

2020

Engineering, Procurement, Construction, Testing, Commissioning, Trial Run and Operation & Maintenance of Various Components of " Shapura- Mehdwani Multi-Village Scheme, Districts Jabalpur, Dindori & Mandla and Halon Multi-Village Scheme, District Mandla " in Single Package on Turn-Key Job Basis.



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ITEMS	DESCRIPTION
NIT	48/Proc./MPJNM/2019-20
TITLE	Engineering, procurement, construction, testing, commissioning, trial run and operation & maintenance of various components of " Shapura-Mehdwani Multi-Village Scheme, Districts Jabalpur, Dindori & Mandla and Halon Multi-Village Scheme, District Mandla " in single package on 'turn-key job basis' including trial run and operation & maintenance of the entire scheme for 10 years. Scheme 1 – Shahpura 274 Cr. Scheme 2 – Halon - 518 Cr.
BRIEF SCOPE OF WORK	<ol style="list-style-type: none"> 1. The successful bidder has to carry out entire work of Planning, Survey, Soil investigation, Designing, Construction as per the Schedule program, testing, commissioning, trial run of completed scheme and 10 years operation & maintenance of entire water supply scheme after getting a confirmatory survey done with the intention to serve the basic purpose of contract, that is to ensure the supply of drinking water in designated quantity to all villagers & to customers/ institutions/ offices identified for bulk water usage located within the revenue boundary of villages as listed vide Appendix-I. 2. The bidder is/ are required to carry out the survey including necessary data collection from concerning division of PHED of old water supply schemes and if the existing components i.e. pipe line, OHT/ GSR, etc.
TYPE OF CONTRACT	Lump Sum Contract
COST	792.35 Crores
EMD	50 Lakhs
TIME OF COMPLETION	Scheme 1 – Shahpura - 30 Months Scheme 2 – Halon - 36 Months
SUBMISSION OF TENDER	Cover 1 – Prequalification And Emd Cover 2 - Technical Cover 3 – Financial
FINANCIAL CRITERIA	The bidder or jv should have average annual turnover of at least 50% of tpac in last 3 financial years preceding the tender submission date at current price level (2018-19).
TECHNICAL CRITERIA	<p>The Bidder or Lead Partner in case of JV must have experience of executing satisfactorily completely or substantially completed (substantially completed means not less than 90% of agreement value, and for which certificate is issued) integrated water supply scheme comprising of raw water intake well cum pump house, ESR/OHBR, raw / clear water reservoir / GSR, Water Treatment Plant, pipe line work within last seven years from the date of bid notification as follows:</p> <ol style="list-style-type: none"> i. Three works costing not less than the amount equal to 40% of the TPAC. or ii. Two works costing not less than the amount equal to 50% of the TPAC. or iii. One work costing not less than the amount equal to 80% of the TPAC.
O & M	The Bidder or Lead Partner in case of JV should have executed, commissioned, and post-commissioning, operated and maintained satisfactorily for minimum 36 months at least one similar integrated

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	water supply work of minimum 10% of TPAC comprising of intake well, pumping machinery, water treatment plant, pipeline and elevated storage reservoir.
WORKING CAPTIAL	Should not be less than 15% of the TPAC
NET WORTH	Net Worth of the bidder or JV of last Financial Year should not be less than 10% of the TPAC
SECURITY DEPOSIT	Shall be equal to 10% (ten percent) of the sum of amount of contract in the form of the unconditional and irrevocable bank guarantee executed.
PRE-BID MEETING	Office of The Managing Director, Madhya Pradesh Jal Nigam, D-Wing, 2nd Floor, Vindhychal Bhawan, Bhopal (M.P.) PIN – 462004.
IMPORTANT DATES	Bid Submission Date 27-Jul-2020 05:30PM Pre Bid Meeting Date 08-Jul-2020 03:00 PM

TECHNICAL ASPECTS AND DETAILED PROJECT SCOPE

P.T.O

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SCHEME 1 - MAIN WORKS FOR SHAHPURA MEHDWANI MULTI-VILLAGE

No.	Main Works		
1	Construction of intake well cum pump house having minimum 8.0 m diameter and approx. 29 m (including pump room 6 m high) deep to draw a total of 35.45 million litres of water in 23 hours flow with provision for automation, construction of R.C.C Foot Bridge (approach bridge) approx. 100 meters, minimum 5 m wide with approach road (excluding space for pipeline, kerbs, cable duct, railing, electric poles, etc.) & all other necessary/ancillary structures required at the bank of, Bilgaon Dam near Bilgaon village Dindori District. Raw water shall be taken from the back water of the dam by intake well.		
2	Raw water pumping main of 600 mm diameter DI-K9 of length 1.2 Km including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories etc. complete including road restoration.		
3	Water treatment plant to provide 29.84 million litre treated clear water in 23 hours near village near Bilgaon village, District Dindori including automation (SCADA), construction of boundary wall, internal roads, electrification, laboratory, etc., and all other necessary/ ancillary structures required.		
4	Providing, laying, jointing, testing and commissioning of clear water pumping main of diameter and approximate length as detailed below of DI-K9 Pipe with in-lining and out-coating as per IS 8329 including flow meter, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories, etc. complete including road restoration.		
	Type of Pipe	Diameter in MM	Length (Km)
	DI-K9	100	13.9
		150	6.8
		200	4.9
		450	6.1
5	Providing, laying, jointing, testing and commissioning of clear water trunk main, DI-K9 as per IS 8329 and/ or MS pipe as per IS specified in specification including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust block, crossings (rail and road), specials & accessories, etc. complete including road restoration of diameter and corresponding length as detailed below:		
	Type of Pipe	Diameter in MM	Length in KM
	DI-K9	100	190.36
		150	99.87
		200	56.01
		250	38.50
		300	30.05
		350	24.42
		400	13.80
		450	10.82
		500	26.28
		600	16.30
	700	9.76	

