING SITE

9.1 Scope

The item pertains to the provision of site clearing including cutting small shrubs. vegetation, bushes and clearing stumps and molehills in the canal works.

9.2 Clearing Site

The land width required for component of canal shall be cleared for all trees having a girth of 30 cm. and less brushwood. Vegetation, bushes, stumps and other objectionable material. The roots of trees shall be removed to a depth of 30 cm. Below the surface of the foundation land and side slopes and the excavation filled up with excavated material in 15 cm to 20 layers and the compacted. Brushwood, vegetation, bushes, stumps etc. shall be cut flush with the ground. All the material cleared will be the property of corporation. Useful material shall be arranged in convenient stacks as directed. at convenient place of disposal and handed over the Corporation for disposal. Unsuitable material shall be burned or otherwise disposed off by the contractor at his own cost as directed by the Engineer-in-charge without causing any nuisance, inconvenience or damage to the property of the people in neighbourhood in all cases, the material shall be disposed off in a neat manner.

9.3 Disposal of Stuff Removed

All the materials removed as a result of clearance shall be a property of corporation. Useful material shall be arranged in convenient stacks as directed by Engineer-in-charge without causing any nuisance. Inconvenience or damage to the property of the people in neighbourhood in all case. the material shall be disposed off in a neat manner**.**

9.4 Disposal of stuff Removed

All the materials removed as a result of clearance shall be a property of corporation Useful material shall be arranged in convenient stacks as directed by the Engineer-in-charge Useless material shall be disposed off by the contractor as directed by the Engineer-in-charge without causing any nuisance, inconvenience

9.5 Item to include

Clearing for canal embankment appurtenant works including trees having a girth of 30 cm removing vegetation roots and molehills and disposal of material removed. All necessary labour, materials and use of tools for carrying out the item shall be arranged by the contractor.

SECTION 10
DEWATERING

10.0	Scope
10.1	General
10.1.1	Pumping
10.2	Contractor responsible for diversion etc.
10.2.1	Adequacy of diversion
10.3	Contractor to Dewater whenever required
10.3.1	No claims for damages
10.4	Desilting
10.5	Repairs & removal of diversion channels bunds, etc.
10.6	Disposal of water
10.7	Item to include
10.8	Mode of Measurement & Payment

SECTION 10

DEWATERING

10.0 SCOPE OF WORK :

The item shall include all dewatering &, diversion work required in a manner hereinafter specified.

10.1.0 GENERAL:

The canal shall be kept dry by resort to pumps along or combination with manual labour for bailing out water with buckets etc. or any other method to be adopted shall be entirely left to the choice of the Contractor provided dewatering is carried out satisfactorily and the scheduled programme is adhered to. The Contractor shall plan, construct and maintain satisfactory, safe and full proof arrangement for dewatering to ensure safe canal excavation and laying concrete and masonry in the dry. The Contractor shall supply details of his proposals for approval of the Engineer, but such an approval will not in any way release the Contractor from his responsibility for the adequacy of dewatering arrangements and for the quality and safety of the work, for all of which the Contractor shall be solely responsible.

Other approved methods may be used by the Contractor at his discretion and cost to prevent or reduce seepage and to protect the area to be excavated if the soil is porous.

10.1.1 PUMPING:

Adequate pumping arrangements shall be made for dewatering canal keeping the same dry while masonry or concreting is in progress and till the mortar is sufficiently set. Pumps of required capacity and in required number and stages shall be provided to ensure the above pumping from the canal and shall be done directly from the canal or from a sump inside the excavation as necessary, in such a manner as to preclude the possibility of movement of water through any fresh concrete or masonry and washing away parts of concrete or mortar. No pumping shall be allowed during laying of concrete or masonry and for period of atleast 24 hours thereafter unless it is done from suitable sump separated from concrete or masonry by effective means. Pumping shall be done in such a way as not to cause damage to the work or adjoining property by blow subsidence etc.The contractor shall make his own arrangements for necessary labour, materials,

pumps, engines, well-points and other suitable machinery and devices required for successful execution of the item of dewatering.

10.2.0 CONTRACTOR RESPONSIBLE FOR DIVERSION ETC. :

The contractor shall plan, construct and maintain satisfactory, necessary diversion channels and other temporary diversions and protective works and furnish, install maintain and operate all necessary pumping and for dewatering the various parts of the works and maintaining the canal section as free from water as required for approved construction operations.

10.2.1 ADEQUACY OF DIVERSION:

All bunds diversions of flow other arrangements proposed to be made shall be by prior discussion and approved by the Engineer-in-charge. On approval they shall be constructed and maintained at the Contractor's cost. Approval of the plans for the diversion works will not relieve the Contractor of the responsibility for the adequacy of diversion and dewatering arrangements.

10.3 CONTRACTOR TO DEWATER WHENEVER REQUIRED:

The area under all works as necessary shall be maintained free water. The areas shall also be maintained free of water after any part of the work is completed for inspection, safely and or for any other reasons determined as necessary .The contractor, shall pump out water from the site of the works and shall keep the canal section free of water, while excavating, concreting and continue to keep the works free of water for periods as may be required for proper setting of concrete or otherwise required for the completion of works.

10.3.1 NO CLAIMS FOR DAMANGE

The contractor shall not be entitled, to any claims or damages, on account of or by reason of any amount of water leaking through under around the bunds diversions channels and other diversion or protective works or overtopping.

10.4 DESILTING :

If canal is filled due to accumulation of surface flow during the progress of work or during rainy seasons, or due to any other cause, all pumping required for dewatering the pit and removing silt shall be done without extra cost.

10.5 REPAIRS AND REMOVAL OF DIVERSION CHANNEL, BUND ETC:

After having served their purpose the temporary bunds shall be removed to the extent directed by the Engineer-in-charge from time to time.

The diversion channel, bunds etc. are likely to be damaged due to floods or due to any other reason, If they are so damaged they shall be redone as directed without extra cost to the Department. Such removal or repair work shall be done in such a manner as not to damage any permanent works. This shall be done at Contractor's cost.

10.6 DISPOSAL OF WATER :

The water from the excavated canal shall be disposed in such manner detailed below or in any other manner in conformity with the rules in force and approved by the Engineer.

In undeveloped area 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 the property and structures nearby. Government regulations shall be complied with and right or private land owners shall be respected regarding disposal of water.

Contractor shall be responsible for all 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.

10.7 ITEM TO INCLUDE :

1) All labour, materials , pumps, plants, equipment, staging, shoring, strutting, sumps and other arrangements necessary for dewatering during excavation and construction of other item required dewatering

2) Dewatering canal excavation and construction of lining area and keeping the same dry while excavation, masonry and concrete work is in progress and till the work comes above the water level and till the Engineer considers that the mortar or concrete has sufficiently set.

3) Dewatering till all the items requiring dewatering are fully completed. This shall also include time required for final section of canal and taking measurements of all the items requiring dewatering.

4) Removing stuff of any sort might find access into the trenches by blowing slip or due to any other cause whatsoever from the side or bottom of the canal excavation or from elsewhere during , after water or due to dewatering.

5) Leading water to the nearest natural or artificial drains, with all incidental requirements concerned any compensations etc.

6) Compensation for the injury to the workmen and the public or damage to the nearby properties during and on account of dewatering and disposal of water.

10.8 MODE OF MEASUREMENT &PAYMENT :

The rate of dewatering shall be as per quantity executed of respective item of concrete upto NBL.

SECTION 11
STRIPPING

11.1.0 General / Scope

11.2.0 Clearing of site

11.3.0 Stripping

11.4.0 Disposal of material

11.5.0 Lead and Lift

11.6.0 Mode of Measurements

SECTION – 11

STRIPPING

11.1 SCOPE

The stripping includes furnishing of all tools, plant, labour and material required for carrying out banking including site coherence, conveyance, disposal in a manner approved by the Engineer-in-charge with all leads and lifts and all items covered within the intent and purpose of the item.

11.2 SITE CLEARANCE

All area required for the seat of embankment shall be cleared of all trees, stumps, rubbish, roots and all other objectionable materials. All such material shall be removed from the site so as not to interfere with construction and operation of the project and shall be disposed off as directed by Engineer-in-charge. All trees cut and all material from stripping shall be property of corporation and shall be stacked at suitable places as directed by Engineer-in-charge.

11.3 STRIPPING

The entire area of the embankment shall be stripped to specified depth to remove all ‘top soil, loose and vegetable matter and soil in the root zone or soil suitable for the foundation of the embankment as determined by Engineer-in-charge. The stripping should be carried out down to a firm natural soil as directed.

11.4 DISPOSAL OFMATERIALS

The stripped material shall be transported and dumped or stacked at the disposal sites approved by Engineer-in-charge. In no case shall this stripped material contaminate with embankment materials.

11.5 LEAD AND LIFT

The item includes all lead and lift involved in the operations.

11.6. MODE OF MEASUREMENTS

Mode of measurements for this item shall be on cubic meter basis.

SECTION 12
UNDER DRAINAGE

12.1.0 Scope of work

12.2.0 Laying PVC pipes

12.3.0 Mode of Measurement & Payment

SECTION 12

UNDER DRAINAGE

12.1.0 SCOPE OF WORK

For free drainage from sides and bottom, cast-in-situ porous plug pit of size 45 cm x 45 cm of the C. C. mix 1:1:6 proportion are to be provided at the bottom of bed lining and at both ends in the width of the canal, laid parallel to the centre of the canal. The sand in this C. C. shall be passing through 20 mm mesh and retained on 10 mm mesh sieve. The maximum size of the aggregate should not be more than 20 mm. The specifications for cement, sand and aggregate shall confirm to the specifications in section 4 and curing done as per relevant specifications.

12.2.0 LAYING OF P.V.C. PIPES

The P.V.C. pipes of 75 mm diameter (Working Pressure 4 Kg./Sq.cm) are placed over these porous plug pits @ 3 m interval i.e. at centre of each panel and in case of cut in H.R. with side slope ½:1, 30 cm from the edge of the bed and both ends of the width. No porous rails are provided in case of cut in H.R. with ½:1 proportion side slope.

The horizontal P. V. C. pipes of 75 mm dia. (Working Pressure 4 Kg./Sq.cm) are also to be put in case of cuts of canal in H.R. with filter of size 100 mm x 100 mm laid up to the natural cut surface. These pipes shall be laid on both sides as shown in drawing and of length equal to horizontal width of H.R. side lining and extended up to filter base.

12.3.0 MODE OF MEASUREMENT AND PAYMENT

The payment of the porous plugs (only 75 mm dia. pipe) shall be made per Rmt.

SECTION NO.13
BACK FILLING

13.1.0	General
13.2.0	Preparing surfaces for back-filling
13.3.0	Back-filling with impervious material
13.4.0	Compaction
13.5.0	Mode of Measurements and Payment
13.6.0	Back-filling with pervious material
13.7.0	Mode of Measurements and Payment

SECTION NO. 13
BACK FILLING

13.1.0 GENERAL :

Back-filling generally means excavation refill upto the ground level by embankment material which is required to be placed in excavation after the structure is built up above the normal level. All the back-fill shall be carefully graded to the lines and grades as shown on the drawing or as directed. The item includes the quarrying, transporting, servicing and such other processing operations to produce the materials of desired quality, laying, watering and compacting as directed. The materials obtained from the excavation work in this contract will be allowed to be used for back-filling, if of approved quality .

13.2.0 PREPARING SURFACE FOR BACK-FILLING :

All loose material and surface debris shall be removed. The bed and sides shall be trenched with water sufficiently so as to prevent absorption of water from back-fill material. Before placing the back-fill material, the surface shall be tamped or otherwise consolidated sufficiently.

