कार्यालय प्रमुख अभियंता
लोक स्वास्थ्य यांत्रिकी विभाग
जल भवन, बाणगंगा, भोपाल–462 003
दूरभाष क्रमांक (0755) 2779411–12
(An ISO 9001:2015 Certified Office)

क्रमांक **254** / स्था. / राज. / प्र.अ. / लो.स्वा.यां.वि. / 2020 भोपाल, दिनांक **06.08.2020**

द्वितीय संशोधन / नवीन आदेश

लोक स्वास्थ्य यांत्रिकी विभाग के अंतर्गत जल प्रदाय एवं अन्य संबंधित कार्यों हेतु दिनांक 03.07.2018 से प्रभावशील एकीकृत दर अनुसूची में तकनीकी समिति की 25वीं बैठक दिनांक 15.07.2020 की अनुशंसा पर निम्नानुसार चेप्टर एवं आयटमों का समावेश किया जाता है :–

S. No.	CHAPTER No.	Details	USOR Item no.	Remark
1	XVII	GENERAL MISCELLANEOUS	17.35 to 17.47	New Items
			17.13 to 17.15	Items Deleted
2.	XXVI	RCC Elevated Service Reservoir/ Over Head Tank (ESR/OHT), RCC Ground Service Reservoir (GSR), RCC Sumpwell, RCC Framed Brick Masonary Pump House and MS Staging for Polyethylene Tank.	26.1 to 26.6	New Chapter
3.	XXVII	ORIENTED P.V.C. (PVC-O) PIPES	27.1 to 27.5	New Chapter

इस संशोधन में शामिल 5 मीटर ऊँचाई की एम.एस. स्टेजिंग के आयटम क्रमांक 26.5 एवं 26.6 की डिजाईन एवं फुल साईज ड्राइंग विभागीय वेबसाइट पर भी उपलब्ध है।

यह आदेश तत्काल प्रभाव से लागू होगा।

6.8.2020
(के.के. सोनगरिया)
प्रमुख अभियंता

पृ.क्रमांक **5139** / स्था. / राज. / प्र.अ. / लो.स्वा.यां.वि. / 2020 भोपाल, दिनांक **06.08.2020**

प्रतिलिपिः–

1. निज सचिव, माननीय, मंत्रीजी, लोक स्वास्थ्य यांत्रिकी विभाग, भोपाल।
2. प्रमुख सचिव, मध्यप्रदेश शासन, लोक स्वास्थ्य यांत्रिकी विभाग, मंत्रालय भोपाल।
3. प्रबंध संचालक, मध्यप्रदेश जल निगम मर्यादित, विंध्याचल भवन, भोपाल।
4. प्रमुख अभियंता, जल संसाधन विभाग, भोपाल।
5. प्रमुख अभियंता, लोक निर्माण विभाग, भोपाल।
6. प्रमुख अभियंता, नगरीय प्रशासन एवं विकास विभाग, भोपाल।
7. प्रमुख अभियंता, ग्रामीण यांत्रिकी सेवा, भोपाल।
8. समस्त मुख्य अभियंता, लोक स्वास्थ्य यांत्रिकी विभाग, परिक्षेत्र समस्त मध्यप्रदेश।
9. समस्त अधीक्षण यंत्री, लोक स्वास्थ्य यांत्रिकी विभाग, मण्डल समस्त मध्यप्रदेश।
10. समस्त कार्यपालन यंत्री, लोक स्वास्थ्य यांत्रिकी, खण्ड समस्त मध्यप्रदेश।
11. आदेश नस्ती।

6.8.2020
प्रमुख अभियंता

Government of Madhya Pradesh

Public Health Engineering Department

2nd ADDENDUM

OF

UNIFIED SCHEDULE OF RATES (USOR)

w.e.f. 03.07.2018

FOR WATER SUPPLY, SEWERAGE AND ALLIED WORKS

(Issued vide order no. 254 dt 06.08.2020)

Issued by

Engineer-In-Chief
Public Health Engineering Department
Madhya Pradesh, Bhopal

CHAPTER-XVII

GENERAL MISCELLANEOUS

CHAPTER-XVII

GENERAL MISCELLANEOUS

USOR Item no	items	Unit	Rates in Rs.	Remark
17.35	Providing and fixing G.I chain link fabric fencing of required width in mesh size 25 x 25 mm made of G.I wire of dia. 3 mm including strengthening with 2 mm dia. Wire or nuts, bolts and washer as required complete with posts of angle iron size 50x50x5mm 2.5 meter apart and strut of required size including bottom to be split and band at right angle in opposite direction for 10 cm length and drilling holes upto 10 mm dia and of standard design placed and embedded in cement concrete blocks 45x45x60cm of mix 1:2:4 (1 cement :2 sand : 4) graded stone aggregate 40 mm nominal size) every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and struts embedded in cement concrete blocks 70x45x50cm of the same mix, as per the direction of Engineering charge.	Sqr. Mt.	770	New Item Added
17.36	Providing, placing and installation of polyethylene water tank ISI:12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and over flow pipes but without fitting and the base support for tank on terrace (at all floor level).	Litre	6.30	New Item Added
17.37	Supplying and installation of energy efficient 5 star rated BEE rating ISI marked required capacity three phase centrifugal mono block inline booster pump set excluding cable.			New Item Added
17.37.1	15-20 M head and 120-200 LPM, 1 H.P.	Each	16514	
17.37.2	15-20 M head and 270 LPM TO 210, 1.5 H.P.	Each	18134	
17.37.3	15-20 M head and 350 LPM TO 270 LPM , 2 H.P.	Each	19934	
17.38	Providing and jointing of following galvanized Iron (MS) Pipes class medium with heavy duty seamless sockets for lowering of submersible pumps including testing of joints, cost of pipes & heavy duty sockets and jointing materials all complete. Pipes and sockets confirming to IS:1239-2011 Part-II.			New Item Added
17.38.1	50 mm dia, class medium with heavy duty seamless sockets	Meter	285	
17.38.2	65 mm dia, class medium with heavy duty seamless sockets	Meter	370	
17.39	Consultancy services for preparation of Detailed Project Report for water supply scheme including total station/DGPS survey (Compatible to My map) of the village covering important features of the village like roads, existing sources, institutions etc as directed by engineer in charge, hydraulic design of different components of the scheme like tube wells/dugwells, pumps, pumping mains, distribution network, sumpwell, OHT			New Item Added