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No.	Main Works				
6	a) Construction of Overhead Service Reservoirs (OHSR) at different villages of following capacity and staging of minimum 12 m or as per design to maintain the required minimum residual pressure of 7 m at consumer end including Provision of flow meters at each Reservoir including operator room, compound wall & Approach road.				
S. No.	Village	Capacity (KL)	S. No.	Village	Capacity (KL)
1	Magar Mya Tagar Mal	170	60	Tikra Sarai Alias Basa	120
2	Dhirwan Kalan	200	61	Ghutaina Ryt.	130
3	Kachhari Mal	110	62	Dalka Sarai Ryt.	140
4	Dewajhir Mal.Salaiya	60	63	Bichhiya	220
5	Chaura Ryt	100	64	Dalka Bandha Ryt.	150
6	Raipura Mal	180	65	Deori Kalan (Bichhiya)	140
7	Pitri Mal	110	66	Imli	100
8	Pipariya (Kasturi)	110	67	Chhirpani	110
9	Sarai Mal	140	68	Pipariya Ryt. (Rawankund)	150
10	Manikpur (Bhamha)	200	69	Tikra Khamhariya Mal.	100
11	Lalpur Mal (Raipur)	150	70	Dukarigaon(Dukari Mal.)	140
12	Deogaon Ryt.Ghusiya	70	71	Bastara Ryt.(Khair Bhagadu)	100
13	Kapa	180	72	Kohani Mya Karondi Mal.	140
14	Payali Ghughari Mal`	110	73	Matka Ryt.	110
15	Bhimpar	160	74	Sarwahi Ryt.	120
16	Niwasi	200	75	Dadargaon Ryt.	60
17	Badkhera Mal	160	76	Barga Ryt.	190
18	Padariya Kalan	140	77	Kauajhir Ryt.(Kauwajhir)	80
19	Sangwa Mal	160	78	Bhamha Mal.	130
20	Tikariya Mal	260	79	Amakhoh	50
21	Rangaon Mal	120	80	Badgiri	50
22	Rachho Mal	100	81	Bilgarha (Kutrai)	80
23	Mudki Ryt	110	82	Kutrai Mal.	90
24	Karaundi Mal.Bargoan	260	83	Fulwahi Ryt.	100
25	Bargaon Mal (Karaundi)	210	84	Bahadur Mal.	140

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No.	Main Works				
26	Amthera Ryt	190	85	Bhalwara Ryt.	100
27	Pipariya Kalan Mal (Bilgaon)	120	86	Kodajhir	210
28	Umariya Ryt.	120	87	Bhodasaj Ryt.	210
29	Raghopur Ryt.(Radhopur Ryt.	140	88	Kanhari	100
30	Chaubisa Ryt.Urf Sakari Tola	210	89	Khairda Ryt.	60
31	Malpur Mal.	100	90	Jarhanaijhar Mal.	150
32	Chaubisa Mal.	150	91	Kosamghat Ryt.	100
33	Jarguda Mal.	110	92	Sarasdoli Mal.(Mahadwan)	270
34	Kalagitola Mal.	100	93	Mehadwani (Mahadwani)	270
35	Padritola Ryt.	100	94	Surajpura Mal.	100
36	Rakhi Mal.	170	95	Matiyari Ryt.	100
37	Ghutaina Mal.	100	96	Dewargarh	160
38	Khamhariya	130	97	Sarsa Ryt.	150
39	Bijauri Ryt.	100	98	Sukhlaundi	130
40	Palki Ryt.	100	99	Bulda Mal	120
41	Jhagarhata Dungariya Mai	240	100	Harratola	220
42	Patpara Ryt.	100	101	Gidhlaundi	120
43	Duba Mal.	100	102	Amarpur	140
44	Khalhe Mahespuri Ryt.	100	103	Jhamjhola	70
45	Kaneri Mal.	210	104	Khajarwara	50
46	Kachhari Ryt.(Narmadanodi)	100	105	Parapani	50
47	Hathdol	120	106	Dhamni Mal.	420
48	Chanti Mal.(Dhangaon)	150	107	Bhurka Ryt.	260
49	Dundi Sarai	100	108	Dokarghat Ryt.	170
50	Ghundi Sarai Mal.	140	109	Chiraipani	170
51	Indori Mal.	170	110	Jhirna	150
52	Patharkata (Patharkata)	100	111	Madai Khurd	50
53	Mohra Khurd	140	112	Khairi	190

