

SWSM PROJECTS - UP - GORAKHPUR



Project Name : Survey, Design, Preparation of DPR, Construction, Commissioning and O&M for 10 years of Various Rural Water Supply Project in the State of Uttar Pradesh - Gorakhpur District
 Client : SWSM/DWSM-UP-GKP
 Consultant : Medhaj Techno Concept Pvt. Ltd.
 Contractor : NCC Limited

Request For Inspection

RFI No:	SWSM-UP-GKP/MS/22/80/R1	Date And Time	22/01/2022
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Description:	Rectification of Pump house.
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Location:	Block - Belghat, Dist. Noida, Ghazipur Singh.
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Preceding RFI No.	SWSM-UP-GKP/MS/22/80
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Commencement of work:	22/01/2022
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Submitted By:	Balram Chatterjee
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Signature:	<i>Balram Chatterjee</i>
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Designation:	JE (Civil)
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Concessionaire:	Proceed	Hold
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Name:	
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Designation:	
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Comments:	<p>① Designation of site Analysts for report attached.</p> <p>② Home was fixed with tube well.</p> <p>③ Working not done.</p>
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Signature
 Contractor Representative

Signature
 Consultant Representative

Signature
 Client Representative

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 Contractor : NCC Limited

Request For Inspection

RFI No:	SWSM-UP-GKP/N/S/7w/60	Date And Time	21/01/2022
Description:	Lowering of pipe with Assembly & Filling of Fea. Canal		
Location:	Block - Belgahat, C.I. Nayyad Shivdutt Singh		
Preceding RFI No.	NA		
Commencement of work:	22/01/2022		
Submitted By:	Balsram Goswami		
Signature:			
Designation:	JB (Civil)		
Concessionaire:	Proceed	Hold	
Name:			
Designation:			
Comments:	① Per general sieve analysis test report not provided. ② H-frame cover not available of site. ③ welding feet loose not clear for welding joints		

Contractor Representative

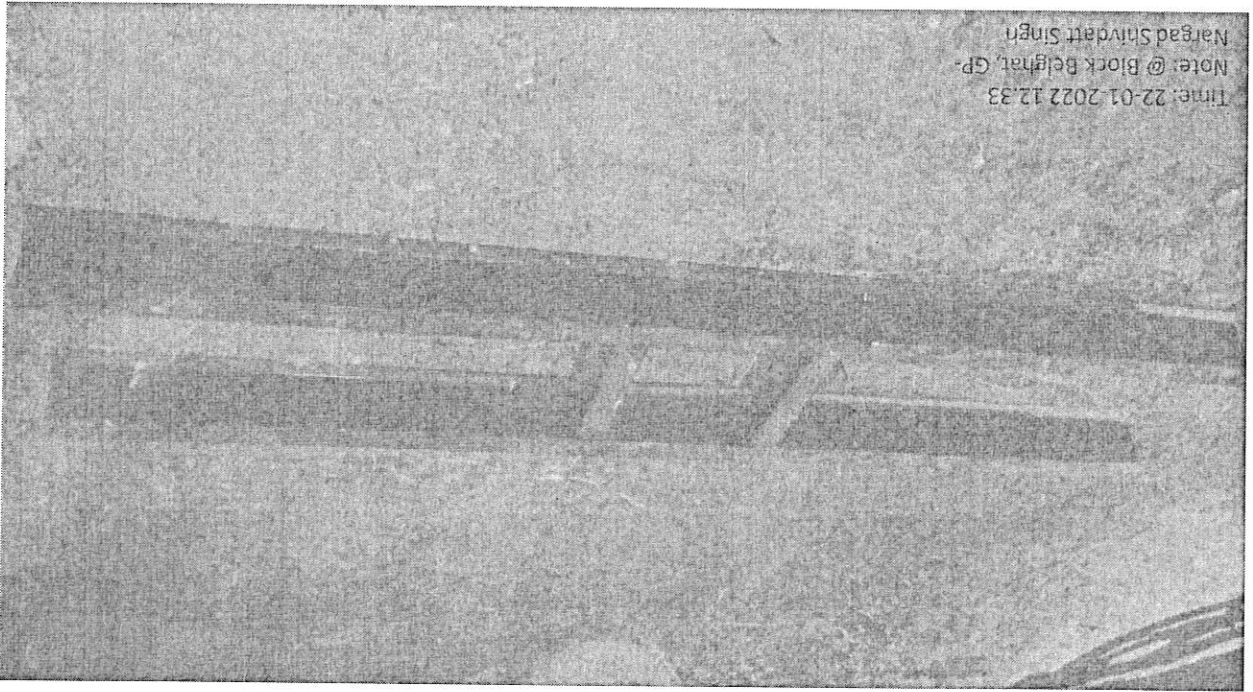
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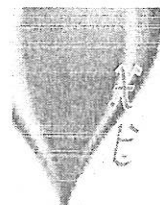
Consultant Representative

Signature

Client Representative

Nargad Shivdatt
Singh





Aqua Xplore

(Groundwater Assessment & Allied Services)

243/5, New Colony Jiyamanu, Hazratganj, Lucknow - 226001
Mob. 9918202546 / 9889323322, Email-aquaxploreko@gmail.com

Advisor- Dr. R. A. Yadav, ex-Manager(Groundwater), U. P. Jal Nigam

Ref. 118 - N / AX - 2022 Date 18.01.2022

Geophysical Borehole Logging Report

Name of the site : Nargad Shivadatt , Block -Belghat

District : Gorakhpur

Date : 18.01.2022

Depth logged : 138.0 mbgl

Depth drilled : 148.0 mbgl- as reported

Logged by : Aqua Xplore

Presence : Representative of M/S NCC Limited, Gorakhpur - South

Based on the interpretation of geophysical logs, following information may be

deciphered, particularly with respect to salinity of the formation water;

SI.No.	Depth range(mbgl)	Thickness(m)	Remarks
1	23.0--36.0	13.0	Good fill
2	47.0--50.0	3.0	
3	70.0--105.0	35.0	
4	125.0--130.0	5.0	
5	132.0--136.0	4.0	

Note. SI. Nos. 2,4 & 5 are very fine sand.

for Aqua Xplore

Verified as per logs provided.

Note. Sr No. 2,4 and 5 are very fine sand, should avoid.

ASSISTANT HYDROGEOLOGIST
U.P. JAL NIGAM (RURAL)
PRAYAGRAJ

- Executive Engineer, C.D. (Rural), U.P. Jal Nigam, Gorakhpur.
- M/S NCC Limited, Gorakhpur -South, SWSM.

CC:

NCC LTD. <i>(Signature)</i>	PMC/TP/A <i>(Signature)</i>	CLIENT <i>(Signature)</i>
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Note : The Specific Gravity should not be less than 2.5




10	Specific Gravity =	$\frac{W2 - W1}{(W2 - W1) - (W3 - W4)}$	=	$\frac{209}{209 - 126}$	=	2.518
9	Weight of the Jar + Water, W4 (gm) =	723 gm				
8	Weight of Jar + Gravel + Water, W3 (gm) =	853 gm				
7	Weight of Jar + Gravel, W2 (gm) =	481 gm				
6	Weight of the Jar, W1 (gm) =	852 gm				

SPECIFIC GRAVITY TEST AT ROOM TEMPERATURE

5	Sample no :	61
4	Lab. Test no :	61
3	Date of sampling :	18/01/2022
2	Location :	NAME OF THE BLOCK - BELGAHA T NAME OF THE GRAM PANCHAYAT - ANKUR SHIV DATT SIKHA
1	Source of material :	Lalkuan, Nainital, Uttarakhand
SL NO.	DESCRIPTION	OBSERVATIONS

Date of Testing-	17/01/2022
Test report no :	NCC/WT-5/8/2061

As per IS : 2386 (Part-3)

SPECIFIC GRAVITY OF PEA GRAVELS (SIZE- 1.6 mm to 4.8 mm)	
NCC LTD.	STATE WATER AND SANITATION MISSION
NCC Limited	CLIENT: JIM / SWSM / DWSM
	GORAKHPUR-UP
	



NCC LTD.
STATE WATER AND SANITATION MISSION
CLIENT: JIM / SWSM / DWSM

NCC
NCC Limited

SIEVE ANALYSIS OF PEA GRAVELS (SIZE-1.6 mm to 4.8 mm)

(As per IS : 460 and IS: 4097)

Date of Testing : 17/1/22

Test report no : NCC/CLP-5/Bcl/061

OBSERVATIONS

SL NO.	DESCRIPTION
1	Source of material : Lakson, Noida
2	Location : Block Name- BELGHAT G.P Name- NARADSHVADATI SWAM
3	Date of sampling : 16/1/22
4	Lab. Test no : 61
5	Sample no. : 61
6	Total wt. of sample (gm) : 1000 gm

SIEVE ANALYSIS

IS Sieve Size	retained	Cumulative wt. Retained (gm)	Cumulative % wt. Retained	% passing	Acceptable / Not Acceptable
6.3 mm	22	22	2.2	97.8	
4.75 mm	204	226	22.6	77.4	
2.36 mm	713	939	93.9	6.1	
1.18 mm	59	998	99.8	0.2	
Pan	02				
Total(gm)=					