USOR Item no	items	Unit	Rates in Rs.	Remark
	etc and preparation of estimates of all the components of DPR as per the standard norms, plotting of coloured map showing existing and proposed components of the the scheme, important features of the village & printing and submission of the DPR in booklet form in Six hard copies and soft copy in pen drive etc complete as directed by Engineer in charge.			
17.39.1	Having Population as per Year 2020 - Upto 1000 Souls	Each	10000	
17.39.2	Having Population as per year 2020 - more than 1000 & upto 2500 Souls	Each	15000	
17.39.3	Having Population as per Year 2020 - more than 2500 & upto 5000 Souls	Each	20000	
17.39.4	Having Population as per Year 2020 - more than 5000 Souls	Each	25000	
17.40	Consultancy services for preparation of Detailed Project Report for Multi village Water Supply Scheme for villages which includes Survey work by total station/DGPS (Compatible to My map) of the villages and other components of the scheme covering important features of the villages like roads, existing sources, institutions etc, Source Study & Assessment, hydraulic design of different components of the DPR like Barrage, Intake, pumps, pumping mains, Water Treatment Plant, distribution networks, sumpwells, OHTs, Design of Sub Stations etc and preparation of estimates of all the components of scheme as per the standard norms, plotting of coloured map showing existing and proposed components of the scheme, important features of the village, preparation and Plotting index map and schematic diagram & printing and submission of the DPR in booklet form in Six hard copies and soft copy in pen drive etc complete as directed by Engineer in charge.	Each	0.25 % of the cost of stage-I estimate sanctioned by competent authority of deptt.	New Item Added
17.41	Providing and making Consumer Service Connection (Functional House Hold Taps Connection) from HDPE pipe with the help of electro fusion machine including all labour and material such as Electro fusion Saddle, brass ferrule (Not less than 100 gm in weight)/MDPE ferrule/flow control valve, double compression elbow, male/female threaded adopter with metal insert, sockets, MDPE union 20mm dia/GI union 15 mm dia (medium class), brass/SS tap etc all complete and all items/fittings shall be complying with the relevant BIS Codes. Rates also include excavation, cutting of road if required, refilling the trenches and restoration of road with minimum M-20 (1:1.5:3) grade CC or equivalent grade of existing CC cutting for providing tap connection (whichever is richer), construction of Platform and grouting of circular post neat finished as per the drawing attached, testing all complete items.			(New item added)
17.41.1	For connection with 20 mm dia MDPE pipe upto 5 meter and CONCRETE ROAD CROSSING is necessary.	Each	2830	
17.41.2	For connection with 20 mm dia MDPE pipe more than 5 meter & upto 10 meter and CONCRETE ROAD CROSSING is necessary.	Each	3020	

6.2.20

USOR Item no	items	Unit	Rates in Rs.	Remark
17.41.3	For connection with 20 mm dia MDPE pipe upto 5 meter and road crossing is not required. (Distribution pipe line is on the same side of house)	Each	2030	
17.41.4	For connection with 20 mm dia MDPE pipe upto 5 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	2120	
17.41.5	For connection with 20 mm dia MDPE pipe more than 5 meter & upto 10 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	2230	
17.42	Providing and making Consumer Service Connection (Functional House Hold Taps Connection) from HDPE pipe with the help of electro fusion machine including all labour and material such as Electro fusion Saddle, brass ferrule (Not less than 100 gm in weight)/MDPE ferrule/flow control valve, double compression elbow, male/female threaded adopter with metal insert, sockets, MDPE union 20mm dia/GI union 15 mm dia (medium class), brass/SS tap etc all complete and all items/fittings shall be complying with the relevant BIS Codes. Rates also include excavation, cutting of road if required, refilling the trenches and restoration of road with minimum M-20 (1:1.5:3) grade CC or equivalent grade of existing CC cutting for providing tap connection (whichever is richer), construction of Platform and grouting of circular post neat finished as per the drawing attached, testing all complete items.			(New item added)
17.42.1	For connection with 15 mm dia GI Pipe upto 5 meter and CONCRETE ROAD CROSSING is necessary.	Each	2980	
17.42.2	For connection with 15 mm dia GI pipe more than 5 meter & upto 10 meter and CONCRETE ROAD CROSSING is necessary.	Each	3410	
17.42.3	For connection with 15 mm dia GI pipe upto 5 meter and road crossing is not required. (Distribution pipe line is on the same side of house).	Each	2280	
17.42.4	For connection with 15 mm dia GI pipe upto 5 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	2450	
17.42.5	For connection with 15 mm dia GI pipe more than 5 meter & upto 10 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	2630	
17.43	Providing and making Consumer Service Connection (House Hold Connection) from CI/DI/GI pipe including all labour and material such as connection clamp, barss ferrule (not less than 100 gm) /flow control valve, double compression elbow, male/female threaded adopter with metal insert sockets, union 20mm dia MDPE /15 mm dia GI pipe (medium class), brass/SS tape etc all complete and complying with the relevant BIS specifications. Rate also includes excavation, cutting of road if required, refilling the trenches and restoration of road with minimum M-20 (1:1.5:3) grade CC or equivalent grade of			(New item added)