13.3.0 BACK-FILLING WITH IMPERVIOUS MATERIAL :

The impervious material may be obtained from excavated stuff, free of cost or borrowed from contractor's own source outside if required without any limitation of leads or lift. The quality of the impervious material should be got approved from the Engineer-in-charge in advance. Water shall be added to the embankment and mixed by suitable means to assure uniform distribution of moisture and the desired standard of compaction.

13.4.0 COMPACTION :

The proctor test of soil compaction with approved modification shall govern the construction. Laboratory methods will be used to determine the optimum moisture content, dry and wet density and permeability and the construction will be controlled by field tests and made to determine whether adequate degree of compaction is being attained.

13.5.0 MODE OF MEASUREMENT AND PAYMENT :

The measurement of widths for payment will be taken as between the accepted payment line of the excavation under the respective excavation items & the face of themasonry or concrete structures. The Back-filling may not have to be done right up to the original ground level. The work will be paid for only upto the depth of back-filling as required and directed by the Engineer-in-charge. If the contractor chooses to provide filling above the level desired for his own convenience like raising platform and erecting temporary structures the rework may be allowed to be done if not undesirable from other considerations during or after construction. But the work so done above the desired levels shall not be measured and paid for even though it might have been done to the required specifications as for the rest of the portions.

Deduction in quantities of back fill shall be made for shrinkage at the rate of 5 percent of intermediate measurements, 2 percent after one monsoon and 1 percent for final measurements of back fill if the same are taken after two monsoons.

13.6.0 BACK-FILLING WITH PERVIOUS MATERIAL :

The pervious material may be obtained from the excavated stuff or from quarry free of cost or borrowed from outside, if required without any limitations of lead or lift. The quantity of the previous materials should be got approved by the Engineer-in-charge in advance. Care shall be taken to see that materials in the different layers are compacted properly and the finished surface shall have neat appearance.

13.7.0 MODE OF MEASUREMENT AND PAYMENT :

The mode of measurement and payment for back filling with previous materials will be same as for back-filling with impervious materials vide para 13.5.0 above.

SECTION 14
PREPARATION OF SUBGRADE

14.1.0 Preparation of sub grade for bed and side lining

14.1.1 Scope

14.1.2 Preparation of sub grade

14.2.0 Inspection and Approval

SECTION 14
PREPARATION OF SUBGRADE

14.1.0 PREPARATION OF SUBGRADE FOR BED AND SIDE LINING

14.1.1 SCOPE

The item shall include preparation of subgrade to receive bed and side lining. The relevant specification for excavation and embankment shall be applicable.

14.1.2 PREPARATION OF SUBGRADE

The preparation of sub grade shall be done after the item excavation, embankment, murum backing of canal after passing on one monsoon over embankment and murum backing .The item will includes

1. Clearing and removal of vegetation growth including removing grass, bushes and babul or other trees from overall section, including service inspection path roads and outer side of canal embankment.

2. Removing silt deposited in canal section.

3. Excavation of existing section upto bottom edge of lining in all strata, filling ruts and overcuts if any from approved quality of murum.

4. Final dressing after laying templates, porous rails, removing excavated murum of templates & porous rails etc. wherever required on bed, side, service road, inspection path.

5. Trimming true of the line and level compacting and tamping the bed and side including watering before laying lining as per the cross section of canal.

6. Bailing and pumping out water during excavation.

14.2.0 INSPECTION AND APPROVAL :

The well watered, compacted , tamped surface after laying templates & porous rails shall be inspected and approved by the Engineer-in-charge. At least 200 m length shall be kept ready for approval at a time. After the approval of Sub grade by Engineer-in-charge only, L.D.P.E. film and lining shall laid.

SECTION 15

C. C. (1:2:4) FOR STEPS AND TEMPLATES

15.1.0 Materials

15.2.0 Preparation of foundation for laying concrete

15.3.0 Mode of measurement

SECTION 15
C. C. (1:2:4) FOR STEPS AND TEMPLATES

15.1.0 MATERIALS :

The material required for this item will be cement, sand, coarse aggregate and water.

The specification for these materials given in Section-4 of the specifications shall be applicable for this item too.

The maximum size of coarse aggregate shall not be more than 20 mm.

Tests shall when directed by the Engineer-in-charge be made in accordance with the standard practice. The testing will be at the expenses of the contractor.

15.2.0 PREPARATION OF FOUNDATION FOR LAYING CONCRETE :

15.2.1 The foundation shall have been prepared and passed in writing by the Engineer-in-charge, before concreting is started. Just before starting concreting, the bed shall be cleaned of all loose materials and slightly moistened if dry, to prevent absorption of water from the concrete. In case of rock it shall be washed clean and excess water if any be removed.

15.2.2 If the area on which the concrete is to be placed is under water, shall be pumped dry and kept so throughout the period of laying concrete and 12 hours after completing concreting without causing damage to concrete.

15.2.3 No payment shall be made for the work done beyond the specified section shown in the drawing attached.

15.2.4 When C. C. (1:3:6) is used for back fill 1/2:1 side slopes, the back fill and the side lining concrete may preferably be monolithic.

15.3.0 MODE OF MEASUREMENT :

The rate for this item shall be for a unit of Cubic Meter of completed and accepted work of specified proportion strength and dimensions. This rate shall be in full compensation for furnishing, hauling and placing all materials for preparation, all materials for conditioning the base as directed and as specified, and for furnishing all labour, equipment, tools and incidentals necessary to complete the item and including necessary excavation.

SECTION 16

PROVIDING L.D.P.E FILM (200 MICRONS) BELOW THE LINING

16.1.0 Scope of work

16.2.0 Properties of L.D.P.E. Film

16.3.0 Placing of film

16.4.0 Mode of measurement

SECTION 16

PROVIDING L.D.P.E FILM (200 MICRONS) BELOW THE LINING

16.1.0 SCOPE OF WORK :

A plastic membrane of low density polyethylene 200 microns film is to be used below the concrete lining in sides and bed where the sub-grade of the lining is of pervious materials like murum etc. so as to prevent absorption of water in sub-grade from concrete during placement on the sub-grade.

16.2.0 PROPERTIES OF L.D.P.E FILM :

The properties of the L.D.P.E. (200 microns) film are given below as a guide line, standards.

The deviation to the extent of + 10 % shall be allowed.

1) Tensile strength = 175 Kg/cm2
2) Tear resistance = 95 Kg/cm2
3) Temperature resistance = 40 Cel.
4) Impact tensile strength = 200 Kg/cm2

The contractor will be required to obtain necessary test certificate from the Government recognized Institute on samples of film to be used on work.

16.3.0 The film thus approved is to be laid on the neatly, well dressed sub-grade and fixed in the sub-grade so as to prevent displacement during the placement of concrete.

16.4.0 MODE OF MEASUREMENT:

The measurements shall be based on area basis unit being Square Meter and on the basis of the area of lining measured. No overlaps and anchorage in sub-grade will be considered for payment. Payment of work done under items of lining and laying polythene film will be made at 80% of the contract rate n R.A bill 100% of payment at the rate per sqm in final bill may be released only after arresting leakage of water up to 90%.

SECTION 17

PROVIDING U.C.R. MASONRY IN C.M. 1:8 FOR BACK FILLING

17.0.0 MASONRY :

17.1.0 SCOPE OF WORK:

The work covered by this item shall consist of furnishing all materials, equipments and labour for providing and laying masonry wherever necessary with or without face work curing and performing all the functions necessary and ancillary thereto.

17.2.0 PREPARATION OF SURFACE PRIOR TO LAYING MASONRY :

17.2.1 CLEANING OF SUB-GRADE OR SURFACE WITH WATER ETC :

Immediately before masonry is started, the sub-grade shall be thoroughly cleaned of all loose material, including all chips, sand dirt etc. This shall be done with the help of stiff brooms and water.

17.2.2 LAYING OF MASONRY OVER MASONRY WHICH HAS NOT HARDENED :

Before laying of masonry, the surface of masonry in day to day work shall be cleaned with water jets so that the surface is thoroughly cleaned and wetted but pools of water shall be avoided. The cost of such cleaning shall be covered by the unit rate accepted for the item of masonry.

17.2.3 a) TREATMENT OF HARDENED MASONRY SURFACE:

Masonry surface which have remained exposed for a period such that the new masonry cannot be integrally incorporated with the previous one shall be prepared in the same manner as indicated above. Before starting the new layer of masonry over the old one, the mortar shall be scraped irom joints in lower layer to a depth of at least one centimetre. Cost of such preparation shall be covered under unit rate accepted for masonry.

17.2.3 b) COST OF CEMENT MORTAR :

Before laying masonry over the finally prepared surface as a base of the old masonry Which has remained exposed in monsoon, the surface shall be wetted and coated or covered With Cement Mortar (1:3) 2cm thick. This will be done by trowel to ensure good adhesion. This cost shall stand included in the unit cost of masonry.

17.3.0 STONES:
17.3.1 QUALITY:

All stones used on the works under these specification shall be obtained from quarries Approved by Engineer in charge Approval to the Quarry will not mean that any stones from the quarry is approved. The stones shall be of sound, hard and durable quality and shall be free from veins, flaws, cracks and other defects.

17.3.2 SIZE :

The dimension of the stone to be used shall be suitable confirming to the over-cut sand chips of sizes varying from 8 to 15 cm. will be used to make the masonry as dense possible.

17.3.3 TEST FOR GOOD STONES :

Before any stone in a quarry is approved, it shall be seen that besides satisfying the specifications mentioned in para. 8:3:1 the stone shall be such as will not absorb water more than 5 percent of its weight after keeping it under water for 24 hours.

17.4.0 CRUSHED SAND :

Quality of crushed sand shall be as per point no.4B.4.0 in section 4 of this volume .

17.5.0 CEMENT:

Cement shall be procured by the Contractor and conform to specification laid down by Bureau of Indian Standards (Vide their Sp. I.S. 269-1976) for Portland cement.

B.6.0 WATER :
6.6.1 QUALITY:

Water used for making mortar shall be reasonably clean and free form Objectionable quantities of silt, organic matter, alkali, salts and other injurious materials.

QUANTITY:

The quantity of water to be used for mixing of mortar shall be specified by the Engineer-n-charge from time to time depending upon the quality of sand and cement to be used and the atmospheric conditions and shall in no case be more than 0.7 times the weight af cement in mortar mix and for the surface saturated dry conditions of materials.

17.6.2 TURBIDITY PERMISSIBLE :

The turbidity of water for mixing mortar shall not be more than 2,000 parts per million and shall preferably be as low as possible.

17.7.0 MORTAR-GENERAL :

17.7.1 SPECIFICATION FOR INGREDIENTS :

It shall be seen that ingredients going to form finished product of mortar comply individually with the specifications, separately laid out for each of them.

17.7.2 TIME FOR USE :

Mortar shall be used in masonry within the time specified for the initial set of cement which shall not be more than 30 minutes as directed by the Engineer-in-charge.

17.7.3 PROPORTION OF INGREDIENTS :

The proportions of ingredients mentioned in the detailed specification for each type of mortar are nominal proportions. The mix proportion is liable to be varied at the direction of Engineer- in –charge to ensure requisite strength. If the Nominal mix falls to give requisite strength, the mix shall be varied as directed by Engineer-in-Charge , proportion stipulated by volume. The Volume of sand will be directly measured prior to mixing. Volume of cement shall be reckoned on the basis of 0.034cum of cement per bag.