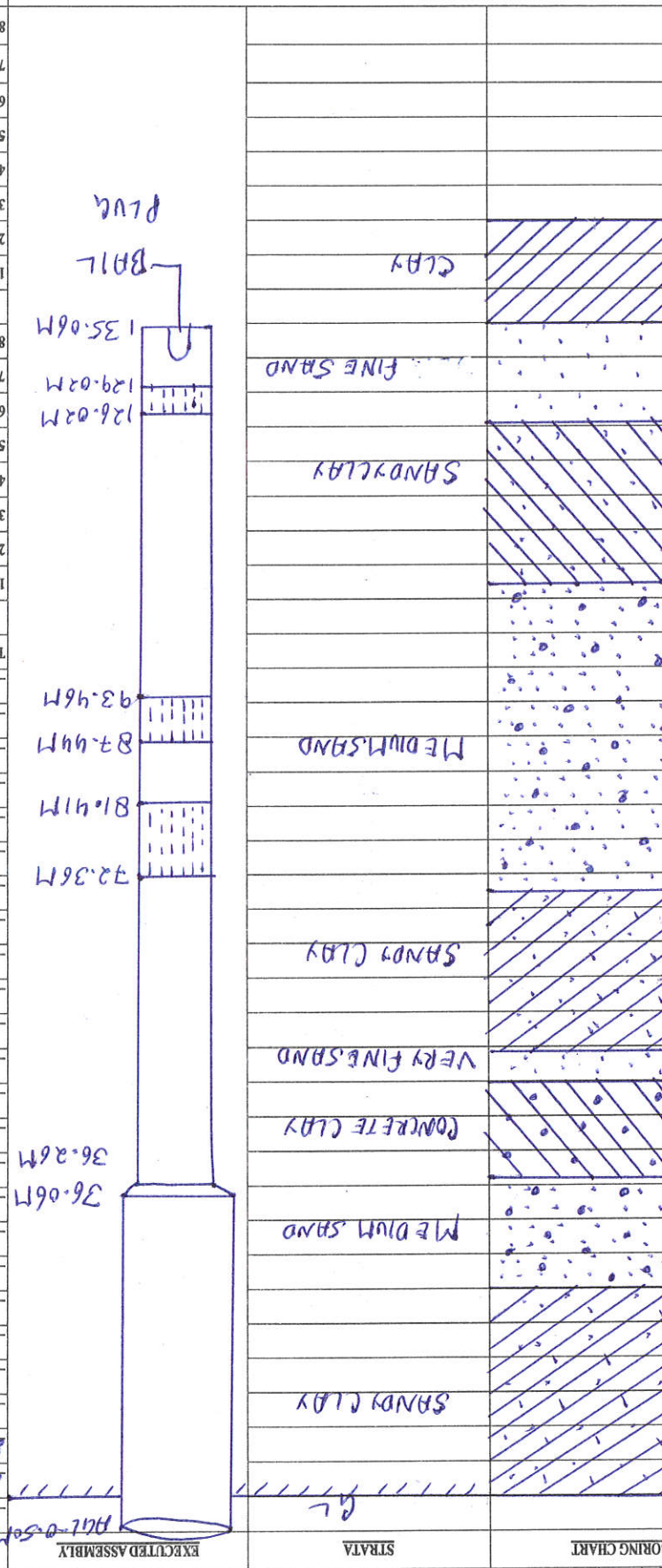
The Hardness of Material is =

Note:- The Hardness value should not be less than 5 in Moh's scale.

NCC LTD. <i>(Signature)</i>	PMC/TPIA <i>(Signature)</i>	CLIENT <i>(Signature)</i>
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DEPTH B.G.T. IN METER	BORING CHART	STRATA
0M		GL
24.0M		
33.0M	CONCRETE CLAY	
48.0M		
49.0M	VERY FINE SAND	
70.0M	SANDY CLAY	
125.0M		
130.0M	FINE SAND	
136.0M		
148.0M	CLAY	



ASSEMBLY DETAILS	ASSEMBLY
mm Dia Housing Pipe A.G.L. = 0.50 m	200
m to 36.56 m	200
mm Dia Reducer 36.06 m to 36.26 m	200/150
mm Dia BLIND pipe 36.26 m to 72.36 m	150
mm Dia SLOPED pipe 72.36 m to 81.41 m	150
mm Dia BLIND pipe 81.41 m to 87.44 m	150
mm Dia SLOPED pipe 87.44 m to 93.46 m	150
mm Dia BLIND pipe 93.46 m to 126.02 m	150
mm Dia SLOPED pipe 126.02 m to 129.02 m	150
mm Dia BLIND pipe 129.02 m to 135.06 m	150

TYPE OF RIG M/C	NAME OF THE DISTRICT
PC	GOPAKPUR
SIZE OF BORE - 550/500 mm φ	BELAHAT
STATIC WATER LEVEL - 1297	NARGADA SHINDUTT SINGH
A.E. Incharge	NAME OF THE VILLAGE

LOGGING REPORT	ABSTRACT
1. Drilling Started -	
2. Drilling Completed/Lowering - 25/1/22	
3. Drilling Depth (m) - 148.0M	
4. Assembly Lowered (m) - 135.56M	
5. Housing Pipe (m) - 36.56M	
6. Grain Pipe (m) - 80.73M	
7. Slotted Pipe (m) - 18.09M	
8. Reducer (m) - 0.20M	
Total Assembly = 135.06 m + A.G.L. (m) = 135.56 m	

VERACITY TEST	SOUND TEST
10-	
9-	
8-	
7-	
6-	
5-	132 - 136 ⇒ 4.0
4-	125 - 130 ⇒ 5.0
3-	70 - 105 ⇒ 35.0
2-	47 - 50 ⇒ 3.0
1-	23 - 36 ⇒ 13.0

JE & AE	(Mondhivada) / (Borben gader)	P.M.C./P.T.A	(Mondhivada)

E.E.

TECHPRO ENGINEERS PVT. LTD.

(Laboratory Division)

Lab Add. 131, Ram Ganga Housing Society, Naramau, Kanpur- 209217,
Tel: 0512-2525759, 09793209918, Web site: www.techproindia.com

e-mail: teplab@gmail.com, info@techproindia.com,

Doc No.: TEQR-36C, Issue No.: 02, Issue Date: 18/08/20, Rev. No.: 01, Rev. Date: 10/12/2020

Dated: 05-03-2022

TEST REPORT

Name of Customer	: Jal Nigam, Gorakhpur
Project	: SWSM-JJM Project (Har Char Jal Mission) at Gorakhpur U.P.
Reference No.	: SWSM-UP/GKP/QC/77
Sample supplied to Lab by	: Customer representative
Name of Contractor/ Agency	: NCC Ltd.
Sample Particulars	: Pea-Gravel

Sample Receipt Date	: 03/03/2022	Job No.	: MT136
Condition of sample	: Satisfactory	SRF No.	: 2022/29
Type of Sample	: Pea-Gravel	ULR No.	: NA
Source of sample	: Lalkuan (Uttarakhand)	Period of Testing	: 03/03/2022 to 05/03/2022

Terms & Conditions:

1	Results relate only to the test sample provided by customer.
2	This report is under copyright of Techpro Engineers Pvt. Ltd. (Laboratory Division) and is not to be reproduced, copied, handed over third party or used for any purpose other than for which it has been loaned.
3	The tested samples are retained for three months after issue of test report (if not collected by customer).
4	The unique identification of sample is as Job No. / Chainage No. /BH. No./SI. No. But only SI. No is mentioned in results.



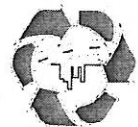
Arvind Kumar Garg
(Quality Manager)

Approved By:

Alok Kumar Chauhan
(Technical Manager)

Alok Chauhan

Checked By:

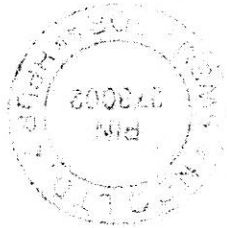




1. PHYSICAL TEST RESULT OF PEA GRAVEL

Sample Unique ID: MT136/TEPL/02

SI. No.	Particular of Test	Test Passing %	Specification As Per IS (383 & 4097)	Test Method	Remarks
1.0	Sieve Analysis (% by weight)	12.5 mm	100	IS 2386 (Part-1) 1963, RA-2016	
		8.0 mm	100		
		6.30mm	100		
		4.75 mm	80.90		
		3.35 mm	14.40		
		2.00 mm	8.60		
2.0	Combined Flakiness & Elongation Index (% by weight)	0.0	40 Max	(Part-1)-1963, RA-2016	Partical Size >6.3
				IS 2386 (Part-3)-1963 RA-2016	
3.0	Water Absorption (% by weight)	0.90	5 Max	(Part-3)-1963 RA-2016	-
4.0	Specific Gravity	2.66	2.1 - 3.2	(Part-3)-1963 RA-2016	-
5.0	Hardness Test (Number)	7.3	5 Min	IS 13630 (Part-13)-2006	-
6.0	Bulk Density, Kg/litre			IS 2386 (Part-3)-1963	
		a) Compacted	1.59	NA	
		b) Loose	1.49	NA	RA-2016



Approved By:

