NCC SWSM PROJECTS – UP – GORAKHPUR

oject 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
ient : SWSM/DWSM-UP-GKP
onsultant : Medhaj Techno Concept Pvt. Ltd.
ontractor : NCC Limited

Request For Inspection

RFI No:	SWSM-UP-GKP/N/S/ TW/54/R1	Date And Time -	11/01/2022
Description:	Rectification of compliance.		
Location:	Block- Barhalganj, Dist- Maharajganj.		
Preceding RFI No.	SWSM-UP-GKP/S/TW/54		
Commencement of work:	11/01/2022		
Submitted By:	Amit Kuma		
Signature:			
Designation:	JE(MED)		
Concessionaire:		Proceed	Hold
ame:			
signation:			

Comments:

1. Pipe clamp replaced and have 150mm height & 16mm thick.
2. Anticorosive Paint is used to paint Pipe Assembly.
3. Pea Gravel packed in Proper way. ~~as per~~ Not Attached
4. welding test ceseer not done

Pea gravel only to be by tractor trolley measurment for packing

Signature
Contractor Representative

Signature
Consultant Representative

Signature
Client Representative

NCC 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/N/S/ TW/54	**Date And Time -**	10/1/22 / 10:00
Description:	Lowering of Pipe with Assembly & Filling of Pea- Gravel.		
Location:	Block- Bahalgonj . G.P- Makrandpur		
Preceding RFI No.	NA		
Commencement of work:	11/01/22		
Submitted By:	~~Balram~~ Amit Kumar		
Signature:			
Designation:	JE (MEP)		

Concessionaire:	**Proceed**	**Hold**
Name:		
Designation:		

Comments:

1. pipe clamp size flat 16 mm Thk x 125 mm height However it should be 150 mm height.
2. 2-Coat anti corrosive paint not using for pipe assembly.
3. Pea- Gravel not stacked in trapezidal way.
4. welding test not following for welding joints.

Signature Contractor Representative	Signature Consultant Representative	Signature Client Representative

Mukrandpur


Latitude: 23.41201
Longitude: 83.9652023
Time: 11-04-2022 15:45
Note: @ Block Barhalgan, GP Mukrandpur

NCC Limited

NCC LTD.

STATE WATER AND SANITATION MISSION

CLIENT: JJM / SWSM /DWSM

GORAKHPUR-UP

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

(As per IS : 460 and IS: 4097)

Date of Testing :	10/01/2022
Test report no :	NCC/UKP-S/Gc/054

SL NO.	DESCRIPTION	OBSERVATIONS
1	Source of material :	Lalkuan, Nainital, Uttrakhand.
2	Location :	Block Name- BARHALGANJ
		G.P Name- MAKRANDPUR
3	Date of sampling :	09/01/2022
4	Lab. Test no :	54
5	Sample no. :	54
6	Total wt. of sample (gm) :	1000gm

SIEVE ANALYSIS

IS Sieve Size	retained	Cumulative wt. Retained (gm)	Cumulative % wt. Retained	% passing	Acceptable / Not Acceptable
6.3 mm	14	14	1.4	98.6	OK
4.75 mm	174	188	18.8	81.2	OK
2.36 mm	702	890	89.0	11.0	OK
1.18 mm	94	984	98.4	1.6	OK
Pan	16				
Total(gm)=					

The Hardness of Material is=

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

NCC LTD.	PMC/TPIA	CLIENT
CC(Deepak Kumar)		

NCC Limited	NCC LTD. STATE WATER AND SANITATION MISSION CLIENT: JJM / SWSM /DWSM GORAKHPUR-UP	GOVERNMENT OF UTTAR PRADESH

SPECIFIC GRAVITY OF PEA GRAVELS (SIZE- 1.6 mm to 4.8 mm)

As per IS : 2386 (Part-3)

Date of Testing-	10/1/2022
Test report no :	Nal/GKP-S/QC/054

SL NO.	DESCRIPTION	OBSERVATIONS
1	Source of material :	Lalkuan, Nainital, Uttrakhand.
2	Location :	NAME OF THE BLOCK - BARHALGANJ NAME OF THE GRAM PANCHAYAT - MAKRANDPUR
3	Date of sampling :	09/01/2022
4	Lab. Test no :	54
5	Sample no :	54

SPECIFIC GRAVITY TEST AT ROOM TEMPERATURE

6	Weight of the Jar, W1 (gm)=			246gm
7	Weight of Jar + Gravel, W2 (gm)=			458gm
8	Weight of Jar + Gravel + Water, W3 (gm)=			854gm
9	Weight of the Jar + Water, W4 (gm)=			718gm
10	Specific Gravity =	W2 - W1 / (W2 - W1) - (W3 - W4)	= 212 / 212-136	= 2.78