17.8.0 STIPULATED CRUSHING STRENGTH:

The stipulated crushing strength of mortar used in any part of masonry shall not be Less than 80% of the final stipulated strength, at the end of 28days in the case of cement mortar. In some cases there is appreciable gain in strength beyond 28daysalso in such cases if the strength is attained after 45 to 90 days the masonry will be accepted as satisfactory.

17.8.2 PRELIMINARY LABORATORY TEST :

Preliminary tests of cubs should be carried out in the laboratory well in advances of commencement of work. These tests should indicate an adequate margin over the minimum strength stipulated in para 8.8.1 of specifications.

17.8.3 (A) WORKS TESTS ON MORTAR:

Tests for crushing strength shall be made on standard cubes as per relevant Indian Standard Specifications. For 'work test' samples shall be

taken on the job as and when directed. Generally, for works test, samples shall be taken every 100 cum. of masonry Materials for the works test(mortar, cement, sand as the case may be) shall be supplied by the Contractor free of cost and collection of samples, casting of cubes, and curing and testing shall be carried out by the corporation at its cost.

17.8.3 (B) STANDARD OF ACCEFTANCE :

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 this 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 masonry and corresponding quantity of masonry showing crushing strength less than stipulated strength shall be paid at reduced rates as under.

1. Equal to or more than 95%	At full rates in occasional cases.
2. Equal to or more than 90% but less than 95%	5% reduced rates.
3. Equal to or more than 85% but less than 90 %	10% reduced rates

Reduced rate shall be approved by the Superintending Engineer.
If Crushing Strength falls below 85% of the stipulated crushing Strength then the quantity represented by these samples will not be paid for Defective parts ,if noticed shall be removed and redone by the contractor at his cost.

In addition to the 28 days strength tests, the Engineer-in-charge may at his discretion take 7 days strength tests and/or 3 days (accelerated curing) strength test and fix up relation between such strength and 28 days strength after studying the actual values realized If at any time the test i.e. 7 days or 3 days (accelerated curing) strength indicate that the strength may not be achieved as specified by the Engineer-in-charge, he shall have authority to suspend the work of laying masonry unit the reasons for low strength have been investigated and corrected. The Contractor shall comply therewith without suspension of work being made a reason for any claim. The Engineer-in-charge may at his discretion also order suspension of the work when the variation in the strength of the individual work test cubes from aver age of the set is in his opinion excessive. The contractor shall comply with such suspension shall not be accepted as reason for any claim.

17.9.0 CEMENT MORTAR :
17.9.1 PROPORTION :

The mortar shall be obtained by thoroughly mixing together the ingredients in mechanically operated mixer in specified proportions as para 8.7.3.

17.9.2 MODE OF MIXING:

The ingredients of mortar shall be properly mixed in mixers designed so as to positively ensure uniform distribution, of all component material throughout the mass at the end of mixing period. After all materials except for the full amount of water are in the mixer the mixing of each batch shall continue for about 1 to 2 minutes depending upon the revolution for the mixer, and experience. The minimum mixing period specified above as assure proper control of the speed of rotation of the introduction of the materials including water. The mixing time shall be increased at the introduction of the materials including water. The shall be increased at the discretion of the Engineer-in-charge when charging operations fails produce the required uniformity of composition and consistency within the batch and from batch to batch. The contractor shall not be entitled for any extra payment for such increase in mixing time. The excessive mixing requiring tha addition of water to preserve the required mortar consistency shall be avoided. If the mixing and charging operations are such that the required uniformity of mortar is obtained in a shorter mixing time than the minimum specified without sacrifices of needed workability the mixing time may be shortened under order of the Engineer-in-charge. Mixing shall be done by mechanical means only the sequence of mixing of the ingredients into mixer shall generally be 50 percent of requirement of water 50 percent of requirement of sand Full quantity of cement Balance quantity of sand Balance Quantity of Water

17.10.0 MIX VARIATION :

17.10.1 MIX VARIATION CLAUSE FOR CEMENT:

Mix variation (Cement : Sand) Shall not constitute an Extra Item if the proportion of cement to sand is varied, an addition or deduction shall be made in the rate of masonry for the cement used in excess or short of the stipulated requirements of cement per cubic metre of masonry at the rate as given in ANNEX ‘A’ Of Detailed Tender Notice. For this purpose the volume of mortar in masonry shall be taken 35 percent of volume of masonry.

17.11.1 MASONRY (GENERAL) :

The clause under this shall apply to all types of masonry

17.11.2 STONES TO BE WETTED BEFORE USE :

All stones, chips etc. shall be clean and free from dust or mud to ensure a good bond with mortar and shall be wetted before being laid, for this purpose the stones that are immediately to be used shall be kept sprinkled with

good clear water. There shall be a good collection of stones and spauls within easy reach of mason to enable proper selection of stone for the individual locations while laying and the stones shall be kept continuously replenished.

17.11.3 DRESSING OF STONES :

The stone shall be set in the work as received from quarry after early knocking off weak corners and edges with a mason's hammer and after clearing scales of foreign matter, if any.

17.11.4 LAYING :

The stones shall be laid carefully on their natural flat bed so as to break joints as much as possible. They shall be solidly bedded in mortar with close joints No. joints shall be exceed 4 cm nor shall it be less than 12mm in the thickness. Chips of stones and spauls shall be edge into the work whenever necessary to avoid thick beds or joints of mortar and to give masonry maximum density.

No dry work of hollow space shall be allowed. Every stone, whether large or small shall be set flush in mortar, shaken and hammered down by a mallet to into into it. The smaller stones used in the filling shall be carefully selected to fit snugly into the interstices between larger ones. Mortar to be added to fill the intervening space shall be well worked out by the trowel and steel bar disturbing the mortar during the period of setting shall be avoided. Mortar joints of top and sides of layer shall be pressed and brushed over by coir brush as soon as masonry is laid so as not to leave any loose mortar.

17.11.5 BONDING AND BOND STONES:

For ensuring good bond, masonry shall be finished uneven at the end of the day's work or at the top surface of the work done in each lift. No mortar shall be allowed to be remain over the masonry at its top. At the close of the day's work, all mortar on the top shall be removed.

17.11.6 PRECAUTION TO OBTAIN DENSE MASONRY:

In order to obtain dense masonry, the following precaution shall be taken

1) Under pinning shall be avoided after a stone is laid as it tends to lift the store and create air pockets.
2) Putting chips in the intervening space before filing with mortar shall be avoided.
3) Levelling of masonry on the top of the course by use of chips, shall be avoided. All chips on ends will be driven on one end only which will help to squeeze and compact the mortar in joints.

17.11.7 LIMIT ON HEIGHT OF MASONRY TO BE DONE IN A DAY:

The maximum height of masonry layer that will be allowed to be constructed at a time shall be 0.6 metre. No fresh masonry shall be laid over masonry previously laid within 24 hours of its laying. In case sufficient working space is not available at higher levels, this condition may be relaxed by the Engineer-in-charge.

17.11.8 The work shall be built square, plumb, curved or battered as may be required by the design. It Shall be carried out in a workman like manner with the aid of moulds, templates Centres etc. which will be provided by the Contractor at no extra cost.

17.11.9 QUANTITY OF MORTAR :

Every effort shall be made to see that at proper quantity of mortar is used in the masonry The quantity of mortar will be 33 to 37 percent of the masonry laid, if less mortar is consumed. The rates of masonry will be correspondingly reduced.

17.11.10 SCAFFOLDING TO BE DONE BY CONTRACTOR:

All scaffolding required for the work shall be provided within the rates quoted for the items of masonry.

17.11.11 PROVIDING PLANK WAYS:

Plank walk ways or other suitable arrangements shall be provided at the Contractors cost promptly for the use of necessary job traffic over freshly laid masonry of the day.

17.11.12 CURING OF MASONRY:

All masonry as it progresses shall be kept well watered on the top and sides for a period of not less than 14 days from the date of build up in place. The top of masonry is to be kept well watered, watering shall be done carefully, so as not to disturb or wash out mortar where watering is done by manual labour. Night shift, if necessary shall be arranged for constant watering. Masonry shall on no account be allowed to present a dry surface during curing period. Should the mortar perish i.e. become dry through neglect of watering such work shall be demolished and rebuilt at no extra cost. If the curing arrangement of the Contractor is not satisfactory the Engineer-in-charge in his discretion engage labour and provide material, equipment for curing recover expenditure thus involved from the contractor.

17.11.13 WEAK OR DEFECTIVE MASONRY :

If any portion of masonry is found to be defective either in materials or in construction shall be removed and rebuilt by the Contractor without extra cost.

In the alter native at the discretion of the Engineer-in-charge such masonry shall be sufficiently grouted at Contractor's cost in a manner specified by the Engineer-in-charge and to his entire satisfaction.

17.11.14 CLEARING AFTER CONSTRUCTION :

All masonry shall be cleaned after completion.

17.12.0 MEASUREMENT:

The measurement shall be on cubic meter basis. Payment shall be made on the net quantity of masonry arrived at after deducting quantities for opening and other class of work from the total masonry. Such deductions shall not apply to the anchor bars, grout holes, bore volume of holes or weep holes or any Other opening not exceeding 100 square cm. in cross section.

SECTION 18

Removing dry silt from the canal bed

18.1.0 SCOPE OF WORK:

- If excavated pits get sited due to intervening floods, slips or any other cause, till completion of the work, the Contractor shall excavate and restore the pits and section to the required shape and dimensions without any extra cost.
- Excavation and removal of silt or silt mixed with sand in slushy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with initial lead upto 50 m and all lifts.
- This shall include all kinds of rock or shale, indurate clay, soil, sit sand and gravel, soft average and hard murum and any other materials which can best be removed with a shovel after loosening with a pickaxe and /core bar. It shall also include isolated boulders up to 0.1 cubic metre each, which does not need blasting and could be removed with a pickaxe/core bar and shovel. All the excavated materials from the soft strata shall be sorted out . The material not useful for bank work shall be deposited as directed by the Engineer-in-charge. Material useful in bank work shall be sorted out to be used in hearting or casing. Each stock pile of un required material shall be of regular size and not less than 5 m. in height.

- Unless otherwise specified, no distinction will be made as to whether the material being excavated is dry, moist or in wet condition. Dealing with the ground water or rain water collected and its disposal is covered under relevant items of excavations and will not be paid for separately.
- The work covered by this item shall consist of furnishing all materials, equipments and labour for providing and laying masonry wherever necessary with or without face work curing and performing all the functions necessary and ancillary thereto

.

18.2.0 Mode of Measurement:

The measurements shall be based on areas of cross sections taken normal to the axis of the structure or its part of the original ground surface and the surface of the finally completed excavation within the pralines, taken at every 10 meters along the axis of structure or its part. Where there is abrupt change in depth, additional cross sections may be taken at the discretion of the Engineer-in-charge. levels along the cross section shall be taken at every 15 to 20 meters as per exigency of work. The measurement shall be recorded on cubic meter basis of silt removal cross section and Payment will be made on cu.mt. at the specified rate agreed in the Schedule B of the tender.

• During the excavation of the work running payment for the items of excavation will be made to Contractor 90 percent of his tendered rate for the items. The remaining payments for these items will be progressively released depending upon the progress of completion of the item of excavation .This part rate will be reviewed by the Engineer-in-charge. when he feels necessary and decision of the Engineer-in-charge. Shall be final and binding on the Contractor.

• During the excavation of the work running payment for the items of excavation will be made to the Contractor on the basis of cross-sectional measurements.

• Quantities shall be computed from the cross-sectional area by the trapezoidal formula.

SECTION 19

Removing wet silt from the canal bed

19.1.0 SCOPE OF WORK:

If excavated pits get silted due to intervening floods, slips or any other cause, till completion of the work, the Contractor shall excavate and restore the pits and section to the required shape and dimensions without any extra cost.