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54	Gutli Ryt.	40	113	Madai Kalan	50																																				
55	Pipariya Mal	50	114	Khisi Mal	130																																				
56	Silthar	190	115	Chubhawal	200																																				
57	Bhanpur Ryt.	50	116	Mohgaon Ryt	190																																				
58	Saraswahi (Umariya)	80	117	Dadargaon	100																																				
59	Karaundi Ryt.(Bhardwara	50	118	Umardih	100																																				
<p>b) Construction of clear water (CW) sumps with pump houses having following capacity, including all works complete.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">1.</td> <td style="width: 85%;">WTP Site (Bilgaon) -</td> <td style="width: 10%; text-align: right;">1000 KL</td> </tr> <tr> <td>2.</td> <td>Near Magar Mya Tagar Mal</td> <td style="text-align: right;">20 KL</td> </tr> <tr> <td>3.</td> <td>Dadargaon Ryt -</td> <td style="text-align: right;">20 KL</td> </tr> <tr> <td>4.</td> <td>Pipariya Kalan Mal (Bilgaon)-</td> <td style="text-align: right;">40 KL</td> </tr> <tr> <td>5.</td> <td>Ghutaina Ryt -</td> <td style="text-align: right;">40 KL</td> </tr> <tr> <td>6.</td> <td>Kodajhir -</td> <td style="text-align: right;">60 KL</td> </tr> <tr> <td>7.</td> <td>Near Bahadur Mal-</td> <td style="text-align: right;">80 KL</td> </tr> <tr> <td>8.</td> <td>Dewargarh -</td> <td style="text-align: right;">40 KL</td> </tr> <tr> <td>9.</td> <td>Sukhlaaundi -</td> <td style="text-align: right;">60 KL</td> </tr> <tr> <td>10.</td> <td>Jhamjhola -</td> <td style="text-align: right;">20 KL</td> </tr> <tr> <td>11.</td> <td>Jarguda Mal -</td> <td style="text-align: right;">30 KL</td> </tr> <tr> <td>12.</td> <td>Khisi Mal -</td> <td style="text-align: right;">50 KL</td> </tr> </table>						1.	WTP Site (Bilgaon) -	1000 KL	2.	Near Magar Mya Tagar Mal	20 KL	3.	Dadargaon Ryt -	20 KL	4.	Pipariya Kalan Mal (Bilgaon)-	40 KL	5.	Ghutaina Ryt -	40 KL	6.	Kodajhir -	60 KL	7.	Near Bahadur Mal-	80 KL	8.	Dewargarh -	40 KL	9.	Sukhlaaundi -	60 KL	10.	Jhamjhola -	20 KL	11.	Jarguda Mal -	30 KL	12.	Khisi Mal -	50 KL
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<p>All MBR/ BPT/ IPS/ WTP shall have boundary wall as defined in bid document but all ESRs/ GSRs shall have G.I. chain link fabric fencing of mesh size 25x25mm made of G.I. wire of 3 mm diameter including strengthening with welding or nuts, bolt & washers etc. complete. It shall have ISA 50x50x5mm angle iron post at a spacing 2.5 m center to center of height 2m above ground level embedded in M20 cement concrete 30x30 cm pillar minimum 75cm below ground level. Every 7th post & corners shall be strutted with similar specification angle iron & grouting. The top & bottom of chain link as well as on angle a 25x3mm flat secured with either weld or rivets or bolts, to make fencing safer, shall be provided. It shall have angle iron gate of size 3.0m x 1.8m having ISA 50x50x5mm angle iron & 16mm diameter plain M.S. bar including AL drop, holdfast etc. and shall be fixed up in 45x45 cm wide R.C.C. pillars. An additional gate of size 0.6mx1.5m shall also be provided within the same gate, to avoid opening of bigger gate all the time & it shall be made of IS 40x40x5mm angle iron with AL drop, etc.</p> <p>The CW sump cum pump houses and GLBR/ MBR/ BPT will have 2m high boundary wall with 'Y' shape angle iron with 2*3 rows of wire bed, wire fencing at top of boundary wall and gate, one room set of area 25sqm size with W.C. & bathroom, automation system and electrification with area lighting, etc. complete.</p>																																									