Note : The Specific Gravity should not be less than 2.5

NCC LTD.	PMC/TPIA	CLIENT
Deepak Kumar		

SWSM/DWSM

NCC LTD.- GORAKHPUR (UP)

NAME OF THE DISTRICT- GORAKHPUR

NAME OF THE BLOCK- BARHALGANJ

NAME OF THE GRAM PANCHAYAT- MAKRUNDPUR

NAME OF THE VILLAGE-

TYPE OF RIG M/C- RC

SIZE OF BORE- 550 / 500 mm ϕ

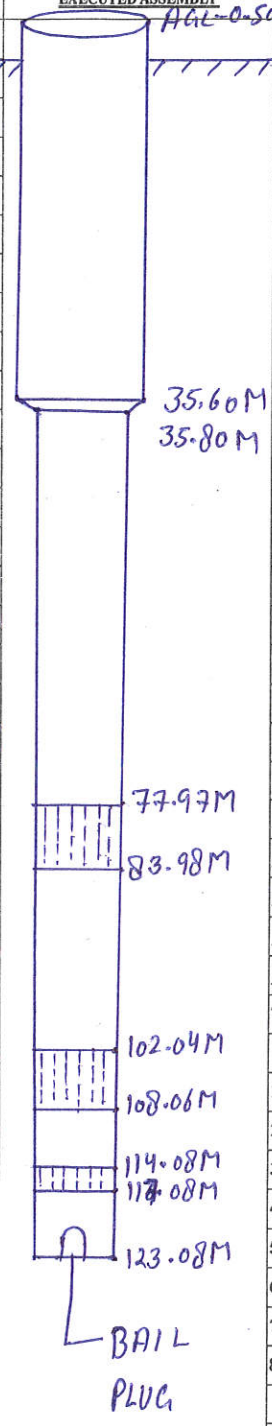
STATIC WATER LEVEL- 12 M

J.E Incharge_____ A.E Incharge_____

DISCHARGE - 300 LPM

DEPTH B.G.L IN METER	BORING CHART	STRATA
0M		GL
		SANDY CLAY
16.0M		
		MEDIUM SAND
34.0M		
		SANDY CLAY
46.0M		
		MEDIUM SAND
54.0M		
64.0M		SANDY CLAY
		CONCRETE CLAY
73.0M		
		MEDIUM SAND
90.0M		
		SANDY CLAY
100.0M		
		MEDIUM SAND
110.0M		SANDY CLAY
113.0M		
		MEDIUM SAND
122.0M		
		CLAY
135.0M		

EXECUTED ASSEMBLY



ASSEMBLY DETAILS

200	mm Dia Housing Pipe	A.G.L=	0.50	m
200	mm Dia Housing Pipe	m to	36.10	m
200/150	mm Dia Reducer	35.60 m to	35.80	m
150	mm Dia BLIND pipe	35.80 m to	77.97	m
150	mm Dia SLOTED pipe	77.97 m to	83.98	m
150	mm Dia BLIND pipe	83.98 m to	102.04	m
150	mm Dia SLOTED pipe	102.04 m to	108.06	m
150	mm Dia BLIND pipe	108.06 m to	114.08	m
150	mm Dia SLOTED pipe	114.08 m to	117.08	m
150	mm Dia BLIND pipe	117.08 m to	123.08	m
	mm Dia pipe	m to		m
	mm Dia pipe	m to		m
	mm Dia pipe	m to		m
	mm Dia pipe	m to		m
	mm Dia pipe	m to		m
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	mm Dia pipe	m to		m
	mm Dia pipe	m to		m
	mm Dia pipe	m to		m
	mm Dia pipe	m to		m
	mm Dia pipe	m to		m

Total Assembly= 123.08 m + A.G.L (m) = 123.58 m

ABSTRACT

1.Drilling Started-

2.Drilling Completed/Lowering- 11/1/2022

3.Drilling Depth (m)- 135.0 M

4.Assembly Lowered (m)- 123.58 M

5.Housing Pipe (m)- 36.10 M

6.Plain Pipe(m)- 72.25 M

7.Slotted Pipe(m)- 15.03M

8.Reducer(m)- 0.20 M

LOGGING REPORT

1- 16 - 34 → 18.0

2- 46 - 54 → 8.0

3- 73 - 90 → 17.0

4- 100 - 110 → 10.0

5- 113 - 122 → 9.0

6-

7-

8-

9-

10-

SOUND TEST-

VERTICALITY TEST-

NCC LTD

(Vinodprasad) (Babbanyadav)
J.E & A.E

(Markonday)
P.M.C/T.P.I.A

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: tepllab@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

TEPL/MT/2022/136/R1 **Dated: 05-03-2022**

TEST REPORT

Name of Customer	:	**Jal Nigam, Gorakhpur**
Project	:	SWSM-JJM Project (Har Ghar 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./Sl. No. But only Sl. No is mentioned in results.