• Excavation and removal of silt or silt mixed with sand in slushy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with initial lead up to 50 m and all lifts.

• This shall include all kinds of rock or shale, indurate clay, soil, sit sand and gravel, soft average and hard murum and any other materials which can best be removed with a shovel after loosening with a pickaxe and /core bar. It shall also include isolated boulders up to 0.1 cubic metre each, which does not need blasting and could be removed with a pickaxe/core bar and shovel.

• All the excavated materials from the soft strata shall be sorted out . The material not useful for bank work shall be deposited as directed by the Engineer-in-charge. Material useful in bank work shall be sorted out to be used in hearting or casing. Each stock pile of un required material shall be of regular size and not less than 5 m. in height.

• Unless otherwise specified, no distinction will be made as to whether the material being excavated is dry, moist or in wet condition. Dealing with the ground water or rain water collected and its disposal is covered under relevant items of excavations and will not be paid for separately.

18.2.0 Mode of Measurement:

The measurements shall be based on areas of cross sections taken normal to the axis of the structure or its part of the original ground surface and the surface of the finally completed excavation within the pralines, taken at every 10 meters along the axis of structure or its part. Where there is abrupt change in depth, additional cross sections may be taken at the discretion of the Engineer-in-charge. levels along the cross section shall be taken at every 15 to 20 meters as per exigency of work. The measurement shall be recorded on cubic meter basis of silt removal cross section and Payment will be made on cu.mt. at the specified rate agreed in the Schedule B of the tender.

• During the excavation of the work running payment for the items of excavation will be made to Contractor 90 percent of his tendered rate for the items. The remaining payments for these items will be progressively released depending

upon the progress of completion of the item of excavation. This part rate will be reviewed by the Engineer-in-charge. when he feels necessary and decision of the Engineer-in-charge. Shall be final and binding on the Contractor. During the excavation of the work running payment for the items of excavation will be made to the Contractor on the basis of cross-sectional measurements. Quantities shall be computed from the cross-sectional area by the trapezoidal formula.

SECTION 20

Cutting down trees

20.1.0 GENERAL:-

The item includes cutting of trees having girths specified as above, measured one meter above the ground and standing within and without the canal, road land as directed by the Engineer, the trees to be cut shall be duly marked to distinguish them from the trees not to be cut. The trees 30 cm. (about 1') in girth and below shall be removed under clearing site of the particular item and shall not be paid for separately.

20.2.0 SCOPE OF WORK:-

The trees marked for cutting shall be cut without disturbing or inconveniencing traffic. Where the cut trees are likely to cause damage to any property, are to be left standing, road, canal site, Dam Site etc., ropes and guys shall be used to cause the tree to fall in a guided direction in a harmless manner. Where necessary to prevent injury to structure, road, property or other trees or to avoid damage and obstruction to traffic, trees shall be cut in a section from top downwards. Ones cut across the trunk just near the ground level to a uniform depth shall first be taken and the tree shall then be pulled by means of ropes so the roots and as to separate it from the roots and fall in the guided direction. If the tree cut falls in a manner to interrupt or obstruct the traffic, necessary diversions shall be prepared and maintained according to:-

20.2.1 Diversion:-

When the traffic can be allowed on the roadside berms without much inconvenience to traffic or impediment to the work, this shall be provided by the contractor at his own cost. He shall provide the necessary barricading, warning boards and signals and watchmen by day and lights at night. Otherwise, a separate diversion shall be provided.

So as to be safe for the traffic over it till the obstruction to the tree is entirely removed and the road surface restored to normal condition. Warning signals shall be displayed on either side of the obstruction. If the tree cannot be removed by sunset, warning red lights to indicate the danger shall be displayed from sunset to sunrise at sunset at warning 50 m. on either side or the obstruction till it is completely removed. Cost of preparing, maintaining, and operating diversions, providing warning boards, signals, etc., shall be borne by the contractor. The contractor shall take every precaution to safeguard the nearby property, crop and travelling public. If any damage to property or injury to life occurs due to the contractor's default in this respect, he shall be liable to compensate such damage or injury.

20.2.2 Grubbing:-

In canal, road cutting, all stumps and roots shall be removed to a depth of not less than 30 cm. below the graded formation and slopes. Under embankments they shall be removed to a depth of 15 cm. below original ground level or 30 cm. below formation level whichever is more. Outside embankments and cuttings, they shall be removed up to 15 cm. below ground level. All the excavations made for grubbing shall be filled with excavated material in 15 cm. layers rammed.

20.3 DISPOSAL OF MATERIALS:-

All the products of cutting trees shall be the property of Government. All timber from which sawn logs and posts can be produced shall be cut into merchantable lengths as directed by the Engineer. Such timber will not be required to be cut to less than 3 m. lengths. Other types of trunks and bigger branches shall be cut into pieces of 1 m. or so and kept in neat stacks as directed within a lead of 50 meters. Smaller branches and thinner pieces shall be stacked separately and very thin leafy portion destroyed or removed as directed. The contractor shall be responsible for the custody of the cut materials till handed over to the Department.

20.3.1 Item to include.-

1. Cutting the trees, grubbing roots and stacking the materials neatly and their safe custody.
2. Displaying of warning signals and red lights.
3. Diversions.
4. Making good any damage to the canal, road surface and compensation for any injury to life and property due to default of contractor.
5. All labor, materials and use of equipment required to execute the work satisfactorily.

20.4 MODE OF MEASUREMENT AND PAYMENT:-

Measurement shall be for the number of trees cut of different sizes having girths of more than 30 cm. The girth shall be measured at a height of one meter from the ground before cutting and grouped under following size categories.

a). Above 30cm to 60cm girth

For AUTHORISED USE ONLY

GODAWARI MARATHWADA IRRIGATION DEVELOPMENT CORPORATION, CHHATRAPATI SAMBHAJINAGAR

(A GOVERNMENT OF MAHARASHTRA UNDERTAKING)

B 1 -TENDER

Name of Work:

Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Cost Put To Tender (Without GST): Rs. 1639.95 Lakhs (Rs. 163994857/-)

Tender Cost (With GST): Rs. 1932.42 Lakhs (Rs. 193242021/-)

VOLUME III
DRAWINGS

CHIEF ENGINEER & CHIEF ADMINISTRATOR

COMMAND AREA DEVELOPMENT, CHHATRAPATI SAMBHAJINAGAR

SUPERINTENDING ENGINEER,

UPPER PENGANGA PROJECT CIRCLE, NANDED

EXECUTIVE ENGINEER,

UPPER PENGANGA PROJECT DIVISION NO.8

NANDED.

CHIEF ENGINEER & CHIEF ADMINISTRATOR COMMAND AREA DEVELOPMENT, CHHATRAPATI SAMBHAJINAGAR

SUPERTENDING ENGINEER,
UPPER PENGANGA PROJECT CIRCLE, NANDED

EXECUTIVE ENGINEER UPPER PENGANGA PROJECT DIVISION NO.8, NANDED.

Name of Work:

Construction of Lining of Right Dy. No.1 @ RD 2520 M and Right Dy No.2 @ RD 2860 M and its Disnet and Construction of lining of LM -1 to 4,RM- 1 to 4 & Tail Dy. and its Disnet work of Karkheli Branch Canal of I.R.B.C.

Cost Put To Tender (Without GST): Rs. 1639.95 Lakhs (Rs. 163994857/-)

Tender Cost (With GST): Rs. 1932.42 Lakhs (Rs. 193242021/-)

'Draft Tender Papers Submitted for Approval'

Sub-Divisional Officer **Upper Penganga Project** **Subdivision No. -19** **Mudkhed**	**Divisional Accounts Officer** **Upper Penganga Project** **Division No.8** **Nanded**	**Executive Engineer** **Upper Penganga Project** **Division No.8** **Nanded**

'Recommended for Approval'

Superintending Engineer,
Upper Penganga Project Circle,
Nanded.

'Approved'

Chief Engineer & Chief Administrator,
Command Area Development,
Chhatrapati Sambhajinagar.

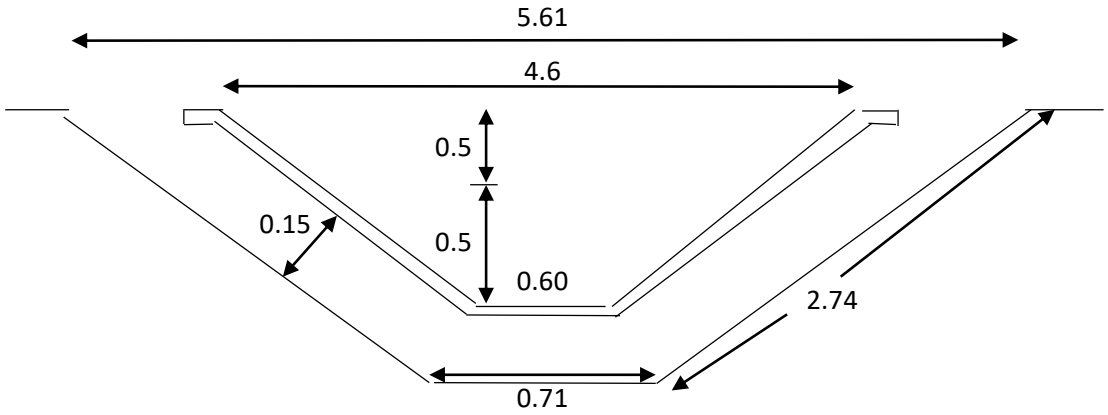
INDEX

Sr. No.	Particulars	Page No.	
		From	To
1	2	3	4
1	Index Map	1	1
2	Cross section of LM1 of KBC- At R.D. 00 M	2	2
3	Cross section of LM2 of KBC- At R.D. 00 M	3	3
4	Cross section of LM3 of KBC- At R.D. 00 M	4	4
5	Cross section of LM4 of KBC- At R.D. 00 M	5	5
6	Cross section of LM4 of KBC- At R.D. 00 M	6	6
7	Cross section of RSM1 of LM4 of KBC- At R.D. 00 M	7	7
8	Cross section of LSM1 of LM4 of KBC- At R.D. 00 M	8	8
9	Cross section of LSM2 of LM4 of KBC- At R.D. 00 M	9	9
10	Cross section of BRM of LSM2 of LM4 of KBC- At R.D. 00 M	10	10
11	Cross section of SBRM of BRM of LSM2 of LM4 of KBC- At R.D. 00 M	11	11
12	Cross section of RM1 of KBC- At R.D. 00 M	12	12
13	Cross section of RM2 of KBC- At R.D. 00 M	13	13
14	Cross section of RM3 of KBC- At R.D. 00 M	14	14
15	Cross section of SM1 of RM3 of KBC- At R.D. 00 M	15	15
16	Cross section of RM4 of KBC- At R.D. 00 M	16	16
17	Cross section of Tail Dy. of KBC- At R.D. 00 M	17	17
18	Cross section of LM1 of Tail Dy. of KBC- At R.D. 00 M	18	18
19	Cross section of RM1 of Tail Dy. of KBC- At R.D. 00 M	19	19
20	Cross section of RM2 of Tail Dy. of KBC- At R.D. 00 M	20	20
21	Cross section of RM3 ofTail Dy. of KBC- At R.D. 00 M	21	21
22	Cross section of RDY1 of KBC At R.D. 00 M	22	22
23	Cross section of RDY1 of KBC At R.D. 00 M	23	23
24	Cross section of RDY2 of KBC At R.D. 00 M	24	24
25	Cross section of RM1 of RDY2 of KBC At R.D. 00 M	25	25
26	Cross section of RM2 of RDY2 of KBC At R.D. 00	26	26

	M		
27	**Cross section of LM1 of RDY2 of KBC At R.D. 00 M**	27	27
28	**Cross section of LM2 of RDY2 of KBC At R.D. 00 M**	28	28
29	**Cross section of LM2 of RDY2 of KBC At R.D. 00 M**	29	29
30	**Cross section of SM1/LM2 of RDY2 of KBC At R.D. 00 M**	30	30
31	**Cross section of SM2/LM2 of RDY2 of KBC At R.D. 00 M**	31	31
32	**Cross section of BRM/SM2/LM2 of RDY2 of KBC At R.D. 00 M**	32	32
33	**Cross section of RM-1 of RDY.2 of KBC At R.D. 00 M**	33	33
34	**Cross section of LM-3 of RDY.2 of KBC At R.D. 00 M**	34	34
35	**Cross section of RM-2 of RDY.1 of KBC At R.D. 00 M**	35	35

LM-1 OF KBC

Reach	1	RD	0	to	1780
BW	0.60				
FSD	0.50	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	1.00			0.225	M.