USOR Item no	items	Unit	Rates in Rs.	Remark
	existing CC cutting for providing tap connection (whichever is richer), construction of Platform and grouting of circular post neat finished as per the drawing attached, testing all complete items.			
17.43.1	For connection with 20 mm dia MDPE Pipe upto 5 meter and CONCRETE ROAD CROSSING is necessary.	Each	2530	
17.43.2	For connection with 20 mm dia MDPE pipe more than 5 meter & upto 10 meter and CONCRETE ROAD CROSSING is necessary.	Each	2720	
17.43.3	For connection with 20 mm dia MDPE pipe upto 5 meter and road crossing is not required. (Distribution pipe line is on the same side of house).	Each	1730	
17.43.4	For connection with 20 mm dia MDPE pipe upto 5 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	1830	
17.43.5	For connection with 15 mm dia GI pipe more than 5 meter & upto 10 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	1930	
17.44	Providing and making Consumer Service Connection (House Hold Connection) from CI/DI/GI pipe including all labour and material such as connection clamp, barss ferrule (not less than 100 gm) /flow control valve, double compression elbow, male/female threaded adopter with metal insert sockets, union 20mm dia MDPE /15 mm dia GI pipe (medium class brass/SS tape etc all complete and complying with the relevant BIS specifications. Rate also includes excavation, cutting of road if required, refilling the trenches and restoration of road with minimum M-20 (1:1.5:3) grade CC or equivalent grade of existing CC cutting for providing tap connection (whichever is richer), construction of Platform and grouting of circular post neat finished as per the drawing attached, testing all complete.			(New item added)
17.44.1	For connection with 15 mm dia GI Pipe upto 5 meter and CONCRETE ROAD CROSSING is necessary.	Each	2680	
17.44.2	For connection with 15 mm dia GI pipe more than 5 meter & upto 10 meter and CONCRETE ROAD CROSSING is necessary.	Each	3110	
17.44.3	For connection with 15 mm dia GI pipe upto 5 meter and road crossing is not required. (Distribution pipe line is on the same side of house).	Each	1980	
17.44.4	For connection with 15 mm dia GI pipe upto 5 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	2200	
17.44.5	For connection with 15 mm dia GI pipe more than 5 meter & upto 10 meter and road (OTHER THAN CONCRETE ROAD) crossing is necessary.	Each	2330	

6.8.20

USOR Item no	items	Unit	Rates in Rs.	Remark
	Deduct from item no 17.41 to 17.44 if platform and parapet is not constructed.	Each	350	
	Deduct from item no 17.41 to 17.44 if grouting in post not done.	Each	150	
17.45	Construction of Brick masonry valve chamber with 20 cm thick wall in 1:6 C.M. with 12mm thick 1:4 Cement Plaster and base course 10 cm. thick in M-15. Inside Dimensions 110x80x100cm with -			New Item Added
17.45.1	M-20 RCC chamber cover size 150cm x 120cm x 12cm including cost of materials, labour etc. complete.	No.	6219	
17.45.2	Heavy Duty SFRC chamber cover with frame size 150cmx120cmx10cm including cost of materials, labour etc. complete.	No.	6500	
17.46	Construction of Brick masonry valve chamber with 20 cm thick wall in 1:6 C.M. with 12mm thick 1:4 Cement Plaster and base course 10 cm. thick in M-15. Inside Dimensions 90x60x100cm with -	No.		New Item Added
17.46.1	M-20 RCC chamber cover size 130cm x 100cm x 12cm including cost of materials, labour etc. complete.	No.	4800	
17.46.2	Heavy Duty SFRC chamber cover with frame size 130cm x 100cm x 10cm including cost of materials, labour etc. complete.	No.	5100	
17.47	Fabrication, providing and fixing of typical information board of size 2.40 m x 1.80 m made out as detailed below - 1. Three vertical support made out from 100 mm x 50 mm , 6.0 mm thick channel. This shall be minimum 1.0 m below GL and 3.00 m above GL. The Channel shall be erected on 600 mm x 600 mm x 1000 mm foundation blocks at appropriate depth made of cement concrete 1:2:4. 2.The board shall be fabricated from 1.6 mm thick MS sheet of size 2.40 m x 1.80 m, The frame of board shall be fabricated with 50 mm x 50 mm x 5 thick angle with one horizontal additional support in center with same angle. 3. Whole structure shall be painted by standard color with lettering border, heading and logo etc using synthetic enamel paint of superior quality including welding, excavation, concreting , painting of base, border and lettering, painting and other required details etc complete as directed by Engineer in charge.	Job	27000	New Item Added
~~17.13~~	~~Providing and supply of Electro Fusion Tapping Ferrule (Branch Tapping saddle) Female BSP Threaded woth SS 304 insert fittings in accordance with BS EN 12201: Part 3 suitable for drinking water with in black/ blue color manufactured from compounded PE 80/ PE 100 virgin polymer and compatible with PE80/PE 100 pipes, in pressure rating SDR 11 with min~~	~~No.~~	~~1980~~	Deleted