NCC LTD. PIN 273002 SWSM - GORAKHPUR

Checked By:

Alok Chauhan

Alok Kumar Chauhan
(Technical Manager)

Techpro Engineers Pvt. Ltd. (Laboratory Division) DL-8C/02/2020

Approved By:

Arvind Kumar Garg
(Quality Manager)

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: tepllab@gmail.com, info@techproindia.com,

1. PHYSICAL TEST RESULT OF PEA GRAVEL

Sample Unique ID: MT136/TEPL/02

Sl. 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	IS 2386 (Part-1)-1963, RA-2016	Partical Size >6.3
3.0	Water Absorption (% by weight)		0.90	5 Max	IS 2386 (Part-3)-1963 RA-2016	-
4.0	Specific Gravity		2.66	2.1 - 3.2	IS 2386 (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 RA-2016	-
	a) Compacted		1.59	NA		
	b) Loose		1.49	NA		

Checked By:

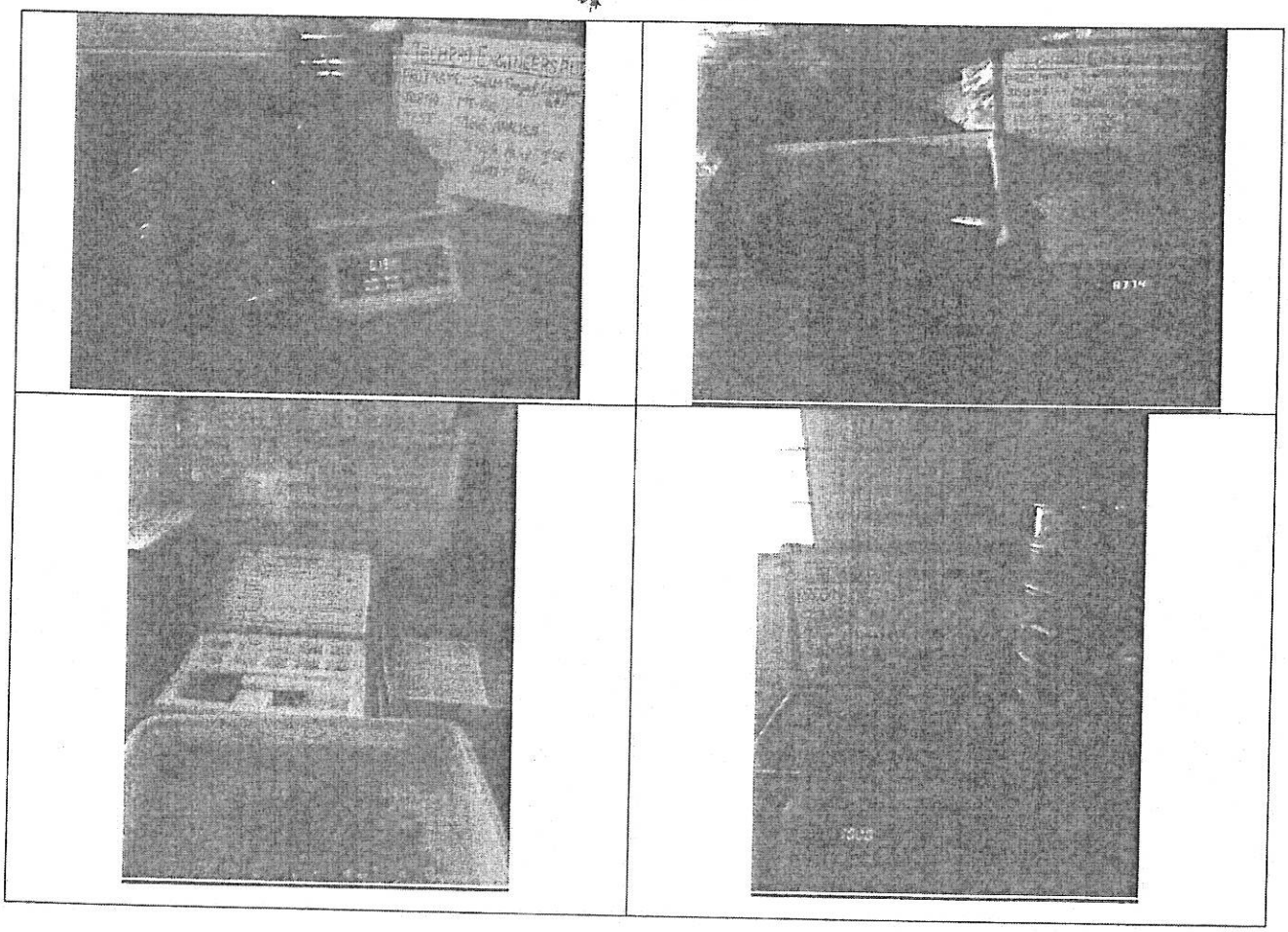
Alok Kumar Chauhan
(Technical Manager)