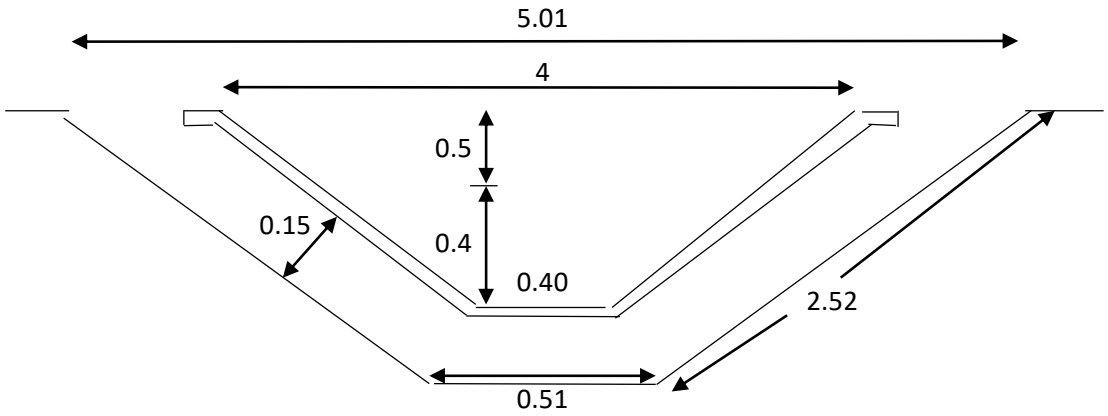
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LM-1 OF KBC

Reach	2	RD	1780	to	3320
BW	0.40				
FSD	0.40	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.90			0.225	M.



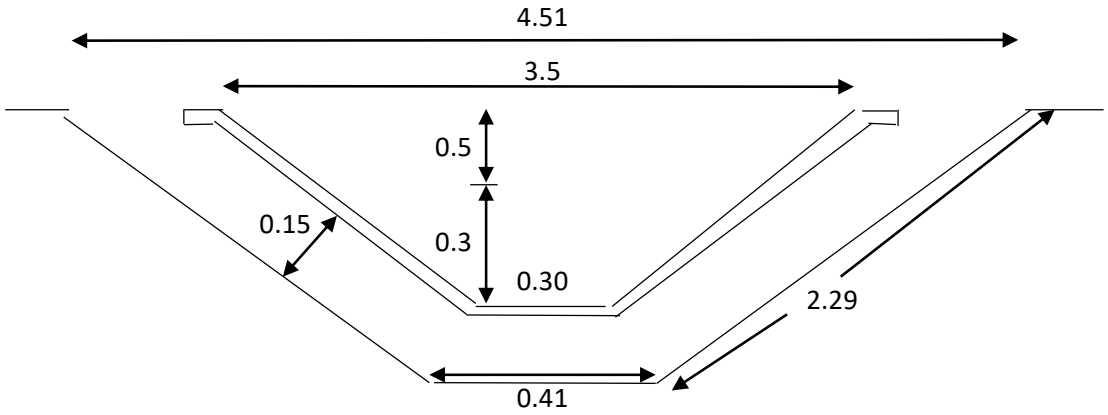
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LM-2 OF KBC

Reach	1	RD	0	to	560
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



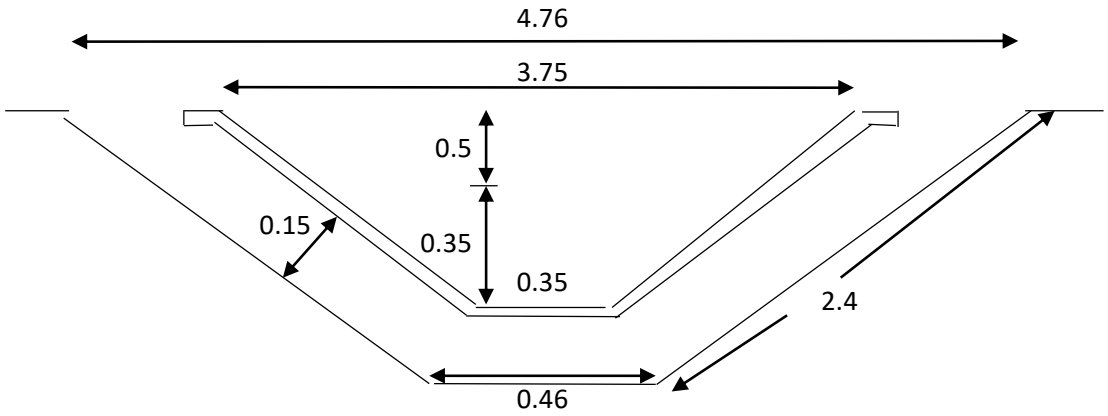
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LM-3 OF KBC

Reach	1	RD	0	to	1200
BW	0.35				
FSD	0.35	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.85			0.225	M.



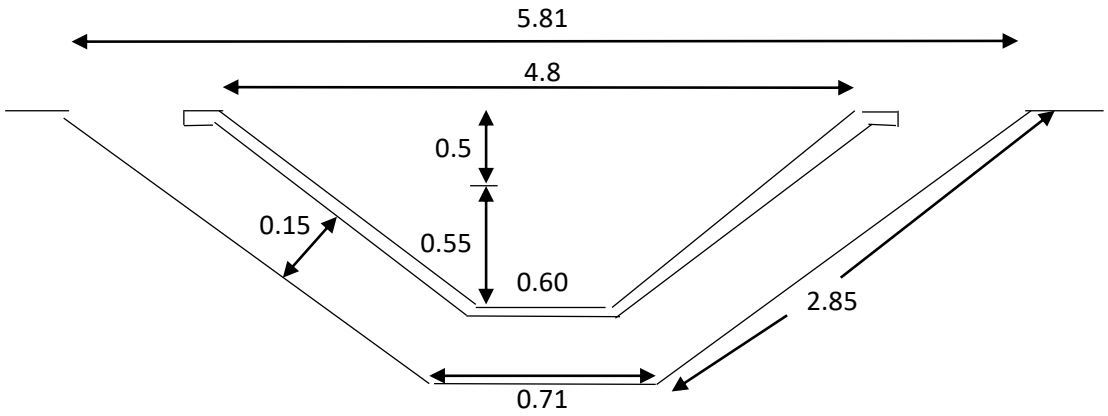
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LM-4 OF KBC

Reach	2	RD	1450	to	2240
BW	0.60				
FSD	0.55	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	1.05			0.225	M.



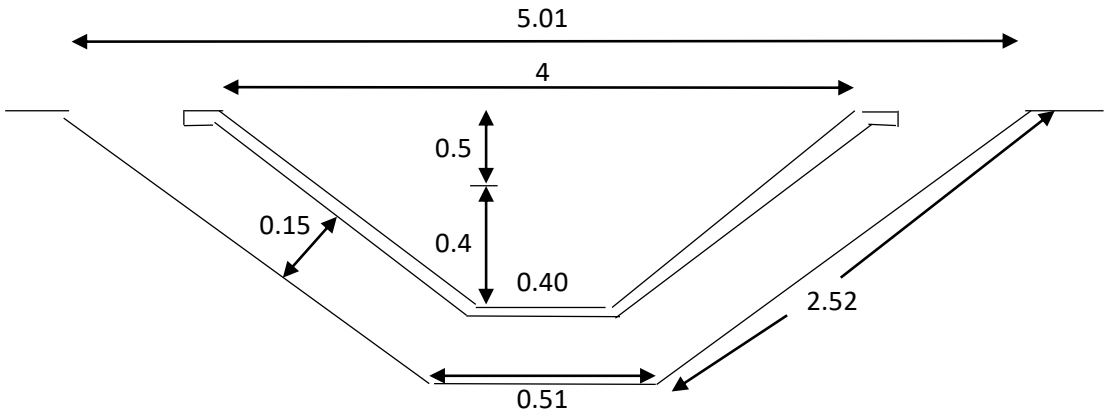
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LM-4 OF KBC

Reach	3	RD	2240	to	3610
BW	0.40				
FSD	0.40	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.90			0.225	M.



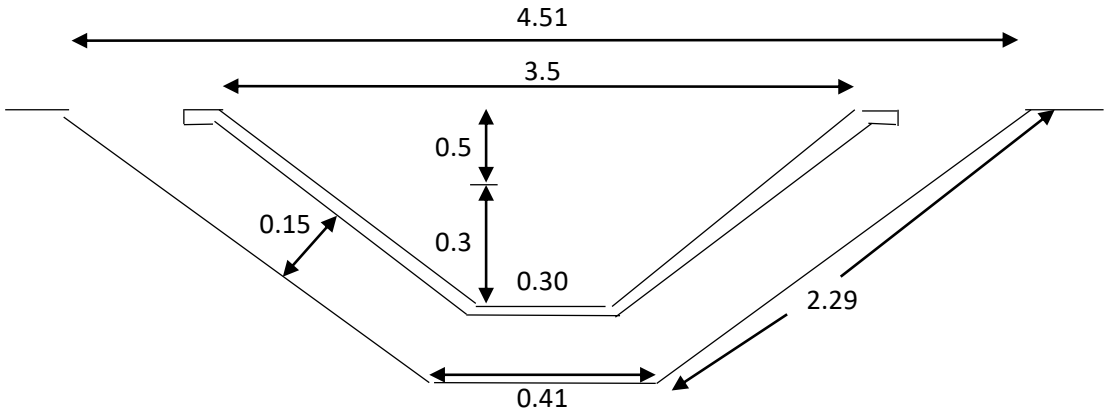
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LSM1/LM-4 OF KBC

Reach	1	RD	0	to	760
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



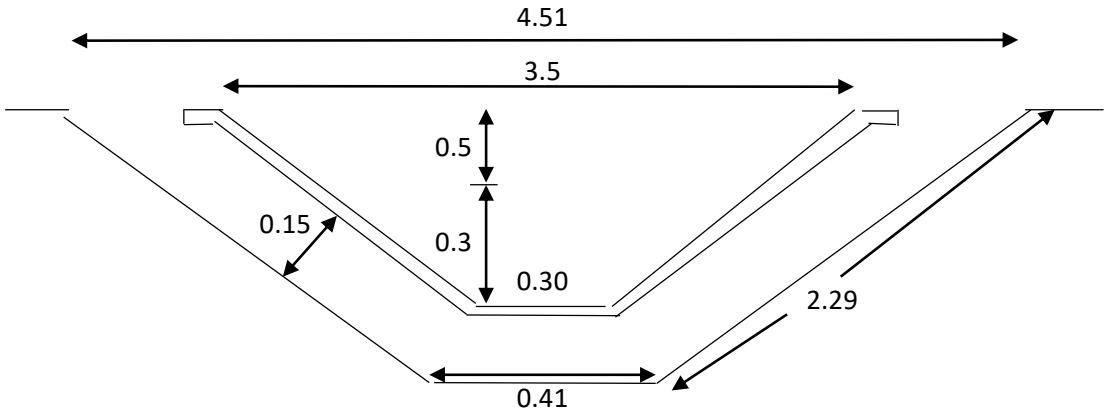
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RSM1/LM-4 OF KBC