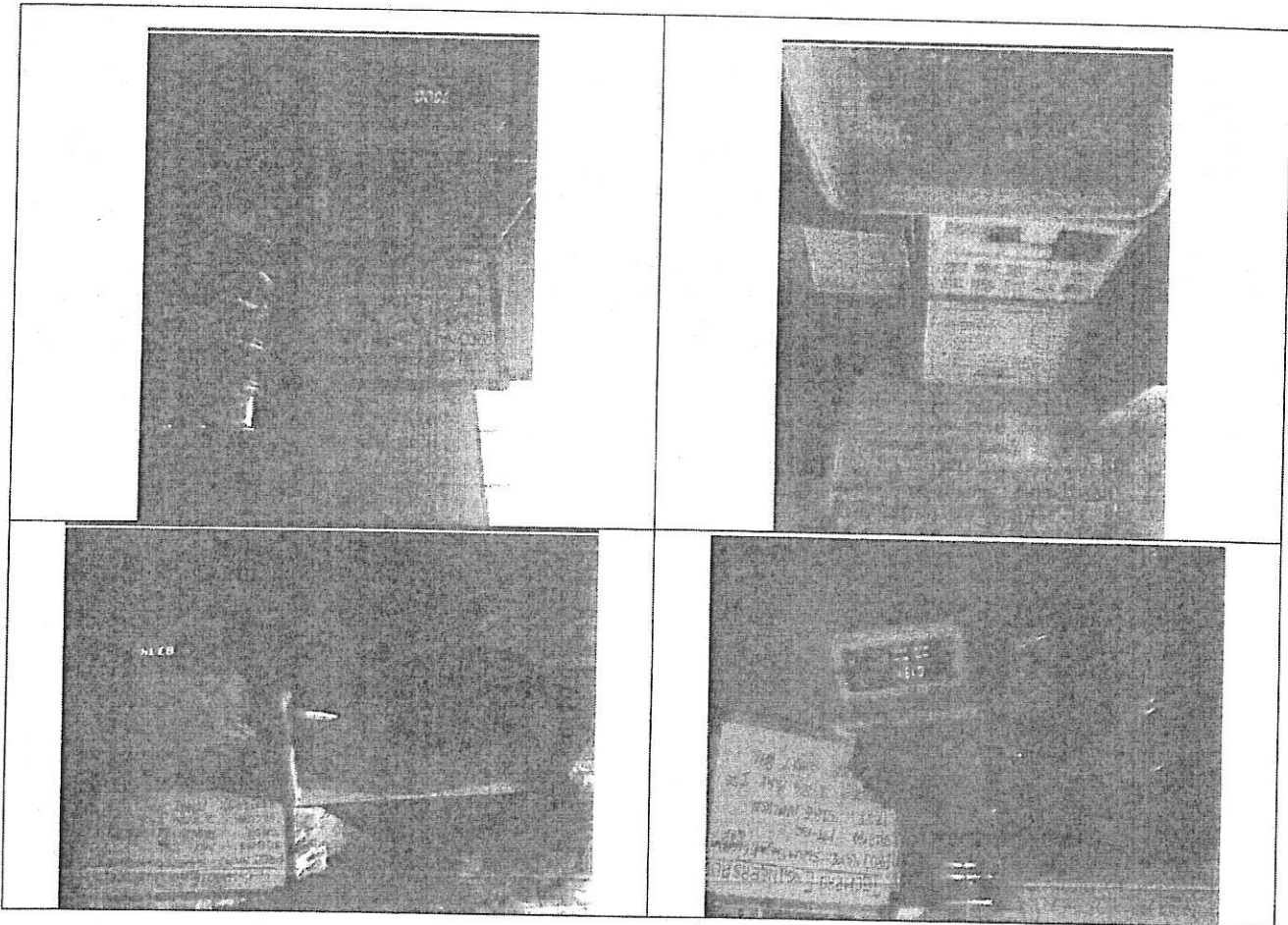
Arvind Kumar Garg
 (Quality Manager)



Checked By:

Alok Kumar Chauhan
 (Technical Manager)

PHOTOGRAPHS



END OF REPORT

TUV INDIA PRIVATE LIMITED

INSPECTION RELEASE NOTE / CERTIFICATE

IRN-8119494049-NCC/ROK/SWSMUP-G(S)/PO/47 - Sr. No 1- Rev. 00



TUV India Control Or
SAP Number: 8119494049

Date: 10-12-2021

Project Name & Location: Gorakhpur South Project
State water and sanitation Mission

TUV India Client: M/S. DADU PIPES PVT LTD
End User Name: Executive Director, State Water and Sanitation Mission, (U.P)

Contractor Name & Location: NCC LIMITED
Sub Contractor Name & Location: Not Applicable
Vendor Name & Location: M/s. Dadu Pipes (P) Ltd. A-72, Ind. Area, Sikandrabad
Bulandshahr (U.P)
Sub Vendor Name & Location: Not Applicable

Item Description:
Location: (if applicable)
Sub Vendor Name & Location: (if applicable - Vendor PO on Sub Vendor)

PO Item No.	Item Code	Item Description	UOM	P.O. Quantity	Offered Quantity	Accepted Quantity	Cumulative accepted Quantity
1		200 MM Dia MS ERW Plain End pipe 6 Mtr Length, WT:5.40 MM Thick as pr IS:4270, Varnished.	Mtrs	576	588	576	576
2		150 MM Dia MS ERW Plain End pipe 6 Mtr Length, WT:5.00 MM Thick as pr IS:4270, Varnished.	Mtrs	1758	1770	1758	1758
3		MS ERW Plain end Slotted Pipe 150 mm Dia, WT:5.40 MM conforming to IS:4270. 6 Mtr length, Slotted as per IS:8110 & Zig-Zag Slots length 75mm x 1.20mm and slots per meter 780 Nos (+) 10%, Varnished.	Mtrs	438	438	438	438

Reference Documents:

Sr. No.	Document Name	Client Document Number	Vendor Document Number	Approval Status
1)	PR / MR / ARM	Not Applicable	Not Applicable	Not Applicable
2)	GAP / ITP / QCP	DPP/L31/QP/01 Rev 0	Not Applicable	Approved by client
3)	Drawing(s)	Not Applicable	Not Applicable	Not Applicable
4)	Datasheet(s)	Not Applicable	Not Applicable	Not Applicable
5)	Procedure(s)	Not Applicable	Not Applicable	Not Applicable
6)	Others (Specify)	IS 4270, IS 8110, IS 4711	Not Applicable	Approved

Stages Witnessed: (For PO Sr. No 3 - Scope as per GAP sr. no 3.1, 3.4, 3.5 only & All for rest)

- 1) Total offered quantity verified.
- 2) GAP Sr.No 3.5 Visual inspection done for surface defects, workmanship and protective coating for all items- found satisfactory.
- 3) GAP Sr.No 3.1 Final dimension inspection done Thickness, Outer Diameter, Length & weight for randomly selected items as per IS 4711 - found within limits - found satisfactory.
- 4) GAP Sr.No 3.2 Mechanical testing (Tensile, Flattening) checked on identified samples - found to meet the specification requirement (IS 4270) - found satisfactory.

Disclaimer: The inspection by TUV India Pvt. Ltd. review of Test Certificates / Reports and issue of Inspection Release Note / Supplier / Manufacturer / Specialist from their responsibility towards the Client / End User to supply the genuine material / items and documents in full compliance with applicable Order, Specification, Technical Quality, Quantity, Warranty, Guarantee, Requirements, Supplier / Manufacturer / stocks is wholly legally responsible for genuineness of the material / items applied and documents submitted. TUV India's responsibility is only limited to correctness of inspection results including review of the documents. If a signed scope against requirements and neither TUV India nor any of its group companies, associates or employees are in any way legally responsible for genuineness of the material / items and documents. The calculation certificate(s) for the measuring instrument(s) / equipment(s) used during inspection do not have precedence in NABL / Other certifying bodies, then the scope of review is limited to the technical content of the certificate(s).
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Tel: + 91 22 66477000, Email: inspection@tuv-india.com Website: www.tuv-india.com

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- 5) GAP Sr.No 3.3 Hydro test done randomly selected @5% items at 7Mpa test pressure and hold period 3 seconds minimum - observed no pressure drop - found satisfactory.
- 6) GAP Sr.No 3.4 - Identification marking checked randomly - found in order.
- 7) All measuring instruments/equipment were verified for continued suitability for intended use, proper identification, calibration status, traceability to national standards & found satisfactory.

Documents Reviewed:

- 1) GAP Sr. No. 1.1 Raw material test certificates reviewed for its technical content only as declared by manufacturer and endorsed by vendor - Found to meet the applicable code and project specification requirement
- 2) GAP Sr. No. 1.2, 1.3 & 1.4 - Physical Properties, Dimension & Visual report of Raw material reviewed - found in order.
- 3) GAP Sr. No. 2.1-In-process Dimension inspection report reviewed and found in order.
- 4) GAP Sr. No. 2.2 - In-process Mechanical testing report reviewed and found in order.
- 5) GAP Sr. No. 2.3 - In-process Hydro testing report reviewed and found in order.
- 6) GAP Sr. No. 2.4 - In-process workmanship & protective coating report reviewed and found in order.
- 7) Material test certificates Number DPP/LQC/TC-01212 Date 10.12.2021 reviewed and found in order.

NCR / Waiver (if Any):

None

Identification:

Inspected items identified with TUV Hard stamp " " on OD near manufacturers marking (Double on witnessed & rest single)

Order status:

Complete Incomplete

Sub order status: (if applicable)

Complete Incomplete

Date(s) of Inspection:

10.12.2021

Conclusion:

All items were inspected within the scope defined in approved PO, QAP, specifications & Found to meet the requirements of purchase order & Specifications.

Inspector(s) to TUV India Private Limited

Gaurav Kumar



Distribution List: TUV India Client/End User TUV India Executing /Originating Branch Vendor/Sub Vendor

Revision Number (if Applicable): 00 - Type Reason for revision here.
This Document Supersedes IRN No.: Mention previous IRN Number.