Techpro Engineers Pvt. Ltd. (Laboratory Division) 01/03/2022

Approved By:

Arvind Kumar Garg
(Quality Manager)

PHOTOGRAPHS



N.C.C LTD. WSMS GORAKHPUR PIN 273002

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 Branch Name:	Noida
TUV India Client Name:	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)	P.O. Number: *(Client PO on Vendor)*	NCC/ROK/SWSMUP-G(S)/PO/47 Dt. 03.12.2021
Sub Vendor Name & Location: *(If applicable)*	Not Applicable	P.O. Number: *(If applicable - Vendor PO on Sub Vendor)*	Not Applicable

Item Description:

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, Slotting 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)	QAP / ITP / QCP	DPPL/31/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 QAP sr. no 3.1, 3.4,3.5 only & All for rest)

1) Total offered quantity verified.
2) QAP Sr.No 3.5 Visual inspection done for surface defects, workmanship and protective coating for all items- found satisfactory.
3) QAP 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) QAP Sr.No 3.2 Mechanical testing (Tensile, Flattening) checked on identified samples – found to meet the specification requirement (IS 4270) – found satisfactory.

TUV India Pvt. Ltd. (TÜV NORD GROUP): (REGD. & HEAD OFFICE), 801, Raheja Plaza - I, LBS Marg, Ghatkopar (West), Mumbai – 400086, Maharashtra, India.
Tel: + 91 22 66477000, Email: inspection@tuv-nord.com Website: www.tuv-nord.com/in

TUV INDIA PRIVATE LIMITED

INSPECTION RELEASE NOTE / CERTIFICATE

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

5) QAP 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) QAP 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) QAP 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) QAP Sr. No. 1.2, 1.3 & 1.4 – Physical Properties, Dimension & Visual report of Raw material reviewed – found in order.
3) QAP Sr. No. 2.1–In-process Dimension inspection report reviewed and found in order.
4) QAP Sr. No. 2.2 – In-process Mechanical testing report reviewed and found in order.
5) QAP Sr. No. 2.3 – In-process Hydro testing report reviewed and found in order.
6) QAP Sr. No. 2.4 – In-process workmanship & protective coating report reviewed and found in order.
7) Material test certificates Number DPPL/QC/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.

Technical Inspection Services TUV India

Gaurav Kumar

Inspector(s) to TUV India Private Limited

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.*

TUV India Pvt. Ltd. (TÜV NORD GROUP): (REGD. & HEAD OFFICE), 801, Raheja Plaza - I, LBS Marg, Ghatkopar (West), Mumbai – 400086, Maharashtra, India.
Tel. + 91 22 66477000, Email: inspection@tuv-nord.com Website: www.tuv-nord.com/in

EXECUTIVE SUMMERY

Salient Features

Name of the state	UTTAR PRADESH
Name of the District	GORAKHPUR
Name of the Tehsil	BARHALGANJ
Name of the Block	BARHALGANJ
Name of the Programme	Under Jal Jeevan Mission Programme
Name of the GP	MAKRANDPUR
No. of Village/Habitations	2/2

Table 1: List of Village and Habitations

S. No	District Name	Sub District Name	Block Name	Gram Panchayat Name	2011 Census Code	Revenue Village Name	Habitation s Name
1	GORAKHPUR	BARHALGANJ	BARHALGANJ	MAKRANDPUR	187993	MAKRANDPUR	MAKRANDPUR
2					187994	PEKAULI AMANCHAK	PEKAULI AMANCHAK

Village Population Summary

Table 2: Population, SC/ST and House hold Data

GP/VILLAGE-POPULATION DETAILS

S. NO	DESCRIPTION	GROWTH FACTOR WRT Y-2011	POPULATION	SC/ST	HOUSE HOLDS
1.	As per Census 2011	1	1133	619	211
2.	Initial Stage 2022	1.24	1400	765	261
3.	Middle Stage 2037	1.41	1600	874	298
4.	Ultimate Stage 2052	1.59	1800	983	335