USOR Item no	items	Unit	Rates in Rs.	Remark
	~~PN 12.5 rated for water application with electro fusion tapping ferrule saddle, 90x15mm and providing and supplying blue 20mm dia PN 16 MDPE pipes 5-10 mtr confirming to IS 4427:1996 Manufactured from virgin resin PE 80 food grade compounded Raw Material having Blue color only with quality assurance certificate from quality agencies like WRC/ CIPET (India) / DVGM/ KIWA/ SPGN etc. for usage in drinking water system the cost shall include testing of all materials all taxes central, state municipal inspection charges transportation up to site, transit insurance, loading, unloading, stacking etc. complete i/c cost of 15mm dia UPVC pipe sockety Elbow, Union 20x15 mm dia PVC reducer and providing and stainless steel water tap with grouting of vertical pipe as per requirement as per approved specification and as directed by Engineer in charge.~~			
~~17.14~~	~~House hold connection with 15mm S.S. tap including earth work in excavaton for pipe trench in all kinds of soil & W.B.M. in areas with demolishing cement concrete road and reconstruction of same good with providing and fixing 15mm G.M./ brass ferrule 90x15mm MS/ PVC Clamp in main line 15mm dia PVC pipe heavy class from main pipe line to house of consumer up to 5 to 10 meter long as per site condition PVC specials such as 15mm PVC sockets elbows, union with all other work pertaining to it job completed, as per approved specification and as directed by Engineer incharge~~	~~No.~~	~~1620~~	Deleted
~~17.15~~	~~House hold connection with 15mm S.S. tap including earth work in excavaton for pipe trench in all kinds of soil & W.B.M. in areas with demolishing cement concrete road and reconstruction of same good with providing and fixing 15mm G.M./ brass ferrule 90x15mm MS/ PVC Clamp in main line, 15mm dia G.I. pipe from main pipe line to house of consumer up to 5 to 10 meter long as per site condition i/c specials such as G.I. Bends, elbows, tees,union etc. with all other work pertaining to job completed, as per approved specification and as directed by Engineer incharge~~	~~No.~~	~~1800~~	Deleted

6.8.2020

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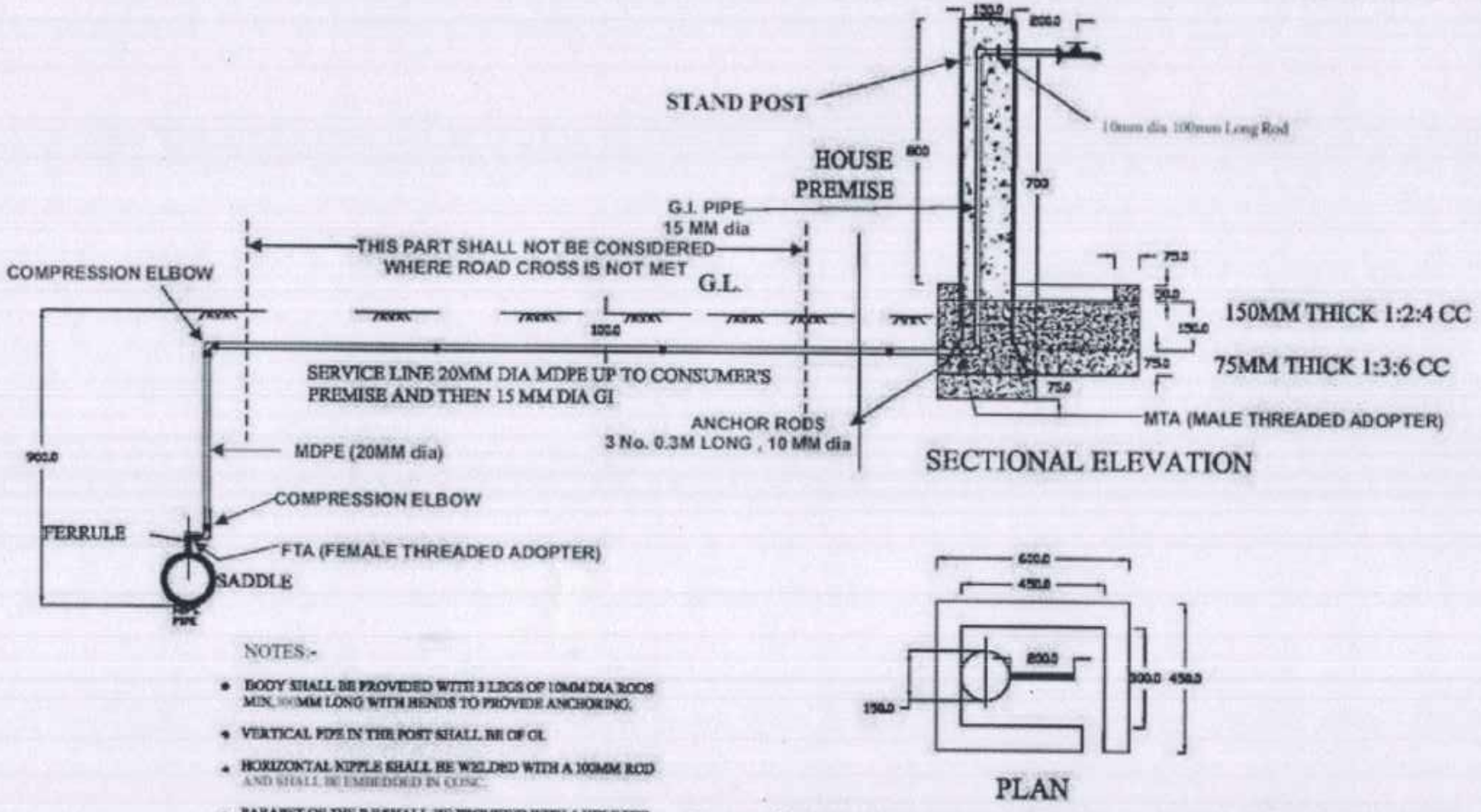
GENERAL ARRANGEMENT DRAWING FOR HOUSE HOLD CONNECTION WITH MDPE PIPE