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No.	Main Works										
	<p>The size of fencing or boundary wall shall be 20x20m including gate for these structures & if it increases or decreases then accordingly variation shall be paid or deducted as per UADD ISOR w.e.f. 1st May 2012 (with up to date amendments).</p> <p>One room set of minimum area 25 sqm size with W.C. & bathroom and housing of automation system and solar/ single phase electrification with area lighting, landscaping, plantation, etc. complete.</p> <p>The approach road for the MBR, OHSR, etc. shall be of approx. 30 m for each location. Any alteration to the total length of approach roads considering all structures shall be paid or deducted as per the MPPWD SOR w.e.f. 29th August 2017 (with up to date amendments). The length of the approach road shall be finalized by the Engineer-in-Charge.</p>										
7	<p>Distribution network of diameter and approximate length as detailed below comprising of HDPE, PE100 PN6 (minimum) and DI-K7 pipelines including valves, specials, sluice valves, air valves, scour valves, valve chambers, thrust block, bulk water meters for all villages, specials & accessories, etc. complete including road restoration and other allied works.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 80%;">a. 90 mm dia. minimum 6 kg/cm² pressure, -</td> <td style="text-align: right;">1224.17 km</td> </tr> <tr> <td>b. 110 mm dia. minimum 6 kg/cm² pressure -</td> <td style="text-align: right;">227.55 km</td> </tr> <tr> <td>c. 160 mm dia. minimum 6 kg/cm² pressure -</td> <td style="text-align: right;">210.25 km</td> </tr> <tr> <td>d. 200 mm dia. minimum 6 kg/cm² pressure -</td> <td style="text-align: right;">57.25 km</td> </tr> <tr> <td>e. 250 mm dia. DI-K7 -</td> <td style="text-align: right;">4.32 km</td> </tr> </tbody> </table>	a. 90 mm dia. minimum 6 kg/cm ² pressure, -	1224.17 km	b. 110 mm dia. minimum 6 kg/cm ² pressure -	227.55 km	c. 160 mm dia. minimum 6 kg/cm ² pressure -	210.25 km	d. 200 mm dia. minimum 6 kg/cm ² pressure -	57.25 km	e. 250 mm dia. DI-K7 -	4.32 km
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e. 250 mm dia. DI-K7 -	4.32 km										
8	<p>(A) Providing and installation of 4 nos. suitable energy efficient deep well vertical turbine pumps for raw water at intake well cum pump house including automation as under:</p> <p>(a) 2 No. pumps of 10000 lpm discharge each and approx. 74 m head (b) 2 No. pump of 5000 lpm discharge and approx. 74 m head</p> <p>The pumps given above are inclusive of standby pumps</p> <p>(B) Providing and installation of suitable energy efficient centrifugal pumps for clear water at clear water sump cum pump house at WTP, and clear water sump cum pump houses for intermediate pumping stations including automation as under:</p> <p>For CW Sump of 1000 KL capacity at Bilgaon to GLBR at Pipariya Khurd:</p> <p>(a) 2 Nos. (W) pumps of 5283 lpm discharge each and approx. 110 m head (b) 2 Nos. (S) pumps of 2641 lpm discharge each and approx. 110 m head</p> <p>At Different IPS at various locations</p> <p>a) 2 Nos. pumps (1W+1S) of 493 lpm discharge each and approx. 138m head b) 2 Nos. pumps (1W+1S) of 69 lpm discharge each and approx. 181m head c) 2 Nos. pumps (1W+1S) of 63 lpm discharge each and approx. 51m head d) 2 Nos. pumps (1W+1S) of 146 lpm discharge each and approx. 20m head e) 2 Nos. pumps (1W+1S) of 160 lpm discharge each and approx. 30m head f) 2 Nos. pumps (1W+1S) of 250 lpm discharge each and approx. 120m head g) 2 Nos. pumps (1W+1S) of 354 lpm discharge each and approx. 101m head h) 2 Nos. pumps (1W+1S) of 153 lpm discharge each and approx. 34m head i) 2 Nos. pumps (1W+1S) of 257 lpm discharge each and approx. 20m head j) 2 Nos. pumps (1W+1S) of 49 lpm discharge each and approx. 31m head k) 2 Nos. pumps (1W+1S) of 132 lpm discharge each and approx. 201m head l) 2 Nos. pumps (1W+1S) of 229 lpm discharge each and approx. 48m head</p> <p>The pumps given above are inclusive of standby pumps</p>										

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Main Works

Provision for dedicated power supply lines from nearby substation to WTP, intake well cum pump house inclusive of all allied works complete as detailed below:

- (a) 11 KV: 12 km
- (b) LT line: 2 km

Provision of stretching suitable capacity electric line and taking connection for clear water sump cum pump houses. Any other work necessary to cater the power supply demand of the project (as variation).

The work includes construction of substations and stretching of power lines and internal and external electrification etc. complete at all components.

Supply, installing, testing and commissioning of following sized transformers and other ancillary works required, along with suitable sized transformer yards complete in all respects as per specifications:

- i. 2 (1W+1S) Number 500 kVA at Intake/ Raw Water Pumphouse
- ii. 2 (1W+1S) Number
- iii.
- iv.
- v. 500 kVA at WTP/ Clear Water Pumphouse
- vi. 2 (1W+1S) Number 25 kVA at IPS
- vii. 2 (1W+1S) Number 16 kVA at IPS
- viii. 2 (1W+1S) Number 16 kVA at IPS

The locations of installation of transfers are, Raw water Intake Pump House, Clear Water Pump House, WTP, Intermediate Pump Houses etc.