Rate of water supply	:	64.7 LPCD (added 15% losses over 55 LPCD)
Nature of Sources	:	Ground water
Source of Development	:	Tube-Well
Daily Water Demand Summary	:	
a) Base year 2022	:	91 KLD
b) Intermediate year 2037	:	104 KLD
c) Design year 2052	:	116 KLD
Number of Tube wells	:	1 No.
Nature of Treatments	:	Chlorinator through HDPE Tank (100 L) and Dosing metering pump (0-6LPH)
Average Dosing Capacity	:	0.5 PPM
Pumping plant for Tube Well		
a) No. and Type of Plant	:	1 Number of Submersible Pump
b) Anticipated Discharge	:	300 LPM
c) Total working Head	:	42 M
d) Motor (HP)	:	7.5 HP
Service Storage		
a) Quantity	:	1 No.
b) Capacity	:	75 KL
c) Staging	:	13 M

Pipeline Summary

Table 3: Rising Main Summary

Pipeline Type	Details of tube well	Tube well Location	Material	Class	Diameter (mm)-OD	Length (m)
Rising Mains	New Tube Well	In Water Works	DI	K-9	100	35
					Total Length (m)	35

Table 4: Distribution Summary

Pipeline Type	Material	Class	Diameter(mm)	Length (m)
Distribution Mains	HDPE	PN-6 PE100	63	5,142
Distribution Mains	HDPE	PN-6 PE100	75	1,074
Distribution Mains	HDPE	PN-6 PE100	90	232
Distribution Mains	HDPE	PN-6 PE100	110	17
Distribution Mains	HDPE	PN-6 PE100	125	0
Distribution Mains	HDPE	PN-6 PE100	140	0
Distribution Mains	HDPE	PN-6 PE100	160	0
Distribution Mains	HDPE	PN-6 PE100	180	0
Distribution Mains	HDPE	PN-6 PE100	200	0
			Total Length (m)	6,465

NCC Limited

Estimate for Makrandpur Gram Panchayat
Water Supply Scheme
Under - SWSM
Block- BARHALGANJ District- Gorakhpur

BOQ Item No.	Description	Unit	Qty	Rate	Amount
	Survey, Design & Preperation of DPR				
1.01	All the works including Hydrological survey, topographical survey, Design charges including preparation and approval of DPR	LS	1.00	202301.00	202301
2.00	Drilling of Borehole for Tubewell construction by DC/RC/DTH Rig Machine including transportaion, erection, dismantling of Rig and assosiated T&P complete in all respect including required all material labour etc.				
	RIG Transportation for Tube Well Construction				
2.01	Transportation, Installation Dismantling of Rig machine and logging of bore hole	Job	1.00	159478.88	159479
	Tube Well Construction- Drilling of Borehole				
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	Hr.		2900.00	
	Tubwell Assembly (Supply + Fittings & Specials)				
3.01	**MSERW plain pipe,As per IS 4270**				
3.02	100 MMØ	Mtr.		927.50	
3.03	150 MMØ	Mtr.	115.00	1900.00	218500
3.04	200 MMØ	Mtr.	36.00	2550.00	91800
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.	12.00	2800.00	33600
3.09	200 MMØ	Mtr.		3833.80	
3.10	300 MMØ	Mtr.		5188.59	
3.11	MS fittings such as clamp, bail plug, reducer, well cap, girder & support structure	LS	1.00	32295.00	32295
3.12	MS fittings such as ring & centre guide	RM	163.00	471.68	76884
	Tubwell Assembly Lowering Works				
	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.	100.00	281.00	28100
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.	27.00	376.00	10152

NCC Limited

Estimate for Makrandpur Gram Panchayat
Water Supply Scheme
Under - SWSM
Block- BARHALGANJ District- Gorakhpur

BOQ Item No.	Description	Unit	Qty	Rate	Amount
	Survey, Design & Preperation of DPR				
1.01	All the works including Hydrological survey, topographical survey, Design charges including preparation and approval of DPR	LS	1.00	202301.00	202301
2.00	Drilling of Borehole for Tubewell construction by DC/RC/DTH Rig Machine including transportaion, erection, dismantling of Rig and assosiated T&P complete in all respect including required all material labour etc.				
	RIG Transportation for Tube Well Construction				
2.01	Transportation, Installation Dismantling of Rig machine and logging of bore hole	Job	1.00	159478.88	159479
	Tube Well Construction- Drilling of Borehole				
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	Hr.		2900.00	
	Tubwell Assembly (Supply + Fittings & Specials)				
3.01	**MSERW plain pipe,As per IS 4270**				
3.02	100 MMØ	Mtr.		927.50	
3.03	150 MMØ	Mtr.	115.00	1900.00	218500
3.04	200 MMØ	Mtr.	36.00	2550.00	91800
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.	12.00	2800.00	33600
3.09	200 MMØ	Mtr.		3833.80	
3.10	300 MMØ	Mtr.		5188.59	
3.11	MS fittings such as clamp, bail plug, reducer, well cap, girder & support structure	LS	1.00	32295.00	32295
3.12	MS fittings such as ring & centre guide	RM	163.00	471.68	76884
	Tubwell Assembly Lowering Works				
	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.	100.00	281.00	28100
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.	27.00	376.00	10152