NOTES:-

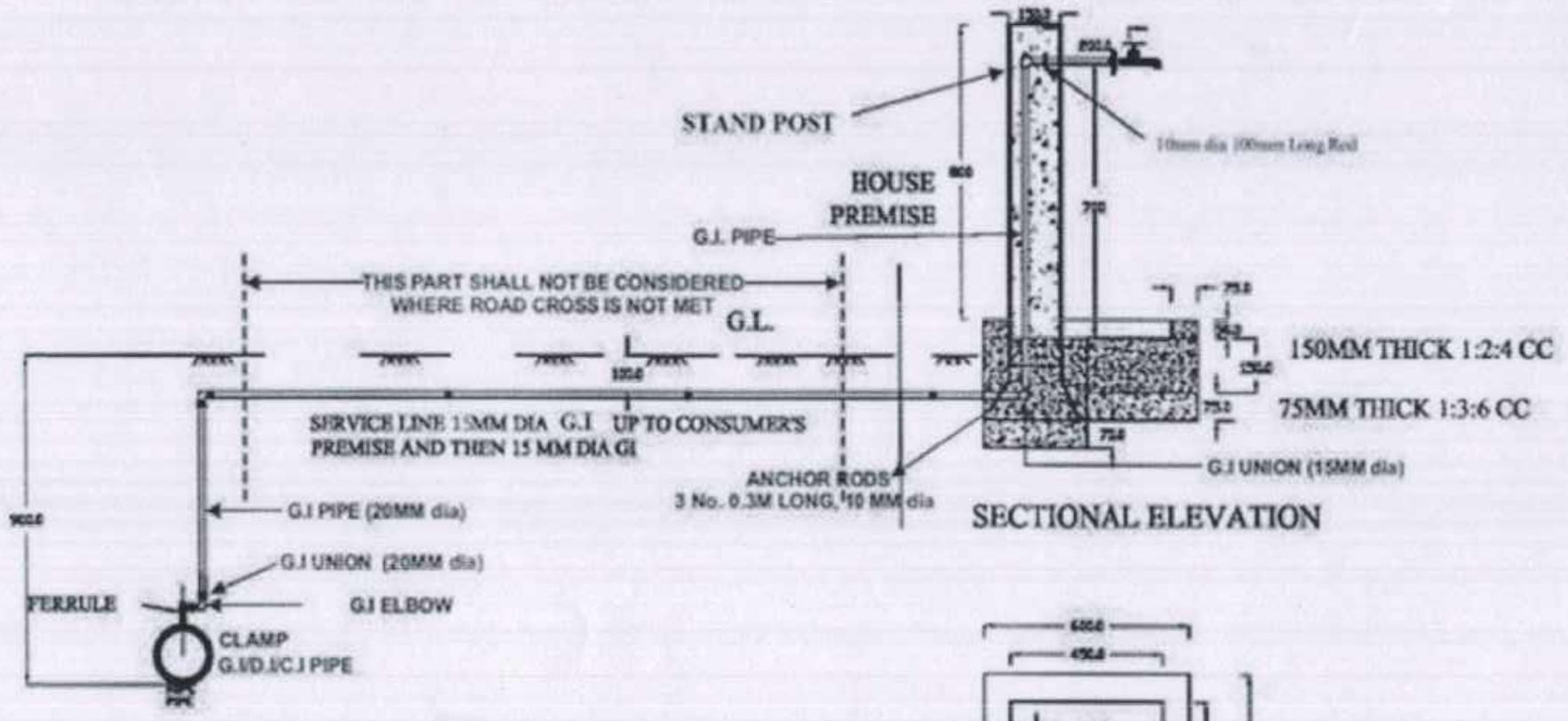
- BODY SHALL BE PROVIDED WITH 3 LEGS OF 10MM DIA RODS MIN. 300MM LONG WITH BENDS TO PROVIDE ANCHORING.
- VERTICAL PIPE IN THE POST SHALL BE OF GI.
- HORIZONTAL NIPPLE SHALL BE WELDED WITH A 100MM ROD AND SHALL BE EMBEDDED IN CONC.
- PARAPET OF THE P.F.SHALL BE PROVIDED WITH A HOLE FOR DRAINING OF WATER.
- ALL DIMENSIONS IN MILLI METRES.