100% standby transformer capacity is to be maintained at each installation site of transformers.

Design, Supply, Delivery, Erection, Testing & Commissioning of Automation Components for Monitoring & Maintenance with GPRS Communication with all necessary accessories. (SCADA)

House Service Connection approximately 48529 Nos. (up to end of O&M Period)

Construction of Staff Quarter / Office Building:

Office Building/Admin block - 01 No. in WTP campus - 225 sqm.

Store Building - 01 No. – 75 sqm

F-type staff quarter with minimum plinth area 46.5 Sqm each - 01 No.

G-type staff quarter with minimum plinth area 93.0 Sqm each - 01 Nos.

H-type staff quarter with minimum plinth area 46.5 Sqm each - 03 Nos.

I-type staff quarter with minimum plinth area 32.5 Sqm each - 03 Nos.

Office Building of 400 sqm at place directed by MPJN

Operation & Maintenance of the Whole Scheme for first year

The Operation and Maintenance cost for the first year, in terms of percentage of contract Amount is given in Annexure H.

For every subsequent year, the first-year percentage rates will be increased / decreased according to the percentage change in consumer price index issued by Labour Bureau, GOI (All Industrial Worker) for that period. The index on the date of completion of trial run period will be treated as base for calculation of percentage point increase/decrease in O&M cost of next year. Payment of O&M will be made quarterly.

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SCHEME 2 - MAIN WORKS FOR HALON MULTI-VILLAGE

N o.	Main Works		
1	Construction of intake well cum pump house having minimum 10 m diameter and approx. 32 m (including pump room 6 m high) deep to draw a total of 72.30 million liters of water in 23 hours flow with provision for automation, construction of RCC Foot Bridge (approach bridge) approx. 150 meters long, minimum 5 m wide with approach road (excluding space for pipeline, kerb, cable duct, railing, electric poles, etc.) & all other necessary/ ancillary structures required at the bank of Halon Dam near Karanjiya Mal village, Mandla District. Raw water shall be taken from the back water of the dam by intake well.		
2	Raw water pumping main of 750 mm diameter DI-K9 of length approximately 10.3 km including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories, etc. complete including road restoration.		
3	Water treatment plant to provide 58.50 million liters of treated clear water in 23 hours near village Karanjiya Mal village, District Mandla including automation (SCADA), construction of boundary wall, internal roads, electrification, laboratory, etc., and all other necessary/ancillary structures required.		
4	Providing, laying, jointing, testing and commissioning of clear water pumping main of diameter and approximate length as detailed below of DI-K9 Pipe with in-lining and out-coating as per IS 8329 including flow meter, valves, sluice valves, air valves, scour valves, valve chambers, thrust blocks, crossings, specials & accessories, etc. complete including road restoration.		
	Type of Pipe	Diameter (mm)	Length (km)
	DI-K9	100	18.28
		150	18.88
		200	1.77
		250	7.43
		750	1.50
5	Providing, laying, jointing, testing and commissioning of clear water trunk main, DI (K-9 or K-7) as per IS 8329 and/ or MS pipe as per IS specified in specification including flow meters, valves, sluice valves, air valves, scour valves, valve chambers, thrust block, crossings (rail and road), specials & accessories, etc. complete including road restoration of diameter and corresponding length as detailed below:		
	Type of Pipe	Diameter in MM	Length in KM
	Up to 800 mm DI K-9 Pipe Above 800 mm DI K-9 or MS Pipe	100	171.87
		150	173.45
		200	89.96
		250	57.83
		300	10.32
		350	53.19
		400	18.24
		450	15.32
		500	54.08
		600	22.15

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No.	Main Works					
			700		40.10	
			750		4.29	
			900		6.55	
			1100		9.53	
6	b) Construction of Overhead Service Reservoirs (OHSR) at different villages of following capacity and staging of minimum 12 m or as per design to maintain the required minimum residual pressure of 7 m at consumer end including Provision of flow meters at each Reservoir including operator room, compound wall & Approach road.					
	S. No.	Village	Capacity (KL)	S. No.	Village	Capacity (KL)
	1	Barkheda Ryt	100	92	Kudwan	240
	2	Sijhora	350	93	Padmi	140
	3	Gunehara	100	94	Bhapsa	180
	4	Baheramal	200	95	Amgawan	160
	5	Bamhani Ryt	180	96	Murrām Khap	280
	6	Sighouri	110	97	Mungli	120
	7	Bija	190	98	Vishanpura Ryt	230
	8	Barrai	100	99	Ramnagar	270
	9	Jogi Ludhiya	140	100	Chaugaon Ryt	150
	10	Simariya	260	101	Kopariya F.V.	100
	11	Dhobabor	220	102	Palehara	240
	12	Naijhar	140	103	Sallwada Ryt	100
	13	Umariya	180	104	Suntikri	210
	14	Ilahi (Elahi)	180	105	Guhdar	110
	15	Jhigar Ghata	490	106	Piparpani	130
	16	Khamhariya	280	107	Korgaon	210
	17	Barwani	290	108	Purwa	270
	18	Madanpur	170	109	Amanala	210
	19	Kunti Dadargaon	130	110	Gorimati	110
	20	Tabalpani	270	111	KosamGhat	100
	21	Salwah	150	112	Surajpur	100
	22	chalni	120	113	Khudia	150
	23	Churiya	230	114	Patpar Ryt	110
	24	Kusmi	150	115	Simariya Mal	110
	25	Bhanpur	100	116	Dhangaon Mal	120
	26	Duladar	170	117	Bakchheradona	180
	27	Surehali(Surhali)	200	118	Nirandgarh	190
	28	Chauba	190	119	Chargaon	150
	29	Lodha	390	120	Jamunpani	100
	30	Harabhat	170	121	Jantipur	160
	31	Kevlari kalan	150	122	Binaika	260
	32	Katigahan	140	123	Katangi	100
	33	Khairi	180	124	Paijwara	290
	34	Khairi	220	125	Chatuwa Mal	100
	35	Ghutas	140	126	Bijadandi F.V.	140