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Tel. + 91 22 66477000. Email: inspection@tuv-india.com Website: www.tuv-nord.com
Form No.: F / INSP / IRN / 03 - R7, Revision Date: 13.03.2020 Page 2 of 2



Salient Feature

Name of the State : Uttar Pradesh
Name of the District : Gorakhpur
Name of the Block : Belghat
Name of the Programme : Jal Jeevan Mission
Name of the Gram Panchayat : Nargad shivadatt singh
No. of Village/Habitations : 5

Table 1 : List of village and Habitation

District	Sub District	Block	Gram Panchayat	2011 Census Code	Revenue Village	Habit ation Sr. No	Habitation Name
Gorakhpur	Gorakhpur	Belghat	Nargad shivadatt singh	187387	Nargad shivadatt singh	1	Nargad shivadatt singh
				187389	Chautara babu	2	Chautara babu
				187383	Tikapur	3	Tikapur
				187371	Keradh	4	Keradh
				187370	Sanaha	5	Sanaha

Table 2: Gram Panchayat Population Summary

S. NO.	DESCRIPTION	TOTAL	SC/ST	HOUSE HOLDS
1	As Per Census 2011	1574	291	190
2	Initial Stage 2022	1923	356	231
3	Intermediate Stage 2037	2526	467	305
4	Ultimate Stage 2052	3318	613	400

Rate of Water Supply : 64.70 LPCD (Added 15 % losses over 55 LPCD)

Nature of Sources : Ground Water

Source of Development : Tube Well

Daily Water Demand Summary :

a) Initial Year 2022 : 130 KLD

b) Intermediate Year 2037 : 170 KLD

c) Ultimate Year 2052 : 220 KLD

Number of Tube Wells : 1

Nature of Treatments :

: Chlorinator through HDPE Tank (100L) and Dosing metering pump (0-6LPH)

Sr.No.	Pipe Material	Pressure Class	Total Pipe Length (m)	
			Diameter (mm)	Length (m)
1	HDPE, PE100	PN6	63	8763
2	HDPE, PE100	PN6	75	727
3	HDPE, PE100	PN6	90	577
4	HDPE, PE100	PN6	110	560
5	HDPE, PE100	PN6	125	944
6	HDPE, PE100	PN6	140	638
7	HDPE, PE100	PN6	160	41
			12250	

Table 4: Distribution Network Summary

Pipeline Type	From	To	Material	Class	Diameter (mm)	Total Length of Rising Main (m)	
						Rising Mains	TW - I
		OHT-1	DI	K-9	100	35	35

Table 3: Rising Mains

Pipeline Summary

- a) No. and Type of Plant : 1 Numbers
- b) Anticipated Discharge : 450 LPM
- c) Total Working Head : 45 m
- d) Motor (HP) : 10 HP
- Service Storage
- a) Quantity : 1
- b) Capacity : 150 KL
- c) Staging : 16 m
- Average Dosing Capacity : 0.50 PPM
- Pumping plant for Tube Well



Estimate for Nargad shivadatt singh Gram Panchayat
Water Supply Scheme
Under - SWSM
Block - Belghat District - Gorakhpur

BoQ Item No.	Description	Unit	Qty	Rate	Amount
1.01	All the works including Hydrological survey, topographical survey, Design charges including preparation and approval of DPR	LS	1.00	248992.00	248992
2.00	Drilling of Borehole for Tubewell construction by DC/RC/DTH Rig Machine including transportation, erection, dismantling of Rig and associated T&P complete in all respect including required all material labour etc.				
2.01	RIG Transportation for Tube Well Construction Transportation, Installation Dismantling of Rig machine and logging of bore hole	Job	1.00	159478.88	159479
2.03	DC/RC Drilling up to 100Mtr.				
2.04	400 MMØ	Mtr.		1638.27	
2.05	450 MMØ	Mtr.		1834.20	
2.06	500 MMØ	Mtr.	100.00	2013.00	201300
2.07	600 MMØ	Mtr.		2422.00	
2.08	DC/RC Drilling from 101 Mtr. To 200 Mtr.Deep				
2.09	450 MMØ	Mtr.		1960.88	
2.10	500 MMØ	Mtr.	80.00	2144.00	171520
2.11	600 MMØ	Mtr.		2510.25	
2.12	DC/RC Drilling from 201 Mtr. To 300 Mtr.Deep				
2.13	450 MMØ	Mtr.		2831.63	
2.14	500 MMØ	Mtr.		3014.75	
2.15	600 MMØ	Mtr.		3381.00	
2.16	DC/RC Drilling from 301 Mtr. To 400 Mtr.Deep & above				
2.17	450 MMØ	Mtr.		3319.35	
2.18	500 MMØ	Mtr.		3502.48	
2.19	600 MMØ	Mtr.		3868.72	
2.20	DTH Drilling upto 200.0 Mtr.Deep				
2.21	200/165 MMØ (in over burden/Hard Rock)	Mtr.		1250.00	
2.22	Development / Flushing of tubewell Tubewell Assembly (Supply + Fittings & Specials)	Hr.		2900.00	
3.01	MSERW plain pipe,As per IS 4270				
3.02	100 MMØ	Mtr.		927.50	
3.03	150 MMØ	Mtr.	109.00	1900.00	207100
3.04	200 MMØ	Mtr.		2550.00	
3.05	300 MMØ	Mtr.		3800.00	
3.06	MSERW Pipe slotted pipe as per IS 8110				
3.07	100 MMØ	Mtr.		1366.85	
3.08	150 MMØ	Mtr.	18.00	2800.00	50400
3.09	200 MMØ	Mtr.		3833.80	
3.10	300 MMØ	Mtr.		5188.59	
3.11	MS fittings such as clamp, ball plug, reducer, well cap, girder & support structure	LS	1.00	32295.00	32295
3.12	MS fittings such as ring & centre guide Tubewell Assembly Lowering Works	RM	163.00	471.68	76884
	Lowering of above assembly with welding of parts complete in all respect with all required material, T&P, labour, etc.				
4.01	Lowering up to 100 Mtr. Deep				
4.02	100 MMØ MSERW Plane/Slotted Pipe	Mtr.		129.45	
4.03	150 MMØ MSERW Plane/Slotted Pipe	Mtr.	64.00	281.00	17984
4.04	200 MMØ MSERW Plane/Slotted Pipe	Mtr.	36.00	376.50	13554
4.05	300 MMØ MSERW Plain/Slotted Pipe	Mtr.		472.00	
4.06	Lowering from 101 Mtr. To 200 Mtr. Deep				
4.07	150 MMØ MSERW Plane/Slotted Pipe	Mtr.	63.00	376.00	23688