General Arrangement Drawing for USOR (w.e.f. 03.07.2018)
Item No. 17.41 and 17.43

NOT TO SCALE

18.2.20

GENERAL ARRANGEMENT DRAWING FOR HOUSE HOLD CONNECTION WITH G.I PIPE



NOTES:-

- BODY SHALL BE PROVIDED WITH 3 LEGS OF 10MM DIA RODS MIN. 300MM LONG WITH RINGS TO PROVIDE ANCHORING.
- VERTICAL PIPE IN THE POST SHALL BE OF GI.
- HORIZONTAL NIPPLE SHALL BE WELDED WITH A 10MM ROD AND SHALL BE EMBEDDED IN CONC.
- PARAPET OF THE P.P SHALL BE PROVIDED WITH A HOLE FOR DRAINING OF WATER.
- ALL DIMENSIONS IN MILLI METRES.

General Arrangement Drawing for USOR (w.e.f. 03.07.2018)

Item No. 17.42 and 17.44

NOT TO SCALE

6.8.2020

CHAPTER-XXVI

RCC Elevated Service Reservoir/ Over Head Tank (ESR/OHT), RCC Ground Service Reservoir (GSR), RCC Sumpwell, RCC Framed Brick Masonary Pump House and MS Staging for Polyethylene Tank.

CHAPTER-XXVI

RCC Elevated Service Reservoir/ Over Head Tank (ESR/OHT), RCC Ground Service Reservoir (GSR), RCC Sumpwell, RCC Framed Brick Masonry Pump House and MS Staging for Polyethylene Tank

1. RCC ESR/OHT

General Scope :-

Preparation of structural design, drawing, construction, testing & commissioning and trial-run of RCC Elevated Service Reservoir/Over Head Tank (ESR/OHT) of various capacities and staging/height complying with provisions of relevant Indian standards and E-IN-C, MPPHED, guidelines issued vide circular No. 8674 Dt 05.10.2018. Using latest Soil Investigation Report of proposed site, Seismic zone, Wind speed Zone. Including :

(1) Container shape of any suitable type (or as specified),

(2) Staging consisting of column brace trestle / combination column- brace trestle as appropriate (or as specified)

(3) Appropriate foundation system. This includes excavation in all types of soil strata (including hard rock), casting 100 mm thick P.C.C. leveling course in M-10, Refilling the pit with proper soil and disposing of the surplus stuff at all required lead and lift.

(4) This will also include cement plaster in CM 1:2 with approved water proofing compound all over inside container (i.e. walls, base, top slab/dome bottom etc. all).

(5) All types of labour & material charges of lowering , laying, erecting / hoisting & jointing of pipe assembly of Inlet, Outlet, overflow, washout and bye pass arrangement as per hydraulic design are including.

(6) Providing and fixing of any accessories(specified), CI Manhole frame and covers, water level indicator, lightening conductor, GI Pipe railing around walk way, at roof level, at gallery and both sides of staircase. Adequate cowl type ventilators or lantern type ventilator with stainless steel jali. Aluminum ladder to provide access inside the tank

(7) Scope of work includes constructing RCC spiral staircase with adequate tie beams, staircase footing, RCC chambers for valves. Ventilating shaft and ventilators as well as door after first flight of staircase to prevent intruders SS grating to be provided to outlet pipe (inside container) for safety.

(8) Including providing and applying three coats of all weather exterior paint (as specified) to the whole structure.

(9) It also includes satisfactory water tightness test as per relevant I.S. Code and painting name of scheme & capacity on the tank as per direction of Engineer in charge. Approval of design/drawing from Government Institution will be the responsibility of contractor, if provided by contractor.

List of Indian Standards for design of ESR:

Note: The structural design of ESR shall be in accordance with provisions of relevant Indian standards

(1) I.S. 3370 part III & IV 1965 or Its latest revision

(1.1) I.S. 3370 part III & IV 1965 or Its latest revision

(2) IS 456-2000 Reaffirmed 2016

(3) IS 11682- 1985 Reaffirmed 2003

(4) IS 1893-2016part I to V

(5) IS 13920-1993, or Its latest revision

6.8.2018

(6) IS 875 part I to III,1987 or Its latest revision

(7) IS 11089- 1984 Reaffirmed 2002

(1) The Min. concrete grade for RCC shall be M-30 for water retaining structure and M-25 for remaining structure of concrete ingredients shall be as per Mix design using weigh batching.

(2) HYSD(Fe 415)or higher grade reinforcing bars confirming to IS 1786/1139 or CRS /TMT bars shall be used as per detailed specification.

(3) In case of column –brace trestle type staging having more than 6 columns internal horizontal bracing is obligatory. One bracing shall be at foundation level in case of Individual footings .

(4) Min. size/ thickness of various components shall be provided as per design criteria / specifications / IS Code (or as per std. practice). Capacity of the ESR shall be considered excluding free board.

(5) Minimum dimensions specified for various components in tender data /specifications should be provided.

(6) The Safe bearing capacity (SBC) /allowable pressure on soil shall be referred from latest SBC test report or tender datasheet. During execution. if poor soil strata or ground water table is encountered, the SBC shall have to bere-ascertained and the design should be revised accordingly.

(7) Maximum spacing between horizontal bracings shall be 5 m (story height).

(8) For ESR-having staging height more than 15 m the spiral staircase shall be provided outside the staging with effective tie beams in more than one direction.

(9) Water level indictor shall be provided and fixed float type /electronic (as specified).

(10) The rate shall include providing and fixing pipes, specials, and valves required for inlet, outlet, washout, over flow and Bye- pass arrangement as stipulated in tender documents. The scope of work includes constructing supporting RC pillars, erecting, laying, fixing and joining pipes and special setup to3 m length from face of staging (outer most columns).