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No.	Main Works				
36	Duba	100	127	Bamhori Jar	120
37	Mudalya Richka	100	128	Dungariya F.V.	210
38	Amagahan	340	129	Umariya	230
39	Chandwara Ryt	220	130	Khalwara	100
40	Harratola	260	131	Mandla	110
41	Shahajapuri	120	132	Mudadih Mal	120
42	Kumha	400	133	Jhalpani F.V.	130
43	Dale	190	134	Harduwa	110
44	Lapti	360	135	Salariya	210
45	Bhapsa	300	136	Deori	100
46	Dadargaon	350	137	Bilgarha Mal	110
47	Bundelikhoh	100	138	Odhari	110
48	Jhulup	300	139	Dhangaon -1	1220
49	Thonda	160	140	Ghughari	190
50	Dudhari	170	141	Umariya Ryt	210
51	Newsamal	270	142	Sudgaon	230
52	Chouranga	230	143	Binjhi	140
53	Mangaweli Ryt	130	144	Deogaon	160
54	Khalondi	170	145	Linga Mal	180
55	Atariya	100	146	Umardih	210
56	Bhimpuri Ryt	160	147	Mohgaon	330
57	Danitola	340	148	Malpahri	210
58	Rajo Ryt	100	149	Pondi Mal	210
59	Bhudkur	180	150	Thebha	370
60	Paddikona	230	151	Kharrar Chhappar Ryt	210
61	Chhalta Pakhana (Chitepakhana)	100	152	Munu	190
62	Changariya	100	153	Kudopani	140
63	Aurai Ryp (Ourai Ryt)	100	154	Pipardarra	170
64	Ghont	100	155	Mirchakheda F.V.	100
65	Bhawan	100	156	Malwathar	130
66	Mand	180	157	Pipardaun	310
67	Kumharra	110	158	Manga	110
68	Anjaniya	390	159	Kumharra	100
69	Jhigar Ghat	110	160	Andiya Alias Chhiwala Tola	180
70	Kewlari	100	161	Kairi Ryt	250
71	Bokar	150	162	Chabi	320
72	Kakaiya	230	163	Bamhani	110
73	Bijegaon	130	164	Kthaidih	100
74	Ghatiya	110	165	Chhata Mal	100
75	Kata Jar	120	166	Paraswah	110
76	Khari	350	167	Dhanauli	190
77	Lafra	200	168	Rahgi	200

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78	Kariyagaon	260	169	Bhanpur Dodi	210																																																
79	Jaganathar	100	170	Samnapur	130																																																
80	Madhopur	230	171	Gulukhoh	230																																																
81	Narenijar	130	172	Bilai Khar(Bisandhar)	150																																																
82	Harrabhat Jar	100	173	Andiya Mal	100																																																
83	Ahmadpur	250	174	Ghurghuti F.V.	100																																																
84	Chilphi	170	175	Muhgaon (Mohgaon)	210																																																
85	Imaliya Ryt	120	176	Katra	260																																																
86	Bhawa Mal	110	177	Bhandartal	100																																																
87	Lutiya	100	178	Tikra Berpani	100																																																
88	Imaliya Mal	100	179	Gupangi	100																																																
89	Suktara	130	180	Kharrajhar	100																																																
90	Kanhari	130	181	Kathautiya	100																																																
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<p>All MBR/ BPT/ IPS/ WTP shall have boundary wall as defined in bid document but all ESRs/ GSRs shall have G.I. chain link fabric fencing of mesh size 25x25mm made of G.I. wire of 3 mm diameter including strengthening with welding or nuts, bolt & washers etc. complete. It shall have ISA 50x50x5mm angle iron post at a spacing 2.5 m center to center of height 2m above ground level embedded in M20 cement concrete 30x30 cm pillar minimum 75cm below ground level. Every 7th post & corners shall be strutted with similar specification angle iron & grouting. The top & bottom of chain link as well as on angle a 25x3mm flat secured with either weld or rivets or bolts, to make fencing safer, shall be provided. It shall have angle iron gate of size 3.0m x 1.8m having ISA 50x50x5mm angle iron & 16mm diameter plain M.S. bar</p>																																																					