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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	
	Supply and Packing of Gravel Works				
5.00	Supply and unconsolidated packing of gravel with suitable size	Cum	47.00	7500.00	352500
	Development of Tube well				
6.01	Tranportation, 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	Tranportation, 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	Tranportation, 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	Tranportation, 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	Tranportation, 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	1.00	228500	228500
7.06	10 HP	Nos		230200	
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	Nos	1.00	43120	43120
	Electrically operated Sluice Valve:-				
Additional 9.00	Electrically operated Sluice Valve PN 1.0 dia 100 mm	Nos		125000	
9.00	Electrically operated Sluice Valve PN 1.0 dia 100 mm/80MM	Nos	3.00	125000	375000
9.01	Electrically operated Sluice Valve PN 1.0 dia 150 mm	Nos		125000	
9.02	Electrically operated Sluice Valve PN 1.0 dia 200 mm	Nos		150000	
	Check Valve:-				
Additional 9.03	Check Valve PN 1.0 DPCV dia 100 mm	Nos		27519.8	
9.03	Check Valve PN 1.0 DPCV dia 100 mm/80MM	Nos	1.00	27519.8	27520
9.04	Check Valve PN 1.0 DPCV dia 150 mm	Nos		51145.45	

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BOQ Item No.	Description	Unit	Qty	Rate	Amount
9.05	Check Valve PN 1.0 DPCV dia 200 mm	Nos		73485.9	
	Dismantling Joint :-				
9.06	Dismantling Joint PN 1.0 dia 100 mm	Nos		3923.92	
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	1.00	7367.36	7367
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	**Stabalizer**				
12.01	2 KVA	Nos		12777.78	
12.02	5 KVA	Nos		25555.56	
12.03	7.5 KVA	Nos		44722.22	
12.04	10 KVA	Nos		127777.78	
12.05	15 KVA	Nos		166111.11	
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.		1400	
13.06	100 mm Dia size - MS pipe	Mtr.	30.00	1567	47010
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 acessories (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 for400 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 for400 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 for400 KLD/ 500 LPM	LS		9000000	

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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 for400 KLD/ 500 LPM	LS		13125000	
19.00	**Tube Well Electrification:-** Internal electrificaton of tube well	LS	1.00	20000	20000
20.00	**Solar Power Plant:-** SITC of Solar power plant (for complete plant) including solar pannel, Structure, invertor etc. complete in all respect with required material, T&P labour	KW	15.00	86800	1302000
21.00	**Boundary Wall:-** Construction of 1.3 m high and 115mm 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/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 bounary 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

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BOQ Item No.	Description	Unit	Qty	Rate	Amount
27.00	**Earth Filling:-** 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 carriage 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	**Semicircular Drain:-** Provision for inside semicircular 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

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BOQ Item No.	Description	Unit	Qty	Rate	Amount
32.00	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 / butter fly 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				
32.01	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	1.00	2242500.00	2242500
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		3457500.00	
32.09	175 KIL12 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 Kl 10 M Staging	Job		1296250.00	
32.23	25 Kl 12 M Staging	Job		1363750.00	
32.24	For 2 m Staging (5% additional per Meter)	Rm	1.00	112125.00	112125

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BOQ Item No.	Description	Unit	Qty	Rate	Amount
33.00	**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.				
34.00	**Ordinary Soil**	Cum	2309.61	214.61	495666
35.00	**Mixed Soil with Kankar**	Cum	2309.61	249.27	575717
36.00	**Soft Rock**	Cum		943.82	
37.00	**Hard Rock**	Cum		1319.18	
Additional	**Disposal of Surplus Earth top 300 mm ht.**	Cum			
38.00	**Sand Bedding:-** Sand Bedding in trenchs 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 relevent 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/ Kanker /morrum /bajri 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	
40.00	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. destination and all taxes and insurance etc. with loading, unloading and 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.				
	Ductile Iron Pipe (K-9)				
40.01	300 mm dia Ductile Iron K-9	m		3877.6	
40.02	250 mm dia Ductile Iron K-9	m		3103.5	
40.03	200 mm dia Ductile Iron K-9	m		2332.32	
40.04	150 mm dia Ductile Iron K-9	m		1728.48	
40.05	125 mm dia Ductile Iron K-9	m		1411.41	
40.06	100 mm dia Ductile Iron K-9	m	35.00	1191.41	41699
40.07	80 mm dia Ductile Iron K-9	m		905.41	
	Ductile Iron Pipe (K-7)				