(11) The rate shall include cost of dewatering during execution making all arrangement with any dewatering technique.

(12) The structure shall be designed properly for uplift due to Ground water table specified in data or GWT encountered during execution. No extra payment shall be paid for the same.

(13) Effective curing shall be carried out up to required period as per specifications.

(14) Agency shall engage qualified (at least graduate)consulting Engineer for designing the structure and he/she shall visit the site for guidance of work at all levels (i.e. below foundation, up to GL, above GL for all lifts up to container).

(15) Container bottom slab shall preferably be flat slab.

(16) Rates for this item are for all seismic zone of MP State.

(16) Payment breakup of this item is as follows :-

S. No.	Stage of payment	% of amount of Item to be paid	Cumulative Percentage
1.	After casting of Leveling Course	3%	3%
2.	After foundation including columns to 1st brace level.	5%	8%
3.	After casting 50% R.C.C. Staging	10%	18%
4.	After full Staging	15%	33%
5.	After Ring Beam bottom Slab Casting	15%	48%

6.8.2020

S. No.	Stage of payment	% of amount of Item to be paid	Cumulative Percentage
6.	After Casting Vertical wall of tank	15%	63%
7.	After Casting Stair-Case Including railing Work and Top Dome Slab	10%	73%
8.	Supply of all Pipes, Specials and fixing complete	12%	85%
9.	After G.L Protection Work Gate work Complete	5%	90%
10.	After Finishing work, Testing, Commissioning and completion of work of this item in all respect.	5%	95%
11.	After Successful Trial-Run of Entire Scheme	5%	100%

Above conditions/general specifications shall be part & parcel of tender (contract)

Note- 1. If design and drawing is provided by the department, then Rs. 25000/- will be deducted from that running bill which includes first payment of this item.

2. GST shall be paid separately to the contractor as per prevailing Government norms.

USOR Item no	Descriprion of items	Unit	Rate in Rupees		
26.1	Design, drawing, construction, testing and commissioning of Elevated Service Reservoir/ Over Head Tank (ESR/OHT) with all necessary fitting as mentioned in relevant chapter of USOR, IS codes and departmental guidelines. Complete turn key job for following capacities with 9/12/15 meter staging height from GL :-		Staging Height in Meter		
			9 Mt.	12 Mt.	15 Mt.
26.1.1	50 Kilo Litres	No	1051650	1107000	1162350
26.1.2	75 Kilo Litres	No	1308150	1377000	1445850
26.1.3	100 Kilo Litres	No	1385100	1458000	1530900
26.1.4	125 Kilo Litres	No	1539000	1620000	1701000
26.1.5	150 Kilo Litres	No	1727100	1818000	1908900
26.1.6	175 Kilo Litres	No	1795500	1890000	1984500
26.1.7	200 Kilo Litres	No	1949400	2052000	2154600
26.1.8	225 Kilo Litres	No	2128950	2241000	2353050
26.1.9	250 Kilo Litres	No	2341750	2465000	2588250
26.1.10	275 Kilo Litres	No	2549800	2684000	2818200
26.1.11	300 Kilo Litres	No	2658100	2798000	2937900
26.1.12	325 Kilo Litres	No	2951650	3107000	3262350
26.1.13	350 Kilo Litres	No	3145450	3311000	3476550
26.1.14	375 Kilo Litres	No	3334500	3510000	3685500

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USOR Item no	Descriprion of items	Unit	Rate in Rupees		
26.1.15	400 Kilo Litres	No	3518800	3704000	3889200
26.1.16	425 Kilo Litres	No	3698350	3893000	4087650
26.1.17	450 Kilo Litres	No	3873150	4077000	4280850
26.1.18	475 Kilo Litres	No	4043200	4256000	4468800
26.1.19	500 Kilo Litres	No	4208500	4430000	4651500
	Add extra for Raft Foundation on above items rate.	%	2.5% on above Rate		

2. RCC GSR and SUMPWELL

General Scope :-

Preparation of structural design & drawing, construction, testing & commissioning and trial-run of RCC Under Ground/Partially underground/Ground Level Reservoir of required capacity as per relevant I.S. standards including excavation in all types of soil strata (including hard rock), shoring strutting if required, for loose soil to protect from collapse, casting 100mm thick P.C.C. leveling course in M-15, refilling the pit with proper soil and disposing of the surplus stuff at all lead, cement plaster in CM 1:2 with approved water proofing compound to all over in side container (i.e. walls, base, top slab/dome bottom etc. all). Item will also include all types of labour and material charges of lowering, laying, erecting/hosting and jointing of pipe assembly to inlet, outlet overflow, washout and bye pass arrangement as per hydraulic design, providing and fixing accessories, CI Manhole frame and cover, water level indicator, adequate cowl type ventilators or lantern type ventilator with stainless steel jali. Aluminum ladder to provide access inside the tank, RCC chambers for valves, providing and applying three coats of all weather exterior paint to the out side face of structure. It also includes satisfactory water tightness test as per relevant I.S. code and painting name of scheme and capacity on the tank as per direction of engineer in charge. Approval of design/drawing from Government Institution will be the responsiblity of contractor, if provided by contractor.

List of Indian Standards for Design of GSR / Sumpwell :-

The structural design of GSR shall be in accordance with provisions relevant I.S standards

(1) I.S. 3370 part I & II 2009 or Its latest revision

(1.1) I.S. 3370 part III & IV 1965 or Its latest revision

(2) IS 456-2000 Reaffirmed 2016

(3) IS 1893-2016 part I to V

(4) I.S. 875, Part – 1 to 3, 1987 or Its latest revision.