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No.	Main Works												
	<p>including AL drop, holdfast etc. and shall be fixed up in 45x45 cm wide R.C.C. pillars. An additional gate of size 0.6m x 1.5m shall also be provided within the same gate, to avoid opening of bigger gate all the time & it shall be made of IS 40x40x5mm angle iron with AL drop, etc.</p> <p>The CW sump cum pump houses and GLBR/ MBR/ BPT will have 2m high boundary wall with 'Y' shape angle iron with 2*3 rows of wire bed, wire fencing at top of boundary wall and gate, one room set of area 25sqm size with W.C. & bathroom, automation system and electrification with area lighting, etc. complete.</p> <p>The size of fencing or boundary wall shall be 20x20m including gate for these structures & if it increases or decreases then accordingly variation shall be paid or deducted as per UADD ISOR w.e.f. 1st May 2012 (with up to date amendments).</p> <p>One room set of minimum area 25 sqm size with W.C. & bathroom and housing of automation system and solar/ single phase electrification with area lighting, landscaping, plantation, etc. complete.</p> <p>The approach road for the MBR, OHSR, etc. shall be of approx. 30 m for each location. Any alteration to the total length of approach roads considering all structures shall be paid or deducted as per the MPPWD SOR w.e.f. 29th August 2017 (with up to date amendments). The length of the approach road shall be finalized by the Engineer-in-Charge.</p>												
7	<p>Distribution network of diameter and approximate length as detailed below comprising of HDPE, PE100 PN6 (minimum) and DI-K7 pipelines including valves, specials, sluice valves, air valves, scour valves, valve chambers, thrust block, bulk water meters for all villages, specials & accessories, etc. complete including road restoration and other allied works</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 80%;">a. 90 mm dia. minimum 6 kg/cm² pressure -</td> <td style="text-align: right;">2616.72 km</td> </tr> <tr> <td>b. 110 mm dia. minimum 6 kg/cm² pressure -</td> <td style="text-align: right;">316.75 km</td> </tr> <tr> <td>c. 160 mm dia. minimum 6 kg/cm² pressure -</td> <td style="text-align: right;">366.32 km</td> </tr> <tr> <td>d. 200 mm dia. minimum 6 kg/cm² pressure -</td> <td style="text-align: right;">194.19 km</td> </tr> <tr> <td>e. 250 mm dia. DI-K7 -</td> <td style="text-align: right;">32.88 km</td> </tr> <tr> <td>f. 300 mm dia. DI-K7 -</td> <td style="text-align: right;">1.51 km</td> </tr> </tbody> </table>	a. 90 mm dia. minimum 6 kg/cm ² pressure -	2616.72 km	b. 110 mm dia. minimum 6 kg/cm ² pressure -	316.75 km	c. 160 mm dia. minimum 6 kg/cm ² pressure -	366.32 km	d. 200 mm dia. minimum 6 kg/cm ² pressure -	194.19 km	e. 250 mm dia. DI-K7 -	32.88 km	f. 300 mm dia. DI-K7 -	1.51 km
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8	<p>(A) Providing and installation of 4 nos. suitable energy efficient deep well vertical turbine pumps for raw water at intake well cum pump house including automation as under:</p> <p>(a) 2 No. pumps of 18841 lpm discharge each and approx. 58 m head</p> <p>(b) 2 No. pump of 9420 lpm discharge and approx. 58 m head</p> <p>The pumps given above are inclusive of standby pumps</p> <p>(B) Providing and installation of suitable energy efficient centrifugal pumps for clear water at clear water sump cum pump house at WTP, and clear water sump cum pump houses for intermediate pumping stations including automation as under:</p> <p>For CW Sump of 1910 KL capacity to GLBR:</p> <p>(c) 2 Nos. (W) pumps of 17935 lpm discharge each and approx. 70 m head</p> <p>(d) 2 Nos. (S) pumps of 8968 lpm discharge each and approx. 70 m head</p> <p>At IPS-1 (Karela Ryt):</p> <p>(a) 3 Nos. (2W + 1S) pumps of 1129 lpm discharge each and approx. 90m head</p> <p>At IPS-2 (Jailwara Hill):</p> <p>(a) 3 Nos. (2W + 1S) pumps of 476 lpm discharge each and approx. 108m head</p> <p>At IPS-3 (Baheramal):</p> <p>(c) (a) 2 Nos. (1W + 1S) pumps of 837 lpm discharge each and approx. 25m head</p>												