Reach	1	RD	0	to	780
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



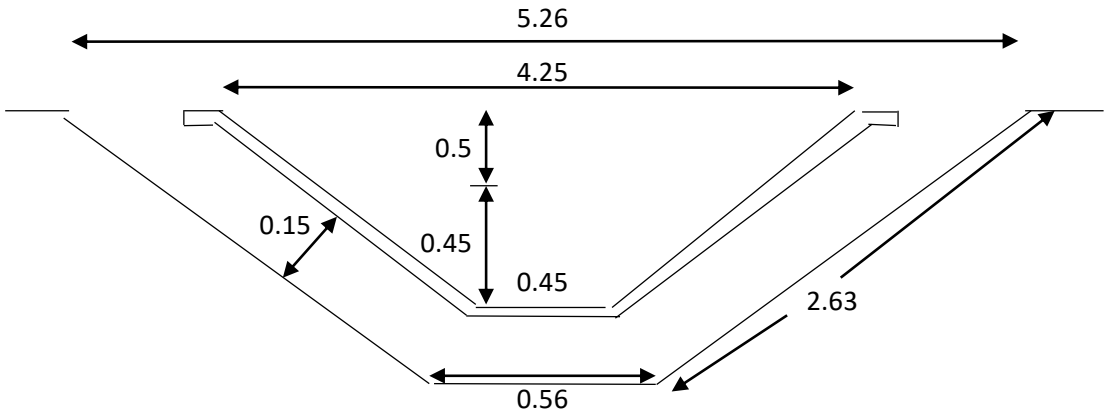
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LSM2/LM-4 OF KBC

Reach	1	RD	0	to	940
BW	0.45				
FSD	0.45	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.95			0.225	M.



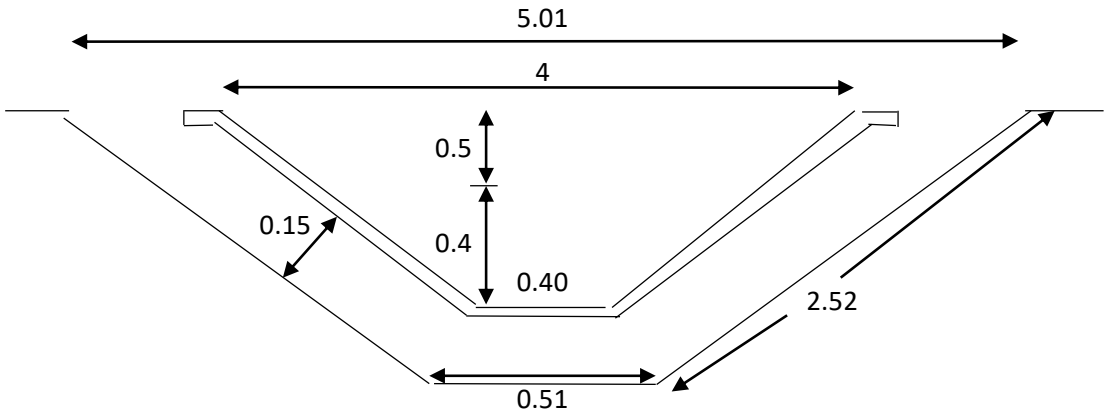
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

BRM/LSM2/LM-4 OF KBC

Reach	1	RD	0	to	980
BW	0.40				
FSD	0.40	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.90			0.225	M.



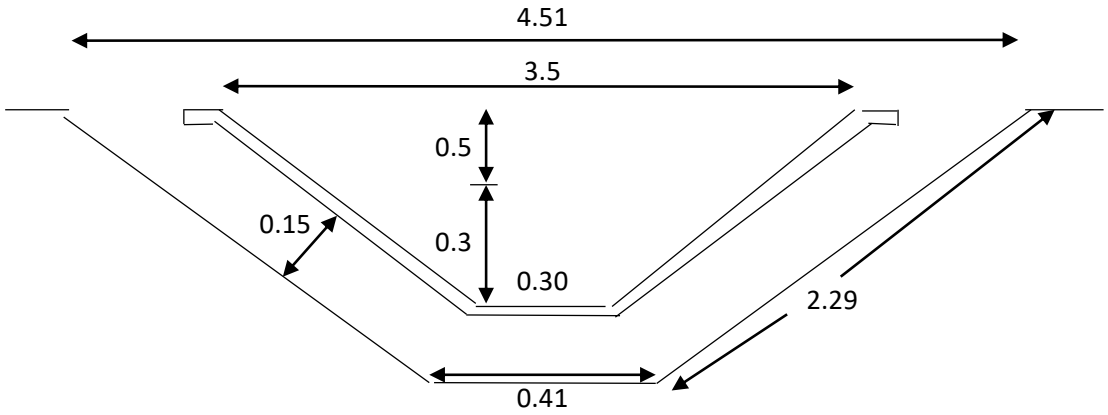
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

BRM/LSM2/LM-4 OF KBC

Reach	2	RD	980	to	1680
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



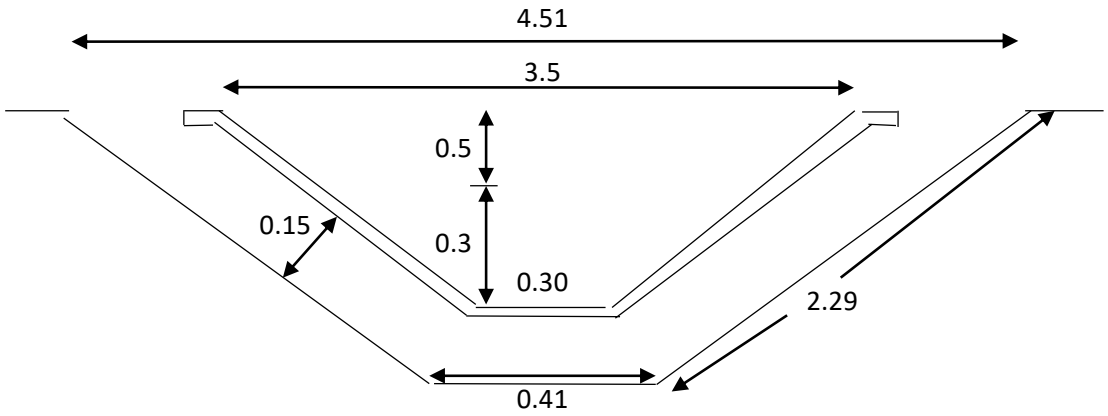
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

SBRM/BRM/LSM2/LM-4 OF KBC

Reach	1	RD	0	to	600
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



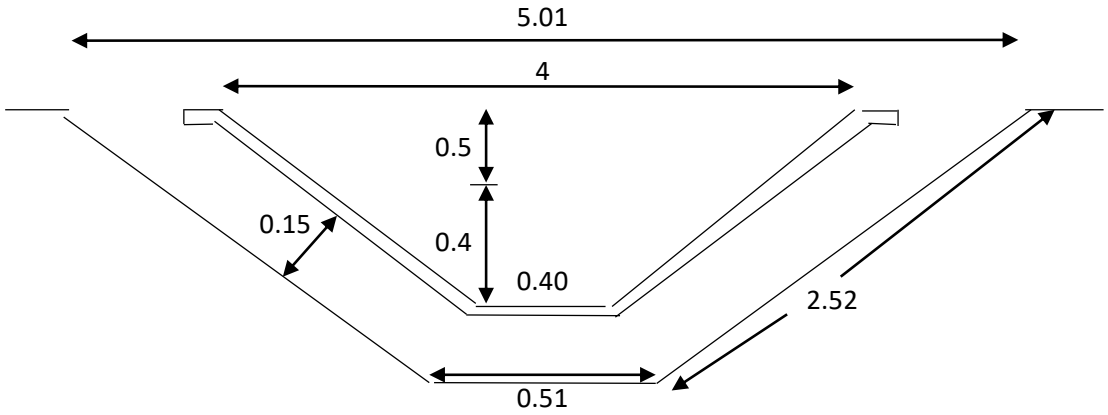
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-1 OF KBC

Reach	1	RD	0	to	1160
BW	0.40				
FSD	0.40	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.90			0.225	M.



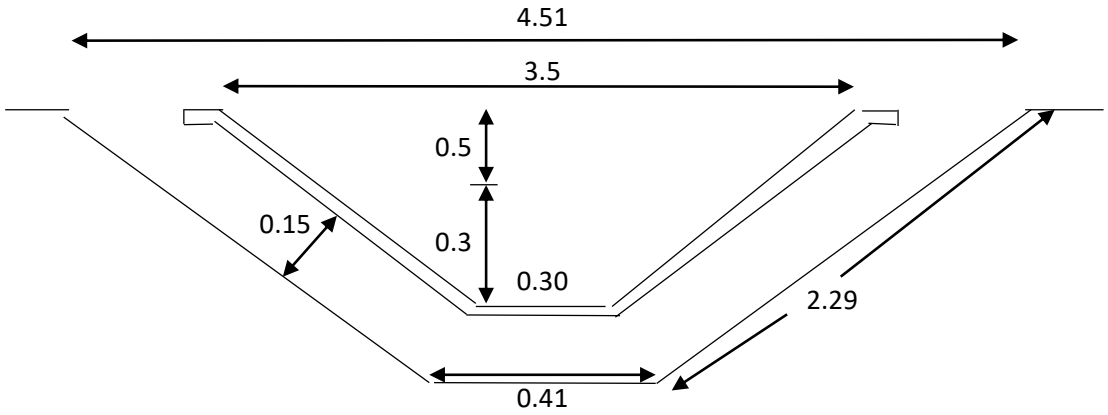
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-1 OF KBC

Reach	2	RD	1160	to	1940
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



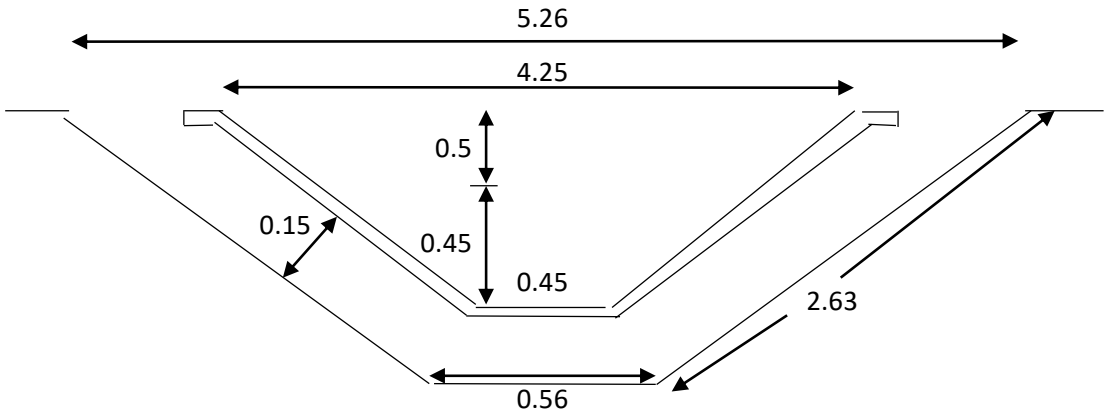
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-2 OF KBC

Reach	1	RD	0	to	1080
BW	0.45				
FSD	0.45	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.95			0.225	M.