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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	**HDPE Pipes PN6, PE 100:-** Supply of following sizes pipes for distribution system conforming to latest/ relevant I.S. 4984/1995 Specifications with all jointing materials and specials conforming to latest /relevant I.S. specifications including F.O.R. destination and all taxes and insurance etc. with loading, unloading and 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.				
41.01	90 mm dia HDPE Pipe PN6, PE 100	m	232.00	229.5	53244
41.02	75 mm dia HDPE Pipe PN6, PE 100	m	1074.00	169.2	181721
41.03	63 mm dia HDPE Pipe PN6, PE 100	m	5142.00	125.8	646864
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 confirming 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.				
	Isolating Sluice Valve				
42.01	Sluice valve - 300 mm dia	Nos		64042.00	
42.02	Sluice valve - 250 mm dia	Nos		48109.00	
42.03	Sluice valve - 200 mm dia	Nos		27304.00	
42.04	Sluice valve - 150 mm dia	Nos		17626.00	
42.05	Sluice valve - 125 mm dia	Nos		14505.00	
42.06	Sluice valve - 100 mm dia	Nos	2.00	14455.00	28910
42.07	Sluice valve - 80 mm dia	Nos	2.00	12401.00	24802
42.07.1	Sluice valve - 65 mm dia	Nos.	2.00	10650.00	21300
42.07.2	Sluice valve - 50 mm dia	Nos.	2.00	9700.00	19400
	Scour Valve				
42.08	Scour valve - 80 mm dia	Nos	5.00	10160.84	50804
42.09	Scour valve - 100 mm dia	Nos		12535.28	
42.10	Scour valve - 150 mm dia	Nos		17625.57	
42.11	Scour valve - 200 mm dia	Nos		27304.03	
42.12	Scour valve - 250 mm dia	Nos		48109.48	
42.13	**Pressure Relief Valve**				
42.14	PRV 80 mm dia	Nos		54219.00	
42.15	PRV 100 mm dia	Nos		80025.00	
42.16	PRV 150 mm dia	Nos		124575.00	
42.17	**Single / Double ball type Air Valve:-** Supply and installation, testing etc. of single/double ball type air valve conforming to latest/relevent 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.				
42.18	20 mm	Nos	5.00	10229.21	51146
42.19	50 mm	Nos		23170.33	
42.20	80 mm	Nos		23170.33	

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BOQ Item No.	Description	Unit	Qty	Rate	Amount
42.21	150 mm	Nos		41024.88	
42.22	**Fire Hydrant:-** Supply of under ground sluice value 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/relevent I.S.specifications including all taxes and insurance 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 -in - charge.	Nos	3.00	24500.00	73500
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.	6.00	25800.00	154800
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.	3.00	18500.00	55500
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:-** 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 equired 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	0.32	13656.33	4370
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	3.20	420.00	1344
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	0.02	109838.98	1757
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

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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	**Assest replacement Items**				
48.01	**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.				
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 iwith RTU panel , 7" HMI screen , surge device including enrgy 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:-** Dismantling of Following type of surfaces including sorting out and 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	329.00	100.00	32900
50.02	**Bituminous Surface**	Sqm	1719.00	200.00	343800
50.03	**Interlocking Road**	Sqm	267.00	155.00	41385
50.04	**C.C. Road**	Sqm	476.00	329.96	157061
51.00	**Restoration of Roads:-** Reinstatement 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	329.00	350	115150
51.02	Bituminous surface	Sqm	1719.00	1534.82	2638356
51.03	Interlocking Road	Sqm	267.00	1070.5	285824

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BOQ Item No.	Description	Unit	Qty	Rate	Amount
51.04	C.C. Road	Sqm	476.00	1560.71	742898
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 Rising 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 mtr 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, Kankar, 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		1700	
52.10	150 mm dia. Pipe	Nos		2000	
52.11	200 mm dia. Pipe	Nos		2400	
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	

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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 12 (excluding road restoration)	Nos.	261.00	3500	913500
54.00	**Stand Post:-** Construction of single tap pillar type stand post as per type design	Nos.	6.00	10000	60000
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 materails, 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 Preperation @ 1% of CAPEX Cost of DPR	%			
56.00	**Electromagnetic flow meters**				
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	1.00	120000	120000
60.00	**Control Panel:-** control panel for all power equipments with IP 54 protection	Nos	1.00	120000	120000
61.00	**Cabling for Tube Well:-** complete cabling for tubewell inlcuding all power and controlcables of all equipments at pumphouse and OHT	Nos	1.00	60000	60000