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No.	Main Works
	<p>At IPS-4 (Bhawamal): (a) 2 Nos. (1W + 1S) pumps of 297 lpm discharge each and approx. 99m head</p> <p>At IPS-5 (Gunpangi): (a) 2 Nos. (1W + 1S) pumps of 50 lpm discharge each and approx. 55m head</p> <p>At IPS-6 (Dhangaon Mal): (a) 2 Nos. (1W + 1S) pumps of 351 lpm discharge each and approx. 23m head</p> <p>At IPS-7 (Suntikri): (a) 2 Nos. (1W + 1S) pumps of 2520 lpm discharge each and approx. 119m head</p> <p>At IPS-8 (Tikra Berpani): (a) 2 Nos. (1W + 1S) pumps of 187 lpm discharge each and approx. 61m head</p> <p>At IPS-9 (Amagahan): (a) 2 Nos. (1W + 1S) pumps of 1501 lpm discharge each and approx. 85m head</p> <p>At IPS-10 (Anjani): (a) 2 Nos. (1W + 1S) pumps of 1161 lpm discharge each and approx. 26m head</p> <p>At IPS-11 (Mudiya Richka): (a) 2 Nos. (1W + 1S) pumps of 325 lpm discharge each and approx. 43m head</p> <p>At IPS-12 (Bamhani): (a) 2 Nos. (1W + 1S) pumps of 460 lpm discharge each and approx. 222m head</p> <p>At IPS-13 (Barwani): (a) 2 Nos. (1W + 1S) pumps of 455 lpm discharge each and approx. 123m head</p> <p>At IPS-14 (Khalechani): (a) 2 Nos. (1W + 1S) pumps of 240 lpm discharge each and approx. 173m head</p> <p>The pumps given above are inclusive of standby pumps.</p>
9	<p>Provision for dedicated power supply lines from nearby substation to WTP, intake well cum pump house inclusive of all allied works complete as detailed below:</p> <p>(a) 33 KV: 18 km (b) 11 KV: 11 km (c) LT line: 15 km</p> <p>Provision of stretching suitable capacity electric line and taking connection for clear water sump cum pump houses. Any other work necessary to cater the power supply demand of the project (as variation).</p> <p>The work includes construction of substations and stretching of power lines and internal and external electrification etc. complete at all components.</p> <p>Supply, installing, testing and commissioning of following sized transformers and other ancillary works required, along with suitable sized transformer yards complete in all respects as per specifications:</p> <p>vi. 2 (1W+1S) Number 1000 kVA at Intake/ Raw water Pump House</p>

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No.	Main Works
	<p>vii. 2 (1W+1S) Number 1000kVA at Clear Water Pump House/ WTP At different Intermediate Pump Houses (wherever required)</p> <p>viii. 2 (1W+1S) Number 100kVA</p> <p>ix. 2 (1W+1S) Number 100kVA</p> <p>x. 2 (1W+1S) Number 63kVA</p> <p>xi. 2 (1W+1S) Number 63kVA</p> <p>xii. 2 (1W+1S) Number 63kVA</p> <p>xiii. 2 (1W +1S) Number 25kVA</p> <p>xiv. 2 (1W +1S) Number 25kVA</p> <p>xv. 2 (1W+1S) Number 16kVA</p> <p>xvi. 2 (1W+1S) Number 16kVA</p> <p>xvii. 2 (1W+1S) Number 16kVA</p> <p>The locations of installation of transfers are Raw Water Intake Pump House, Clear Water Pump House, WTP, Intermediate Pumping Stations (IPS), etc.</p> <p>100% standby transformer capacity is to be maintained at each installation site of transformers.</p>
10	Design, Supply, Delivery, Erection, Testing & Commissioning of Automation Components for Monitoring & Maintenance with GPRS Communication with all necessary accessories. (SCADA)
11	House Service Connection approximately 88230 Nos. (up to end of O&M Period)
12	<p>Construction of Staff Quarter / Office Building:</p> <p>Office Building/Admin block - 01 No. in WTP campus - 225 sqm. Store Building - 01 No. – 75 sqm</p> <p>F-type staff quarter with minimum plinth area 46.5 Sqm each – 03 Nos. G-type staff quarter with minimum plinth area 93.0 Sqm each - 02 Nos. H-type staff quarter with minimum plinth area 46.5 Sqm each - 05 Nos. I-type staff quarter with minimum plinth area 32.5 Sqm each - 05 Nos. Office Building of 400 sqm at place directed by MPJN</p>
13	<p>Operation & Maintenance of the whole scheme for first year</p> <p>The Operation and Maintenance cost for the first year, in terms of percentage of contract Amount is given in Annexure H.</p> <p>For every subsequent year, the first-year percentage rates will be increased/ decreased according to the percentage change in consumer price index issued by Labour Bureau, GOI (All Industrial Worker) for that period. The index on the date of completion of trial run period will be treated as base for calculation of percentage point increase/decrease in O&M cost of next year. Payment of O&M will be made quarterly.</p> <p>NOTE:</p> <p>e) The operation & maintenance period is 10 years from the date of completion of three months of trial run after successful commissioning of the project.</p> <p>f) The cost of energy charges (excluding penalties) shall be paid by MPJN on reimbursement basis.</p> <p>g) Energy Requirement: The estimation for maximum yearly consumption of energy is 1,29,12,873 kwH (Unit) for design period. The estimate will be finalized based on the equipment installed as per the approved design. For intermediate years, payment will be made on pro rata / calculation basis.</p>

END OF THE DOCUMENT