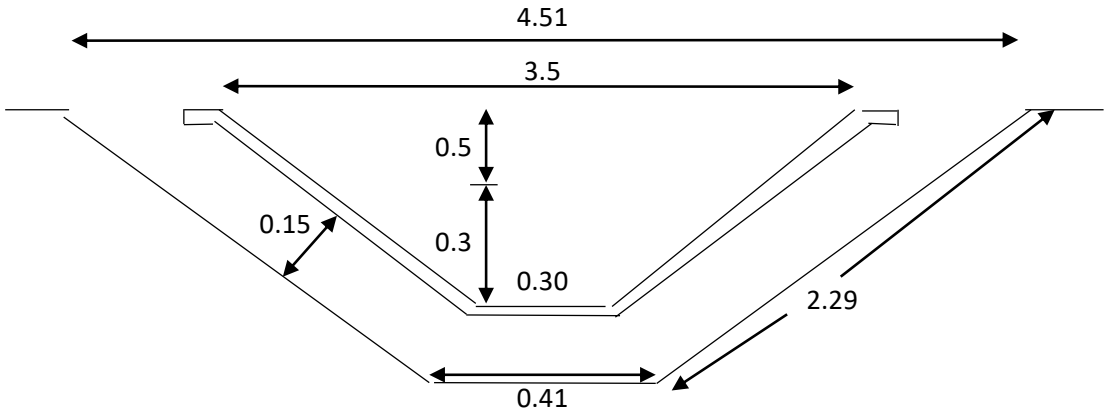
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-2 OF KBC

Reach	2	RD	1080	to	1940
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



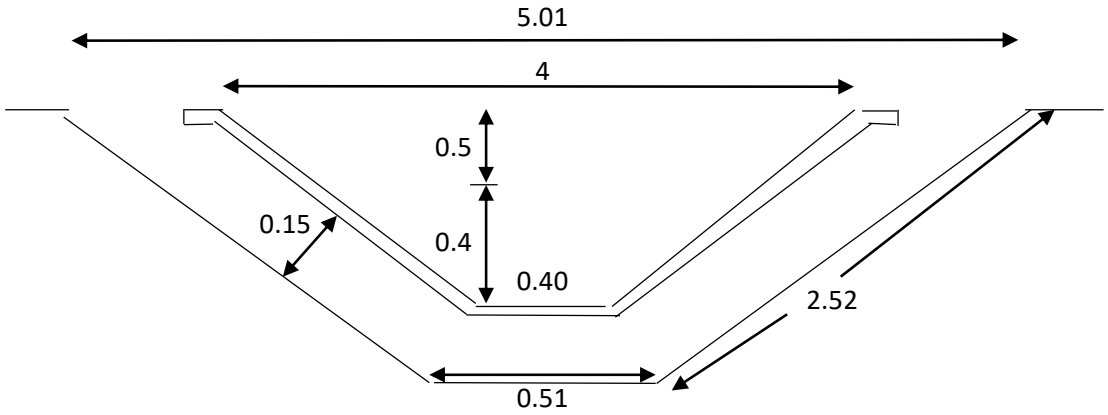
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-3 OF KBC

Reach	1	RD	0	to	940
BW	0.40				
FSD	0.40	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.90			0.225	M.



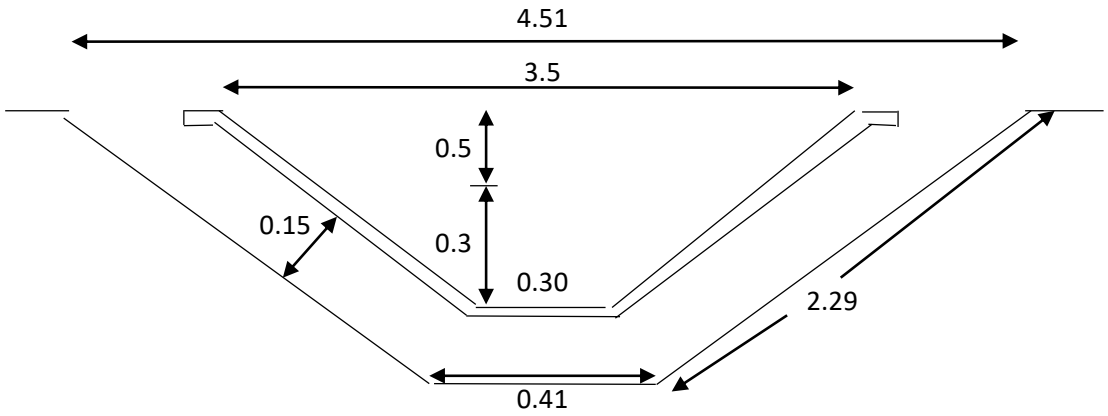
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-3 OF KBC

Reach	2	RD	940	to	1600
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



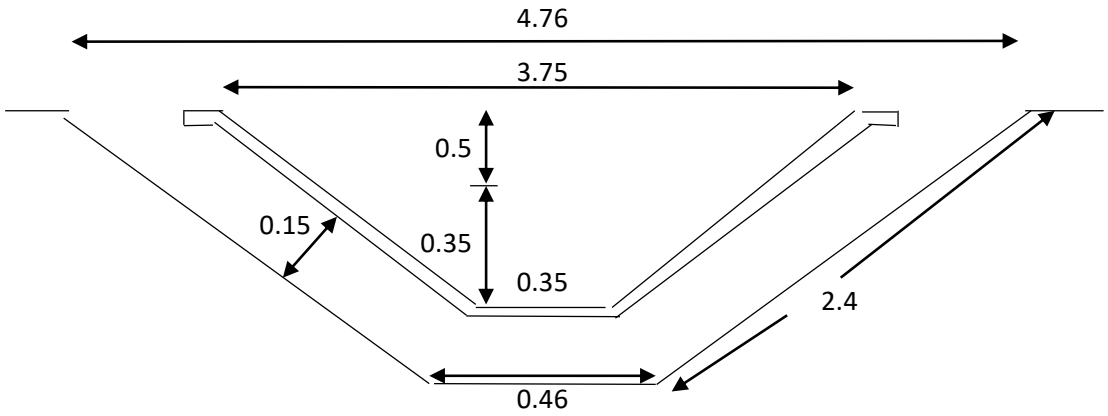
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

SM1/RM-3 OF KBC

Reach	1	RD	0	to	1470
BW	0.35				
FSD	0.35	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.85			0.225	M.



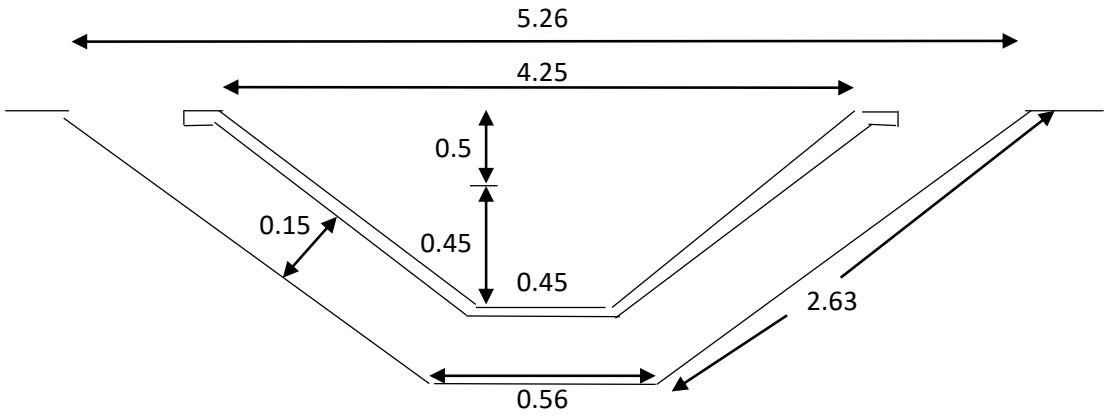
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-4 OF KBC

Reach	1	RD	0	to	1420
BW	0.45				
FSD	0.45	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.95			0.225	M.



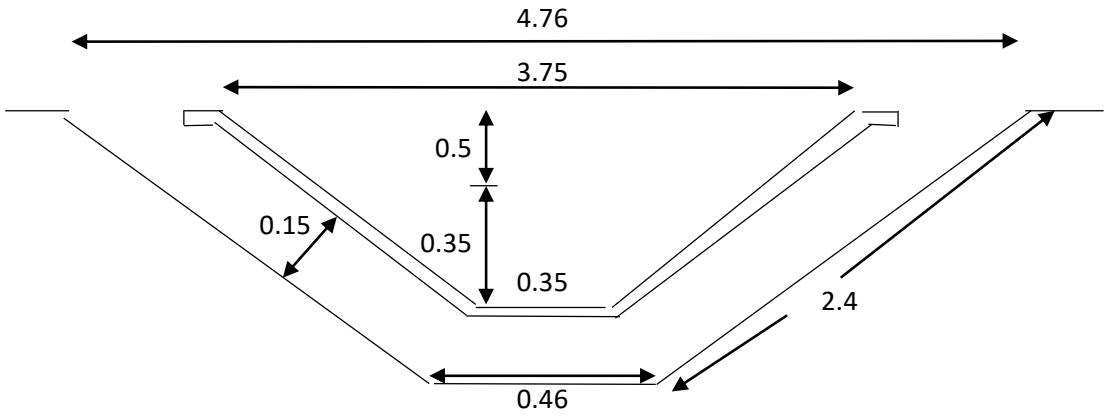
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-4 OF KBC

Reach	2	RD	1420	to	2100
BW	0.35				
FSD	0.35	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.85			0.225	M.



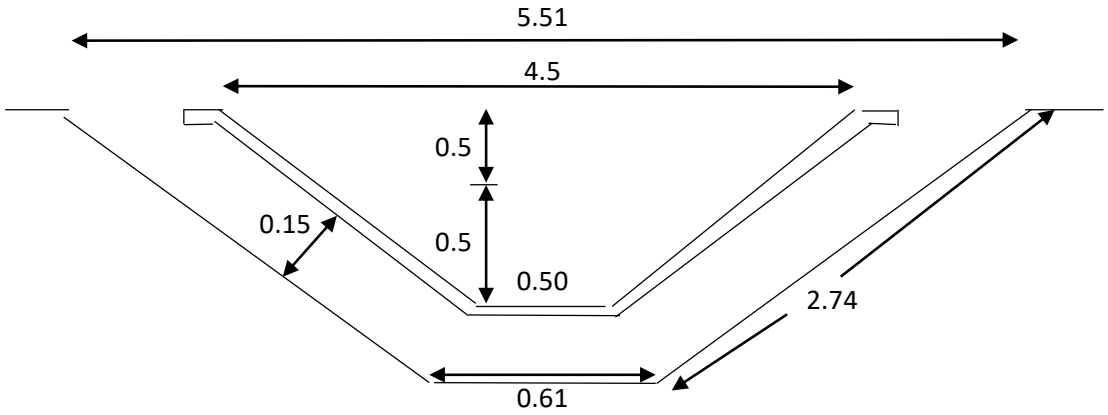
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

TAIL DY. OF KBC

Reach	2	RD	1820	to	3180
BW	0.50				
FSD	0.50	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	1.00			0.225	M.