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BOQ Item No.	Description	Unit	Qty	Rate	Amount
62.00	**Master Control PLC:-** Master control plc with CPU, SCADA software including GSM / GPRS modem, necessray 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	17.00	326.71	5554
A.I - 2	125 mm dia HDPE Pipe PN6, PE 100	m		414.95	
A.I - 3	140 mm dia HDPE Pipe PN6, PE 100	m		513.86	
A.I - 4	160 mm dia HDPE Pipe PN6, PE 100	m		663.92	
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	1.00	306000	306000
A.I - 11 -4	20 KVA	Nos		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.	1.00	100000	100000
A.I - 12 - 2	80mm Electromagnetic flow meters	Nos.		80000	

Estimate for Makrandpur Gram Panchayat						
Water Supply Scheme						
Under - SWSM						
Block- BARHALGANJ District- Gorakhpur						
Form "J" - Comprehensive Scheme						
Sr. No.	*Description of Work*	*Amount (Rs. in Lacs)*	*%*	*Amount (Rs. in Lacs)*	*Govt. of U.P. Share*	*Govt. of India Share*
1	*2*	*3*	*4*	*5*	*6*	*7*
1	Cost of Work	206.36		206.36	199.53	
2	0.14% Discount as per Contract on Cost of work	206.36 199.53	-0.14%	0.29		
	Net Cost of Work		199.26	206.07		
3	Add Contingency 2%	206.07	2.00%	4.12		3.99
	Sub Total (A)			210.19	105.10	105.10 203.25
4	Add GST 12 %-B	210.19	12.00%	25.22	12.61	12.61 24.39
5	Add 12.5% Centage-C	210.19	12.50%	26.27	26.27	25.91
	Grand Total (A+B+C)			261.69	143.98	117.71 253.04
6	Ist O&M Cost (after DLP)	206.07	2%	4.12	2.06	2.06
	Total Cost of Scheme (Excluding O&M)			215.04		

TOTAL POPULATION A (ULTIMATE YEAR 2052)	1800
Per Capita Cost (NET COST+CONTIGENCY+GST)	13079

PREPARED BY

M/S N.C.C. Ltd.

CHECKED BY

J.E(T) Assistant Engineer

Member Secretary DWSM
Executive Engineer
U.P Jal Nigam, 10th Div. Gorakhpur

A.E.

Forwarded As Recommended by DWSM For SLSSC

(तकनीकी प्रकोष्ठ)
राज्य पेयजल एवं स्वच्छता मिशन

(इं० डी०के० सिंह)
अधीक्षण अभियन्ता
राज्य पेयजल एवं स्वच्छता मिशन

(इं० जी०पी० शुक्ला)
युनिट कोआर्डिनेटर
राज्य पेयजल एवं स्वच्छता मिशन

EXECUTIVE ENGINEER
CONSTRUCTION DIVISION
(E/M) U.P. JAL NIGAM
GORAKHPUR

NCC
NCC Limited

Estimate for Makrandpur Gram Panchayat		
Water Supply Scheme		
Under - SWSM		
Block- BARHALGANJ District- Gorakhpur		
General Abstract of Cost (Comprehensive)		
Estimate Number	*Description of Sub-Estimate*	*Amount (Rs. Lacs)*
(A) Civil Works		
E-1	Construction of Pump House	5.97
E-2	Pipelines - Raw Water Rising Main	0.70
E-3	Construction of Over Head Tank - 1 Nos	26.82
E-4	Pipelines - Distribution Network	79.25 ~~79.25~~
E-5	Construction of Boundary Wall	10.00
E-6	Construction of Approach Road & Ancilliary Civil Works	11.08 ~~17.88~~
E-7	Construction of Staff Quarters	9.71
E-8	Suvey, Investigation & Preparation of Detailed Project Report	1.99 ~~2.02~~
	Net Cost of the Civil Works of the Scheme	~~152.35~~ 145.52
(B) Electrical & Mechanical Works		
E-9	Drilling Construction & Development of Tube Well - 1 Nos	17.84
E-10	Pumping Plant & Chlorination Plant	12.53
E-11	Solar Power Plant	13.02
E-12	Electrical & Instrumentation	10.61
	Net Cost of the Electrical & Mechanical Works of the Scheme	54.01
	Total Net Cost of the Scheme (A + B)	~~206.36~~ 199.53