Boq Item No.	Description	Unit	Qty	Rate	Amount
4.08	200 MMØ MSERW Plane/Slotted Pipe	Mtr.		499.19	
4.09	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		745.58	
4.10	Lowering from 201 Mtr. To 300 Mtr. Deep				
4.11	150 MMØ MSERW Plane/Slotted Pipe	Mtr.		385.19	
4.12	200 MMØ MSERW Plane/Slotted Pipe	Mtr.		459.00	
4.13	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		606.62	
4.14	Lowering from 301 Mtr. To 400 Mtr. Deep & above				
4.15	150 MMØ MSERW Plane/Slotted Pipe	Mtr.		426.53	
4.16	200 MMØ MSERW Plane/Slotted Pipe	Mtr.		499.00	
4.17	300 MMØ MSERW Plane/Slotted Pipe	Mtr.		643.94	
5.00	Supply and unconsolidated packing of gravel with suitable size Development of Tube well	Cum	47.00	7500.00	352500
6.01	Transportation, Installation Dismantling of 150 PSI Compressor	Job		42120.00	
6.02	Charges for Development by 150 PSI Compressor per hour	Hr.		2544.52	
6.03	Transportation, Installation Dismantling of 250/400/600 PSI Compressor	Job	1.00	42120.00	42120
6.04	Charges for Development by 250 PSI Compressor per hour	Hr.		3027.00	
6.05	Charges for Development by 400 PSI Compressor per hour	Hr.	60.00	3154.10	189246
6.06	Charges for Development by 600 PSI Compressor per hour	Hr.		4062.20	
6.07	Transportation, Installation Dismantling of 0.5 Cusec OP Unit and Yield test, water test	Job		22321.28	
6.08	Charges for Development of TW by 0.5 Cusec OP Unit	Hr.		785.42	
6.09	Transportation, Installation Dismantling of 1 Cusec to 3 Cusec OP Unit and Yield test, water test	Job	1.00	67225.00	67225
6.10	Charges for Development of TW by 1 cusec OP Unit	Hr.	100.00	959.00	95900
6.11	Charges for Development of TW by 3 cusec OP Unit	Hr.		1196.00	
6.12	Transportation, Installation Dismantling of 2 Cusec OP Unit and Yield test, water test	Job		89317.00	
6.13	Charges for Development of TW by 2 cusec OP Unit	Hr.		1119.00	
7.00	Pumping Plant:- SITC of Pumping plant including pumps with motors starter, pannel, cable, complete in all respect with all required material T&P labour etc.				
7.01	1 HP	Nos		32518.98	
7.02	2 HP	Nos		35843.14	
7.03	3 HP	Nos		46249.21	
7.04	5 HP	Nos		65037.95	
7.05	7.5HP	Nos		228500	
7.06	10 HP	Nos	10.00	230200	2302000
7.07	12.5 HP	Nos		238800	
7.08	15 HP	Nos		252100	
7.09	17.5 HP	Nos		276504.56	
7.10	20 HP	Nos		295500	
7.11	25 HP	Nos		334043.48	
7.12	30 HP	Nos		366163.04	
7.13	35 HP	Nos		393723.7	
7.14	40 HP	Nos		426547.83	
7.15	Variation in HP due to change of site locations increased/decreased in per HP of the proposed pumping plants.	Rate/HP		30467	
8.00	Pressure Transmitter Electrically operated Sluice Valve:-	Nos	1.00	43120	43120
9.00	Electrically operated Sluice Valve PN 1.0 dia 100 mm	Nos	2.00	125000	250000
9.00	Electrically operated Sluice Valve PN 1.0 dia 100 mm	Nos		125000	
9.01	Electrically operated Sluice Valve PN 1.0 dia 150 mm	Nos	1.00	125000	125000
9.02	Electrically operated Sluice Valve PN 1.0 dia 200 mm	Nos		150000	
Additional	Check Valve:-				
9.03	Check Valve PN 1.0 DPCV dia 100 mm	Nos	1.00	27519.8	27520
9.03	Check Valve PN 1.0 DPCV dia 100 mm	Nos		27519.8	
9.04	Check Valve PN 1.0 DPCV dia 150 mm	Nos		51145.45	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
9.05	Check Valve PN 1.0 DPCV dia 200 mm	Nos		73485.9	
9.06	Dismantling Joint PN 1.0 dia 100 mm	Nos	1.00	3923.92	3924
9.07	Dismantling Joint PN 1.0 dia 150 mm	Nos	1.00	5605.6	5606
9.08	Dismantling Joint PN 1.0 dia 200 mm	Nos		7367.36	
9.09	SITC of Chain Pulley Blocks				
9.10	1 Tonne	Nos	1.00	46305	46305
9.11	2 Tonne	Nos		58432.5	
10.00	Turbidity & Chlorine analyzer	Nos	1.00	273000	273000
11.00	Hydrostatic Level Sensor:- Providing and installation hydrostatic level sensor at all tubewell pumping system including all accessories etc. complete in all respect as per instructions of Engineer-in-charge.	Nos	1.00	126000	126000
12.00	Stabilizer				
12.01	2 KVA	Nos		12777.78	
12.02	5 KVA	Nos		25555.56	
12.03	7.5 KVA	Nos		47722.22	
12.04	10 KVA	Nos		12777.78	
12.05	15 KVA	Nos		16611.11	
12.06	20 KVA	Nos		191666.67	
12.07	25 KVA	Nos		204444.44	
12.08	30 KVA	Nos		230000	
12.09	40 KVA	Nos		281111.11	
12.10	50 KVA	Nos		319444.44	
12.11	60 KVA	Nos		345000	
13.00	Column Pipe:- SITC of Column pipe of MS pipe for connecting submersible pumps				
13.01	32 mm Dia size - MS pipe	Mtr.		500	
13.02	40 mm dia size - MS pipe	Mtr.		666.67	
13.03	50 mm dia size - MS pipe	Mtr.		921	
13.04	65 mm Dia size - MS pipe	Mtr.		1066.67	
13.05	80 mm Dia size - MS pipe	Mtr.	30.00	1400	42000
13.06	100 mm Dia size - MS pipe	Mtr.		1567	
13.07	150 mm Dia size - MS pipe	Mtr.		2167	
14.00	Chlorinating System:- Supply, installation of chlorinating system with dosing pump 0-6 LPH capacity with 100 Litres(1w+1s) tanks, valves, pipes with required accessories (Automatic dosing system for chemical injection)	JOB	1.00	112000	112000
15.00	Fluoride Removal Plant:- Supplying, installation, testing, commissioning of Fluoride removal plant for required capacity including transportation and labour charges as complete. (vendor have to select the technology based on capacity (Electrolytic-de fluoridation plant or media based system). Rates for 400 KLD/ 500 LPM	LS		8062500	
16.00	Iron Removal Plant:- Supplying, installation, testing, commissioning of Iron removal plant which includes vessel, media, piping valves etc. for required capacity including transportation and labour charges as complete. Rates for 400 KLD/ 500 LPM	LS		6062500	
17.00	Arsenic Removal Plant:- Supplying, installation, testing, commissioning of Arsenic removal plant which include vessel, media, piping valves etc. for required capacity including transportation and labour charges as complete. Rates for 400 KLD/ 500 LPM	LS		9000000	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
18.00	TDS and Hardness Removal Plant:- Supplying, installation, testing, commissioning of reverse osmosis plant which includes pump, micron cartridge filter, high pressure pump, reverse osmosis membrane, cleaning system and required piping and valves etc. complete for required capacity including transportation and labour charges as complete. Rates for 400 KLD/ 500 LPM	LS		13125000	
19.00	Tube Well Electrification:- Internal electrification of tube well	LS	1.00	20000	20000
20.00	Solar Power Plant:- SITC of Solar power plant (for complete plant) including solar panel, Structure, inverter etc. complete in all respect with required material, T&P labour	KW	19.00	86800	1649200
21.00	Boundary Wall:- Construction of 1.3 m high and 15mm thick boundary wall with 230 mmx230 mm thick pillar made in Brick masonry in 1 cement and 4 sand mortar, the spacing between two pillar should not be more than 3.0 m/c and the depth of foundation should not be less than 0.60m, at the site of water works as per departmental type design and drawing, and, as per specifications given in the bid document including supply of all materials, labour T&P etc. for proper completion of work as per instructions of Engineer - in - charge. (Drawing No.D-1)	Rmt	145.20	6400	929280
22.00	MS Gate:- Supply and fixing of 3.6 m x 1.20 m MS gate including fabrication and supply of steel and construction of boundary wall pillars of size 1.35mx0.23mx0.23m with ornamental brick work 115mm th. around RCC, as per departmental type design and drawing (Drawing No. D-1) and as per specifications laid down in the bid document, including supply of all material, labour, T&P etc. required for proper completion of work as per instructions of Engineer-in-charge.	No.	1.00	52000	52000
23.00	MS Wicket Gate :- Supply and fixing of 1.2m wide MS wicket gate including fabrication and supply of steel and construction of boundary wall pillars etc. as per specifications laid down in the bid document, including supply of all material, labour, T&P etc. required for proper completion of work as per instructions of Engineer-in-charge.	No.	1.00	19000	19000
24.00	Interlocking Pavement:- Construction of Interlocking pavement for approach to water works, as per departmental type design and drawing and as per specifications laid down in the bid document, including supply of all materials, labour, T&P etc. required for proper completion of work as per instructions of Engineer -in -charge.	Sqm.	257.40	1070.5	275547
25.00	Granular Sub Base:- Construction of granular sub base by providing coarse grade materials, spreading in uniform layers including watering and compaction complete.	Cum	51.48	2800	144144
26.00	Construction of WBM:- Construction of WBM by providing grade materials, spreading in uniform layers including watering and compaction complete.	Cum	64.35	3029	194916

BOQ Item No.	Description	Unit	Qty	Rate	Amount
27.00	Earth filling work for proper leveling of water work site, in accordance with the contour map and Grid map of existing site enclosed (Drawing no.D-1), including leveling, dressing, excavation and filling of earth where necessary and also including all labour, materials, T&P etc. required for proper completion of works and also including cartage of earth from within a distance of about 8 km. from the site of works as per instructions of Engineer - in - charge.	Cum		890	
28.00	Semircular Drain:- Provision for inside semircular drain 200mm dia including supply of all materials, labour and T & P etc. complete.	Rmt	150.00	1607.14	241071
29.00	Pump House (3.6x3.0x3.0):- Provide all materials, labour, T&P etc. complete and construct Pump house size (3.6x3.0x3.0)m Chlorinating room size (2.5x1.8x3.0)m as per departmental type design and drawing (drawing no-D-2) and as per the specifications for civil work given in the bid document, including supply of all material, labour and T&P etc complete as per instructions of Engineer - in - charge.	Job	1.00	597000	597000
30.00	Pump House (2.5x3.0x3.0):- Provide all materials, labour, T&P etc. complete and construct Pump house size (2.5x3.0x3.0)m Chlorinating room size (1.5x1.3x3.0)m as per departmental type design and drawing (drawing no-D-2) and as per the specifications for civil work given in the bid document, including supply of all material, labour and T&P etc complete as per instructions of Engineer - in - charge.	Job		404000	
31.00	Bye-pass Chamber:- Provide all materials, labour, T&P etc. complete and constructed Bye-pass chamber for pump house (1000 (L) x 1000 (W) x 1150 (H) mm) drawing (drawing no.D-3) and as per the specifications for civil work given in the bid document, including supply of all material, labour and T&P etc complete as per instructions of Engineer - in - charge.	No.	1.00	14600	14600