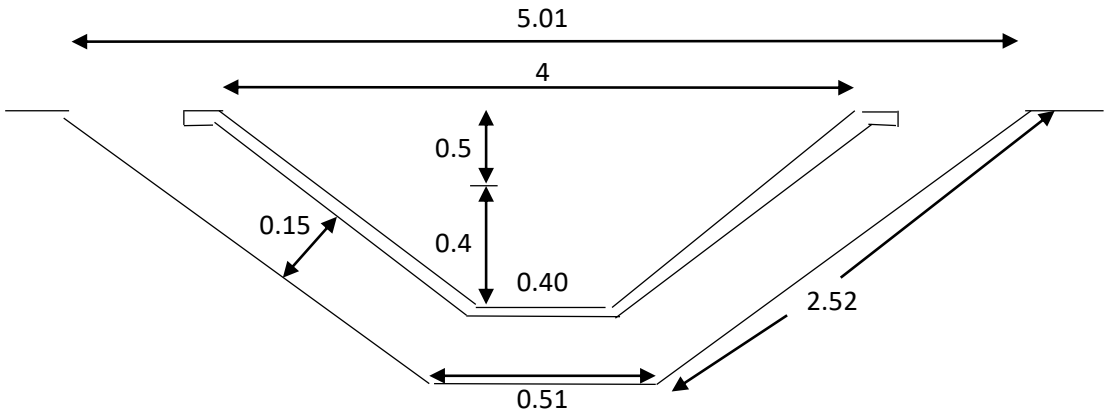
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

TAIL DY. OF KBC

Reach	3	RD	3180	to	3920
BW	0.40				
FSD	0.40	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.90			0.225	M.



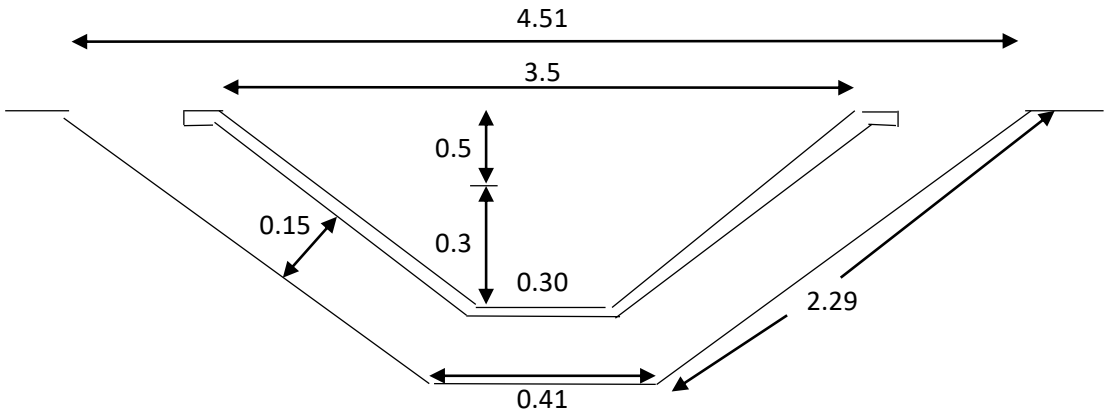
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

TAIL DY. OF KBC

Reach	4	RD	3920	to	4840
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



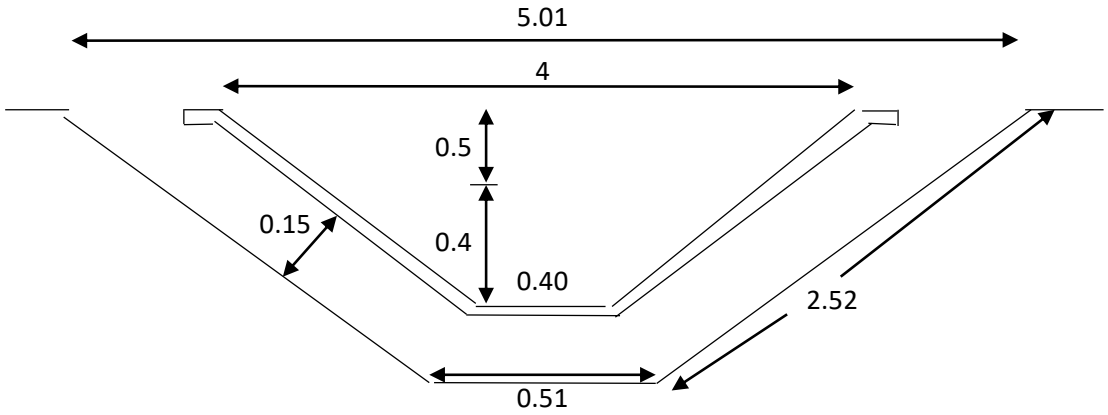
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LM1/TAIL DY. OF KBC

Reach	1	RD	0	to	1220
BW	0.40				
FSD	0.40	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.90			0.225	M.



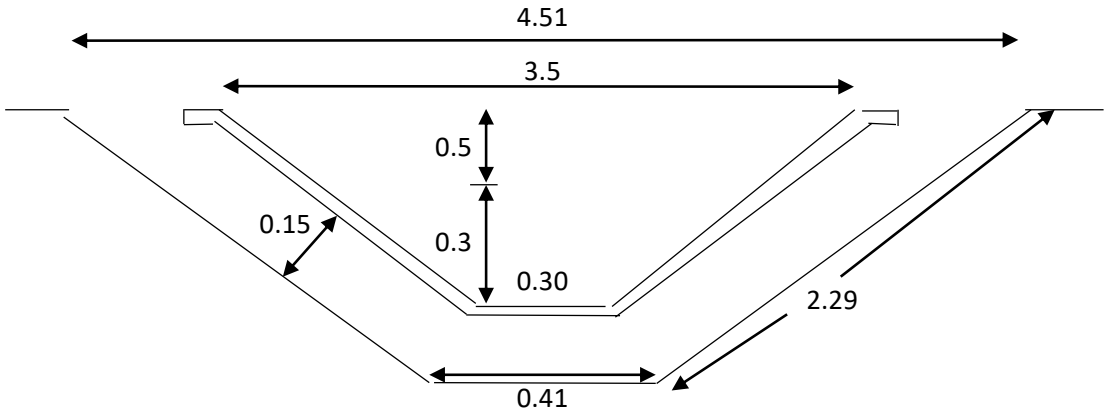
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

LM1/TAIL DY. OF KBC

Reach	2	RD	1220	to	2420
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



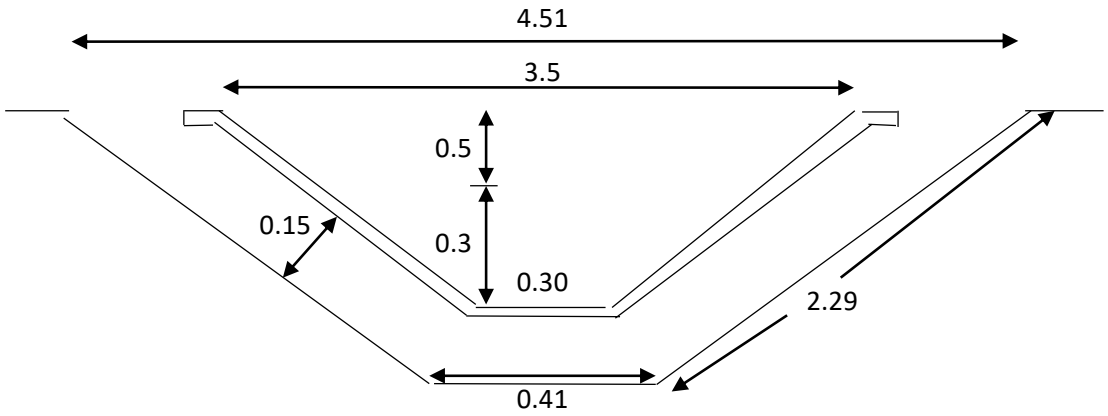
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-1 OF TAIL DY. OF KBC

Reach	1	RD	0	to	260
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



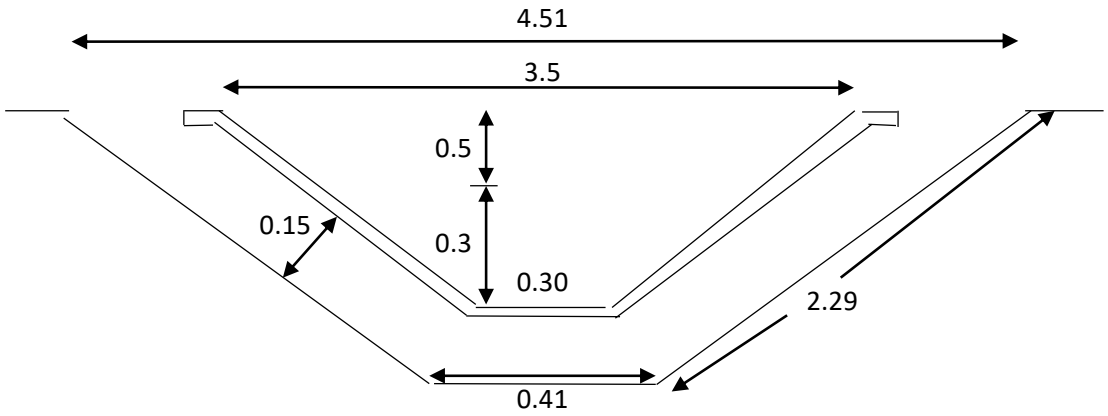
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-2 OF TAIL DY. OF KBC

Reach	1	RD	0	to	400
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



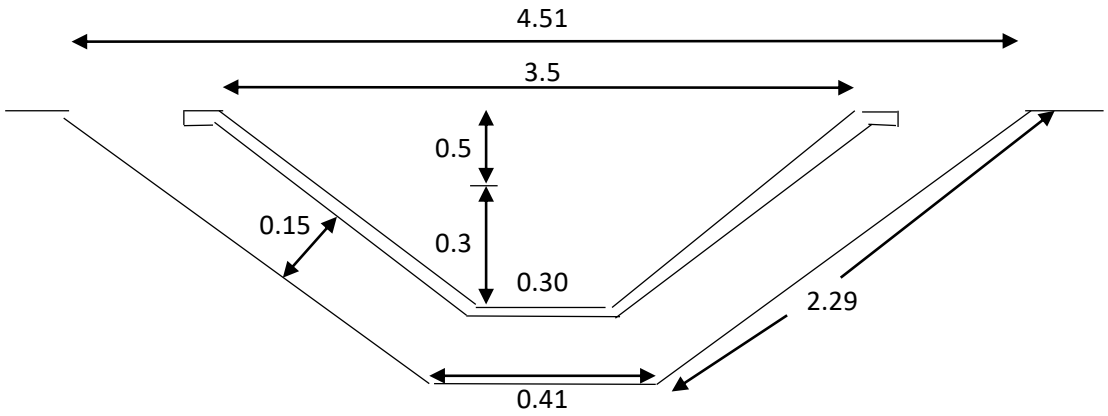
J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

RM-3 OF TAIL DY. OF KBC

Reach	1	RD	0	to	240
BW	0.30				
FSD	0.30	Casing Thickness		0.15	M.
FB	0.50	Lining Thick		0.075	M.
FSD + FB	0.80			0.225	M.



J.E.

Sub Divisional Officer
U.P.P. Sub Division No.19
Mudkhed

Executive Engineer
U.P.P. Division No.8
Nanded

Signature Not Verified

Digitally signed by KHEDKAR SHIVPRASAD B.
Date: 2026.05.05 13:58:27 IST
Location: Maharashtra-MH