BOQ Item No.	Description	Unit	Qty	Rate	Amount
32.01	50 KL 10 M Staging	Job		1712500.00	
32.02	50 KL 12 M Staging	Job		1788750.00	
32.03	75 KL 10 M Staging	Job		2150000.00	
32.04	75 KL 12 M Staging	Job		2242500.00	
32.05	100 KL 12 M Staging	Job		2886250.00	
32.06	100 KL 16 M Staging	Job		3073750.00	
32.07	150 KL 12 M Staging	Job		3241250.00	
32.08	150 KL 16 M Staging	Job	1.00	3457500.00	3457500
32.09	175 KL 12 M Staging	Job		3441250.00	
32.10	175 KL 16 M Staging	Job		3732500.00	
32.11	200 KL 12 M Staging	Job		3843750.00	
32.12	200 KL 16 M Staging	Job		4040000.00	
32.13	200 KL 18 M Staging	Job		4105000.00	
32.14	225 KL 12 M Staging	Job		4170000.00	
32.15	250 KL 12 M Staging	Job		4537500.00	
32.16	300 KL 12 M Staging	Job		4877500.00	
32.17	300 KL 16 M Staging	Job		5508750.00	
32.18	350 KL 14 M Staging	Job		6093750.00	
32.19	400 KL 14 M Staging	Job		6830000.00	
32.20	400 KL 16 M Staging	Job		7021250.00	
32.21	500 KL 14 M Staging	Job		7457500.00	
32.22	25 KI 10 M Staging	Job		1296250.00	
32.23	25 KI 12 M Staging	Job		1363750.00	
32.24	For 2 m Staging (5% additional per Meter)	Rm		172875.00	

OHT:- Supply of all materials labour T&P etc. for complete construction of R.C.C. Over Head Tank of following capacity and staging above ground level with main components, including cost of soil testing and assuming bearing capacity of soil as 8 MT, with supply of design and drawings. All the water retaining components of OHT shall be casted in M-30 concrete and minimum grade of concrete of foundation and staging should be M-25 with approved cement, coarse sand and stone grit as per I.S. 11682 and I.S.456 Seismic effects and wind load should be taken into consideration as per I.S. 1893 for earthquake resistance and I.S. 875 part-III for wind load on structure and including 1M wide RCC staircase, 1 m wide R.C.C. M30 balcony, M.S. ladder made of 50x50x6 mm angle section and 20mm plain M.S. bars with hand rails of 20mm medium class G.I. pipes, One aluminum ladder inside the tank from top dome to bottom dome, R.C.C. railing with 20mm dia medium class G.I. pipe (in 3 rows) on both sides of stair case, supported on 50x50x6mm M.S. angle section, spaced at intervals not more than 1.5m, Proper ventilator at top dome in circular shape of 1.2 m dia, Water level indicator fabricated with sensor connecting to automation, Lightening conductor as per I.S.S.2309 or its latest amendments of latest electricity rules, consisting of proper elevation rod with 5 or more fork points as prescribed in ISS 2309-1969 and ISS 3013-1966, C.I. manhole of min 60x60cm size with locking arrangement, Supply, fixing, jointing of D.I.D/F Pipes of appropriate size with D.I.D/F specials conforming to IS 8329/2000 as vertical pipes for inlet, outlet, overflow and washout as per latest / relevant I.S. specifications with all jointing materials for proper completion of work, Construction of bed blocks in 1:2:4 PCC with cement, coarse sand and approved stone grit, Construction of washout / overflow chamber and chambers for sluice / butterfly valves as per departmental type design and drawing, Supply of 200 mm dia PVC pipe as per I.S.- 4985/2000 for disposal of water from overflow and washout chamber to suitable point outside the water works compound, Painting of all concrete surface and steel pipe works with three coats of

32.00

BoQ Item No.	Description	Unit	Qty	Rate	Amount
34.00	Excavation:- Excavation of earth in ordinary soil (loam, clay or sand) for pipe line and rising main trenches including lift upto 1.50 m and lead upto 50 m and refilling watering, ramming of the excavated earth into the trench and also disposal of surplus earth upto 50m from the center of the trenches including supply of all material labour, T&P etc complete as per instructions of Engineer -in-charge.				
35.00	Ordinary Soil	Cum	4475.56	214.61	960501
36.00	Mixed Soil with Kankar	Cum	4475.56	249.27	1115624
37.00	Soft Rock	Cum		943.82	
38.00	Hard Rock	Cum		1319.18	
39.00	Additional Disposal of Surplus Earth top 300 mm ht.	Cum			
38.00	Sand Bedding:- Sand Bedding in trenches in layers not exceeding 10 cm. in depth, consolidating each deposited layer by ramming and watering complete as per instructions of Engineer.	Cum	10.30	1656.00	17050
39.00	Retaining Wall:- Construction of Retaining Wall for Protection Survey, Investigation, Soil Testing, Planning, construction, commissioning etc. as per design and drawing provided by the contractor all in accordance with the relevant latest I.S. Codes and approved by the Engineer as per conditions of the bid documents. The design and drawings provided by the contractor should be betted by any IIT Institute or Government Engineering College approved by the Engineer, on contractor's cost. For construction of R.C.C. retaining wall including excavation of earth in hard rock/soft rock/ Kankar /mortum /bairi etc. for foundation, Plain Cement Concrete 1:4:8 (one cement four fine aggregates and eight coarse aggregates) and supply of steel as per drawing including bending, binding with all type of binding materials including wastage of steel Reinforced Cement Concrete (M20) 1:1½:3(one cement one and half fine aggregates and three coarse aggregates) including cost of all arrangement of shuttering, scaffolding and water with supply of all materials, labors T&P etc. required for proper completion of works as per the directions of the Engineer (Provisional)	Cum		16400.00	
40.01	Ductile Iron Pipes:- Supply of following sizes (D.I.) pipes for rising main/distribution system conforming to latest/relevant I.S. 8329/2000 Specifications- with all jointing materials such as specials conforming to latest /relevant I.S. specifications, suitable for D.I pipes, as per IS-1239 /2000 and IS 8329/2000 or their latest amendment including F.O.R. Carting up to site of work, also including specials for these pipes and lowering them into the trenches and laying true to alignment and gradient and jointing etc. complete (including testing of pipe lines and cutting of pipes for making up the length but excluding the cost of trenches), all complete as per instructions of Engineer -in-charge.				
40.01	Ductile Iron Pipe (K-9)	m		3877.6	
40.02	300 mm dia Ductile Iron K-9	m		3103.5	
40.03	250 mm dia Ductile Iron K-9	m		2332.32	
40.04	200 mm dia Ductile Iron K-9	m		1728.48	
40.05	150 mm dia Ductile Iron K-9	m		1411.41	
40.06	125 mm dia Ductile Iron K-9	m		1191.41	
40.07	100 mm dia Ductile Iron K-9	m	35.00		41699
	Ductile Iron Pipe (K-7)	m		905.41	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
40.08	300 mm dia Ductile Iron K-7	m		3151.6	
40.09	250 mm dia Ductile Iron K-7	m		2564.5	
40.10	200 mm dia Ductile Iron K-7	m		1848.32	
40.11	150 mm dia Ductile Iron K-7	m		1497.48	
40.12	125 mm dia Ductile Iron K-7	m		1301.41	
40.13	100 mm dia Ductile Iron K-7	m		1007.11	
40.14	80 mm dia Ductile Iron K-7	m		909.49	
41.01	90 mm dia HDPE Pipe PN6, PE 100	m			
41.02	75 mm dia HDPE Pipe PN6, PE 100	m	577.00	229.5	132422
41.03	63 mm dia HDPE Pipe PN6, PE 100	m	8763.00	125.8	1102385
42.00	Valves:- Supply and carting up to site of work of the following dia DI butterfly /sluice valves, class I, working pressure 10 Kg/cm2 conforming to IS: 780/1969 or its latest amendments, including valve fittings & dismantling joints as per requirement F.O.R. destination, and lowering them into the already prepared trenches, fixing in position and jointing them with pipelines and testing etc. complete and also including supply of jointing materials etc. complete. including all taxes and insurance, as per instructions of Engineer -in -charge.				
42.01	Isolating Sluice Valve				
42.02	Sluice valve - 300 mm dia	Nos		64042.00	
42.03	Sluice valve - 250 mm dia	Nos		48109.00	
42.04	Sluice valve - 200 mm dia	Nos		27304.00	
42.05	Sluice valve - 150 mm dia	Nos		17626.00	
42.06	Sluice valve - 125 mm dia	Nos		14505.00	
42.07	Sluice valve - 100 mm dia	Nos	4.00	14455.00	57820
42.08	Sluice valve - 80 mm dia	Nos	4.00	12401.00	49604
42.09	Sluice valve - 65 mm dia	Nos	2.00	10650.00	21300
42.10	Scour valve - 300 mm dia	Nos		9700.00	
42.11	Scour valve - 250 mm dia	Nos			
42.12	Scour valve - 200 mm dia	Nos			
42.13	Scour valve - 150 mm dia	Nos			
42.14	Scour valve - 100 mm dia	Nos			
42.15	Scour valve - 80 mm dia	Nos			
42.16	Pressure Relief Valve	Nos			
42.17	PRV 150 mm dia	Nos			
42.18	PRV 100 mm dia	Nos			
42.19	PRV 80 mm dia	Nos			
42.20	Single / Double ball type Air Valve:- Supply and installation, testing etc. of single/double ball type air valve conforming to latest/relevant I.S. specifications including all taxes and insurance, carting up to site of work and lowering them into the trenches, fixing in position and jointing them with pipelines and testing etc. complete (including supply of jointing materials and Valve fittings etc complete) as per instructions of Engineer.	Nos			
42.21	20 mm	Nos	5.00	124575.00	51146
42.22	50 mm	Nos			
42.23	80 mm	Nos			
42.24		Nos			
42.25		Nos			
42.26		Nos			
42.27		Nos			
42.28		Nos			
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43.71		Nos			
43.72		Nos			
43.73		Nos			
43.74		Nos			
43.75		Nos			
43.76		Nos			
43.77		Nos			
43.78		Nos			
43.79		Nos			
43.80		Nos			
43.81		Nos			
43.82		Nos			
43.83		Nos			
43.84		Nos			
43.85		Nos			
43.86		Nos			
43.87		Nos			
43.88		Nos			
43.89		Nos			
43.90		Nos			
43.91		Nos			
43.92		Nos			
43.93		Nos			
43.94		Nos			
43.95		Nos			
43.96		Nos			
43.97		Nos			
43.98		Nos			
43.99		Nos			
44.00		Nos			
44.01		Nos			
44.02		Nos			
44.03		Nos			
44.04		Nos			
44.05		Nos			
44.06		Nos			
44.07		Nos			
44.08		Nos			
44.09		Nos			
44.10		Nos			
44.11		Nos			
44.12		Nos			
44.13		Nos			
44.14		Nos			
44.15		Nos			
44.16		Nos			
44.17		Nos			
44.18		Nos			
44.19		Nos			
44.20		Nos			
44.21		Nos			
44.22		Nos			
44.23		Nos			
44.24		Nos			
44.25		Nos			
44.26		Nos			
44.27		Nos			
44.28		Nos			
44.29		Nos			
44.30		Nos			
44.31		Nos			
44.32		Nos			
44.33		Nos			
44.34		Nos			
44.35		Nos			
44.36		Nos			
44.37		Nos			
44.38		Nos			
44.39		Nos			
44.40		Nos			
44.41		Nos			
44.42		Nos			
44.43		Nos			
44.44		Nos			

BoQ Item No.	Description	Unit	Qty	Rate	Amount
42.21	150 mm	Nos		41024.88	
42.22	Supply of under ground sluice valve type fire hydrant consisting of 80 mm dia sluice valve, 80mm dia tail pieces, 80mm dia duck foot bend and 80 mm dia standard makes iron coupling with cap and etc. complete conforming to latest/relevant I.S. specifications including all taxes and insurance up to site of work and lowering them into the trenches, fixing in position and joining them with pipelines and testing etc. complete (including supply of joining materials and Valve fittings etc. complete as per instructions of Engineer-in-charge.	Nos	6.00	24500.00	147000
43.00	Valve Chambers:- Construction of following type chambers as per department type design and drawing including Heavy duty M.S. Manhole Cover and all materials, labour, T&P etc complete for proper completion of work as per instructions of Engineer-in-charge.				
43.01-43.02	Sluice Valve Chamber (Masonry Type):- Dia upto 200 mm - 1000 (L) x 1200 (W) x 1300 (H) mm	No.	8.00	25800.00	206400
43.03	Sluice Valve Chamber (Surface Box Type):- Dia upto 200 mm - 1000 (L) x 1200 (W) x 1300 (H) mm	No.		5000.00	
43.04	Fire Hydrant chamber (800 (L) X 1250 (W) X 1000 (H) mm)	No.	6.00	18500.00	111000
43.05	Air Valve Chamber				
43.06	350 (L) x 350 (W) x 500 (H) mm	No.	5.00	9000.00	45000
43.07	Scour Valve Chamber				
43.08	dia upto 200 mm - 1000 (L) x 1200 (W) x 1300 (H) mm	No.	5.00	29670.00	148350
43.09	PRV Valve Chamber - 1000 (L) x 1200 (W) x 1300 (H) mm	No.		28380.00	
44.00	Design and construct Thrust Block made in R.C.C. with cement, coarse sand & 20 mm gauge stone ballast in proportion of 1:1.5:3, for pipe line, including supply of MS reinforcement wrought to equate shape as necessary, its bending, fixing & binding the same with 0.50 mm thick binding wire in position & necessary centering & shuttering including curing and supply of all materials, labour, T & P etc. required for proper completion of the work and as per specifications for RCC work as per instructions of Engineer-in-charge.				
44.01	Reinforced Cement Concrete:- Design and construct Thrust Block made in Reinforced Cement concrete (1:1.5:3), with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement, as per technical requirements.	Cum	1.60	13656.33	21850
44.02	Shuttering:- Providing shuttering for Thrust block using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete works curved or straight including fitting fixing and striking out after completion of works.	Sqm	16.00	420.00	6720
44.03	Reinforcement of Thrust Block:- Providing reinforcement of Thrust block for reinforced concrete work including distribution bars, stirrups, binders etc. initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape, placing in proper position and binding with wire at every inter-section, complete as per drawing and direction.	MT	0.08	109838.98	8787
45.00	Staff Quarter / Office Room:- Provide all materials labour, T&P etc. and construct single room staff quarter / office room at water works site identified by the Engineer-in-charge as per department type design and drawing and specifications of civil works laid down in the bid document, including all material labour, T&P etc complete for proper completion of work as per instructions of Engineer-in-charge. (Drawing No.D-7)	No	1.00	970600	970600

BOQ Item No.	Description	Unit	Qty	Rate	Amount
46.00	Recharge Mechanism:- Water recharge Mechanism within the water works campus	Sqm	16.00	52500.00	840000
47.00	Backfilling of Earth:- Backfilling of abandoned tube well with available Earth	Cum	107.00		
48.00	Assesst replacement items				
48.01	Pumping Plant:- SITC of Pumping plant including pumps with motors, starter, panel, cable, complete in all respect with all required material T&P labour etc.				
48.02	1 HP	Nos	32518.98		
48.03	2 HP	Nos	35843.14		
48.04	3 HP	Nos	46249.21		
48.05	5 HP	Nos	65037.95		
48.06	7.5HP	Nos	228500.00		
48.07	10 HP	Nos	230200.00		
48.08	12.5 HP	Nos	238800.00		
48.09	15 HP	Nos	252100.00		
48.10	17.5 HP	Nos	276504.56		
48.11	20 HP	Nos	295500.00		
48.12	25 HP	Nos	334043.48		
48.13	30 HP (discharge 1000 LPM Head 62 m)	Nos	366163.04		
48.14	35 HP	Nos	393723.70		
48.15	40 HP	Nos	426547.83		
48.16	Turbidity & Chlorine analyzer	Nos	273000.00		
48.17	Hydrostatic Level Sensor:- Providing and installation hydrostatic level sensor at all tubewell pumping system including all accessories etc. complete in all respect as per instructions of Engineer-in-charge.	Nos	126000.00		
48.18	3Mtr. Long Column Pipe				
48.19	32 mm Dia size - MS pipe	Nos	1500.00		
48.20	40 mm dia size - MS pipe	Nos	2000.01		
48.21	50 mm dia size - MS pipe	Nos	2763.00		
48.22	65 mm Dia size - MS pipe	Nos	3200.01		
48.23	80 mm Dia size - MS pipe	Nos	4200.00		
48.24	100 mm Dia size - MS pipe	Nos	4701.00		
48.25	150 mm Dia size - MS pipe	Nos	6501.00		
49.00	Tubewell Automation System:- Installation of suitable capacity simple T.W. automation system to control operation of the pumping plant with respect to high/low water level in OHT with RTU panel, 7" HMI screen, surge device including energy meter inside the pump house with arrangement for communication of data with GSM and GPRS system to show required parameters including all accessories etc. complete in all respect as per instructions of Engineer-in-charge.	Job	1.00	375000	375000
50.00	Dismantling of Roads:- stacking of serviceable materials and disposal of unserviceable materials upto a distance of 50m as per instructions of Engineer-in-charge.				
50.01	B.O.E. Surface	Sqm	1115.80	100.00	111580
50.02	Bituminous Surface	Sqm	1359.25	200.00	271851
50.03	Interlocking Road	Sqm		155.00	
50.04	C.C. Road	Sqm		329.96	
51.00	Restoration of Roads:- Restatement of the following type of road surface with old and new materials including supply of all materials, labour, T&P etc. required for proper completion of the work as per instructions of Engineer-in-charge.				
51.01	B.O.E. Surface (50% of existing bricks to be reused)	Sqm	1115.80	350	390532
51.02	Bituminous surface	Sqm	1359.25	1534.82	2086209
51.03	Interlocking Road	Sqm		1070.5	

BoQ Item No.	Description	Unit	Qty	Rate	Amount
51.04	C.C. Road	Sqm		1560.71	
52.00	Nala/Culvert Crossing:- Provision for following types of Culvert crossing -along the alignment of pipe line complete as per instructions of Engineer -in -charge. (casing of pipe is done by concreting)				
52.01	Nala/Culvert Crossing (width -3.5 m) upto Dia 300 mm	Nos	2.00	19000	38000
52.02-52.03	Trenchless Crossings:- Survey site Investigation Planning, design Drawings as per State Road manual and vetting / checked from State Road Divisional Office and taking NOC for trenchless crossing of National highway road and Railway track(crossing length 15m to 25m), Road for of required dia Raising main pipe with casing pipe as required for proper completion of work required size of MS casing pipe as per drawing and as per (IS:3589 & made from confining to IS:2062) with 750 Micron PU coating internally and 250 micron anti corrosive bituminous paint externally by trenchless technology method at an average depth 3.60 mt from normal ground level up to top of casing pipe including excavation & filling of Pit, Dewatering arrangement, Supporting system for soil, also including supply and fixing of 2 no Sluice valve ISI Mark, construction of sluice valve chamber etc. all complete work including supply & fixing specials in carrier pipe over main pipe, as per specification given in the bid documents including supply of all materials, labour T&P etc. for proper completion of work as per instruction of Engineer.				
52.04	Railway Line crossing (Upto Dia 350 mm)	Nos		60000	
52.05	National Highway road crossing (Upto Dia 350 mm)	Nos		40000	
52.06	State Highway road crossing (Upto Dia 350 mm)	Nos		27000	
52.07	Road Crossing:- Excavation in foundation of trench of proper size in soil mixed with moorum, Shingle, Kanakar, soft rock, hard rock, including refilling, dressing and ramming earth or sand or bajri, ballast, including providing, supply, carting, lowering, laying and jointing of casing pipe of RCC NP-3 with appropriate size, with rubber ring joint, sand filling in gap inside RCC pipe, insertion of distribution pipe into the encasing pipe including supply of T&P, including concrete of 150 mm thick in with 40mm gauge brick ballast local sand and cement in proportion of 8:4:1, provision for barricading, labour for traffic diversion etc. Complete for proper completion of work as per instruction of Engineer.				
52.08	50 mm dia. Pipe	Nos		1400	
52.09	100 mm dia. Pipe	Nos	10.00	1700	17000
52.10	150 mm dia. Pipe	Nos	10.00	2000	20000
52.11	200 mm dia. Pipe	Nos	10.00	2400	24000
52.12	250 mm dia. Pipe	Nos		3600	
52.13	300 mm dia. Pipe	Nos		3900	
52.14	350 mm dia. Pipe	Nos		4386	
52.15	400 mm dia. Pipe	Nos		4700	
52.16	450 mm dia. Pipe	Nos		5200	
52.17	500 mm dia. Pipe	Nos		6200	
52.18	600 mm dia. Pipe	Nos		7600	

BOQ Item No.	Description	Unit	Qty	Rate	Amount
53.00	Functional House Tap Connection:- Making house connection should be done atleast 2 m inside the boundary wall with provision of tap from distribution line to outer wall of house, with supply of 1 m G.I. pipe (15 mm) (above ground) & average 5 mtr. MDPE Pipe (20 mm) (below ground) including specials, saddle, Tap, etc. of suitable size, T&P etc. including excavation, laying and jointing for proper completion of work as per instructions of Engineer as per Dwg I2 (excluding road restoration)	Nos.	231.00	3500	808500
54.00	Stand Post:- Construction of single tap pillar type stand post as per type design	Nos.	5.00	10000	50000
55.00	Operation and Maintenance:- Operation and Maintenance for 10 years of water supply schemes after completion including staff required for operation and maintenance, chemicals, all materials, specials T & P for operation and maintenance, excluding electricity charges. (2% of Capex cost for first year of O&M) Note:- 6% Inflation Factor considered for arriving the O&M Cost from Second Year onwards.	Rs			
55.01	Cost of DPR Preparation @ 1% of CAPEX Cost of DPR	%			
56.01	150mm	Nos.		150000	
56.02	200mm	Nos.		190000	
56.03	250mm	Nos.		225000	
56.04	300mm	Nos.		260000	
56.05	350mm	Nos.		330000	
56.06	400mm	Nos.		420000	
56.07	450mm	Nos.		500000	
56.08	500mm	Nos.		550000	
57.00	Soft Starter :-				
57.01	soft starter with RS485 port -400V,7.5KW Rating	Nos		60000	
57.02	soft starter with RS485 port -400V,15KW Rating	Nos		70000	
57.03	soft starter with RS485 port -400V,22KW Rating	Nos		85000	
57.04	soft starter with RS485 port -400V,30KW Rating	Nos		100000	
57.05	soft starter with RS485 port -400V,45KW Rating	Nos		125000	
57.06	soft starter with RS485 port -400V,55KW Rating	Nos		140000	
57.07	soft starter with RS485 port -400V,75KW Rating	Nos		150000	
57.08	soft starter with RS485 port -400V,90KW Rating	Nos		175000	
57.09	soft starter with RS485 port -400V,110KW Rating	Nos		225000	
57.10	soft starter with RS485 port -400V,132KW Rating	Nos		250000	
57.11	soft starter with RS485 port -400V,220KW Rating	Nos		275000	
57.12	soft starter with RS485 port -400V,250KW Rating	Nos		325000	
57.13	soft starter with RS485 port -400V,312KW Rating	Nos		375000	
57.14	soft starter with RS485 port -400V,450KW Rating	Nos		550000	
58.00	Auto Phase Reversal Unit:-				
58.01	100 Amp rating	Nos		45000	
58.02	125 Amp rating	Nos		50000	
58.03	160 Amp rating	Nos		70000	
58.04	200 Amp rating	Nos		120000	
58.05	250 Amp rating	Nos		135000	
58.06	315 Amp rating	Nos		140000	
58.07	400 Amp rating	Nos		150000	
58.08	500 Amp rating	Nos		190000	
58.09	630 Amp rating	Nos		225000	
59.00	Radar type Level transmitter	Nos			
60.00	Control Panel:- control panel for all power equipments with IP 54 protection	Nos	1.00	120000	120000
61.00	Cabing for Tube Well:- complete cabing for tubewell including all power and controlables of all equipments at pumphouse and OHT	Nos	1.00	60000	60000

BoQ Item No.	Description	Unit	Qty	Rate	Amount
62.00	Master Control PLC:- Master control plc with CPU, SCADA software including GSM / GPRS modem, necessary firewall, ethernet switch, CCTV system	Nos		2665000	
63.00	Installation testing and commissioning	Nos	1.00	60000	60000
Additional Items					
A.I - 1	110 mm dia HDPE Pipe PN6, PE 100	m	560.00	326.71	182958
A.I - 2	125 mm dia HDPE Pipe PN6, PE 100	m	944.00	414.95	391713
A.I - 3	140 mm dia HDPE Pipe PN6, PE 100	m	638.00	513.86	327843
A.I - 4	160 mm dia HDPE Pipe PN6, PE 100	m	41.00	663.92	27221
A.I - 5	180 mm dia HDPE Pipe PN6, PE 100	m		829.93	
A.I - 6	200 mm dia HDPE Pipe PN6, PE 100	m		1016.89	
A.I - 7	Supply Installation of Display board of Size 2M X 1 M for Providing details of proposal of water supply scheme	LS	1.00	25000	25000
A.I - 8	Provision for arboriculture for development of water works	LS	1.00	50000	50000
A.I - 9	Battery Backup with Accessories for 2 Kw Load	Nos		92800	
A.I - 10	40 Watts Solar Street Lights Inbuilt with all accessories	Nos	4.00	30000	120000
A.I - 11	SITC of DG for Electricity support				
A.I - 11 - 1	7.5 KVA	Nos		240000	
A.I - 11 - 2	10 KVA	Nos		260000	
A.I - 11 - 3	15 KVA	Nos		306000	
A.I - 11 - 4	20 KVA	Nos	1.00	370000	370000
A.I - 11 - 5	25 KVA	Nos		389000	
A.I - 11 - 6	30 KVA	Nos		405000	
A.I - 11 - 7	40 KVA	Nos		483000	
A.I - 11 - 8	45 KVA	Nos		495000	
A.I - 11 - 9	50 KVA	Nos		555000	
A.I - 11 - 10	62.5 KVA	Nos		569000	
A.I - 12	Electromagnetic flow meters				
A.I - 12 - 1	100mm Electromagnetic flow meters	Nos.		100000	
A.I - 12 - 2	80mm Electromagnetic flow meters	Nos.	1.00	80000	80000

Break up of Cost

SL. No.	Sub Head	Total Cost of work	Building	R.C.C. Reservoir	Pipe Line	Machinery	Misc.
		3.0	4.0	5.0	6.0	7.0	8.0
A.	Civil works :						
1	Pump house & Chlorinating room	597,000	597,000				
2	Rising Main	70,287			70,287		
3	R.C.C. Over head tank (KL/ m staging)	3,783,940		3,783,940			
4	Distribution System	9,021,228		9,021,228			
5	Approach Road	1,787,728	1,787,728				
6	Boundary Wall and approach road	1,000,280	1,000,280				
7	Staff Quarter	970,600	970,600				
8	Surveying and designing	248,992					248,992
	(Total A)	17,480,055	4,355,608	12,805,167	70,287	-	248,992
B.	E&M works:						
1	Cost of Tubewell construction	1,792,995				1,792,995	
2	Cost of pumping plant and Chlorinating Plant	3,301,945				3,301,945	
3	Solar plant	1,649,200				1,649,200	
4	Electrification of pump house, SCADA	1,125,000				1,125,000	
	Total (B)	7,869,140	-	-	-	7,869,140	-
	G. Total (A+B)	25,349,194	4,355,608	12,805,167	70,287	7,869,140	248,992

Estimate for Nargad shivdatt singh Gram Panchayat	
Water Supply Scheme	
Under - SWSM	
Block - Belghat District - Gorakhpur	
General Abstract of Cost (Comprehensive)	
Estimate Number	Description of Sub-Estimate
(Rs. Lacs)	
E-1	Construction of Pump House
E-2	Pipelines - Raw Water Rising Main
E-3	Construction of Over Head Tank - 1 Nos
E-4	Pipelines - Distribution Network
E-5	Construction of Boundary Wall
E-6	Construction of Approach Road & Ancillary Civil Works
E-7	Construction of Staff Quarters
E-8	Survey, Investigation & Preparation of Detailed Project Report
Net Cost of the Civil Works of the Scheme	
	167.95
Net Cost of the Electrical & Mechanical Works of the Scheme	
E-9	Drilling Construction & Development of Tube Well - 1 Nos
E-10	Pumping Plant & Chlorination Plant
E-11	Solar Power Plant
E-12	Electrical & Instrumentation
Net Cost of the Electrical & Mechanical Works of the Scheme	
	78.69
Total Net Cost of the Scheme (A + B)	
	246.64
253.49	

838.25