1) Water depth in container shall be adopted as per data of tender. Capacity shall be calculated excluding free board of the reservoir. If water depth is not specified, the suitable water depth/acceptable to Engineer in Charge of the work shall be provided.
2) Shape of container (in plan) specified in datasheet shall be adopted; in absence of any data circular shape shall be adopted.
3) Size shall be fixed as per availability of space (land area) at site / acceptable engineer in charge.
4) Effect of overlapping of pressure bulbs on soil due to nearby structure and proposed sump should be considered.

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5) Care shall be taken so that no damage occurs to nearby existing structure. Compensation shall be paid for the same by the contractor.
6) The minimum concrete grade for RCC shall be M-30.
7) HYSD Fe 415/500 grade reinforcing bars confirming to I.S. 1786/1139 shall be considered in design. CRS/TMT bars shall be provided. In saline atmosphere corrosion resistance stainless steel/HCR rebar shall be provided. Any other steel can be used with approval of C.E./in situation of non availability in market without extra cost.
8) Minimum size (or thickness) of various components shall be provided as per tender criteria/specifications in absence as per I.S./ Std. practice of MPPHED Minimum dimensions specified for various components in tender data/specifications shall be provided without fail.
9) The safe bearing capacity (SBC) shall be referred from SBC test report. In absence of report it shall be referred from data sheet. If poor soil is found/watertable is met with during excavation SBC shall be scientifically as curtained and design shall be revised. No extra shall be paid for increase in quantity.
10) **Pipes and special shall only be used as stipulated in tender documents.**
11) The rate shall include cost of dewatering during excavation making all arrangement when water table meets within depth.
12) The structure shall be designed properly to resist uplift due to ground water table specified in data or actual ground water table meets with during excavation.
13) 20 mm GI pipes railing in three rows with 100 mm vertical RCC Pole shall be provided over GSR periphery when GSR height is $\geq$ 2 meter above ground level.
14) RCC stair case / RCC Steps should be provided from GL to GSR tops slab (It will be applicable for GSR).
15) Aluminum ladder, main hole cover with lock to be provided.
16) Appearance of structure should be aesthetically good looking acceptable to authority.
17) Any change in size, shape, depth below GL, height above GL, water depth, F.B., size of member etc can be permitted in exceptional case due to site condition or hydraulic design requirement by C.E. No extra shall be paid for change.
18) Any change in data, dimensions, shape, water depth, reduction in size if permitted by competent authority and if it reduces quantity then payment shall be reduced prorata.
19) When capacity of GSR/Sump capacity is > 20 lakh litres two or suitable compartments acceptable to executive engineer shall be designed and provided.
20) Agency shall engage qualified (at least graduate) consulting engineer for designing the structure and he/she shall visit the site for guidance of work.
21) Rates for this item are for all seismic zone as prevailing in states of MP.
22) This chapter is introduced only for preparation of estimate for their item. The tenders for this item will be called on turn-key basis only.
23) Payment breakup for this item is as follows :-

S.No.	Stage of payment	% of amount of BOQ Item	Cumulative Percentage
1	After casting of Leveling Course	3%	3%
2	After construction of foundation slab	25%	28%
3	After construction of vertical walls	32%	60%
4	After casting of top slabs & installation of all fittings	25%	85%
5.	After Finishing work, Testing, Commissioning and completion of work of this item in all respect.	10%	95%
6.	After Successful Trial-Run of Entire Scheme	5%	100%

Above conditions/general specifications Sr. No. 1 to 23 shall be part & parcel of tender (contract)

Note :-

1. If design/drawing is provided by the department, then Rs. 7500/- will be deducted from that running bill which includes first payment of this item.
2. If pump house is to be constructed above the sumpwell, then design of sumpwell to be done considering the requirement of construction of pump house over the sumpwell floor by extending the required columns from the foundation to the pumphouse slab. Details of pump house to be costructed is mentioned in the item no 26.3 of this amendment. Payment for construction of pump house above the sumpwell shall be made in addition to the amount of sumpwell rates/amount according to the rate of pump house provided in item no. 26.3 after applying tender premimum.
3. **GST shall be paid separately to the contractor as per prevailing Government norms.**

USOR Item no	Description of items	Unit	Rate in Rupees
26.2	Design, drawing, construction, testing and commissioning of GSR/Sumpwell of following capacities with all necessary fitting and accessories as mentioned in the relevant chapter of USOR, IS codes and departmental circulars. Complete turn key job for following capacities :-		
26.2.1	20 Kilo Litres	No	289000
26.2.2	30 Kilo Litres	No	325000
26.2.3	40 Kilo Litres	No	385000
26.2.4	50 Kilo Litres	No	405000
26.2.5	75 Kilo Litres	No	585000
26.2.6	100 Kilo Litres	No	745000
26.2.7	125 Kilo Litres	No	885000
26.2.8	150 Kilo Litres	No	1005000
26.2.9	175 Kilo Litres	No	1105000
26.2.10	200 Kilo Litres	No	1185000

3. RCC FRAMED BRICK MASONRY PUMP HOUSE

General Scope :-

1. Structural design, drawing and construction of RCC framed brick masonry pump house.
2. Minimum plinth area for item no. 26.4 is 9.00 sqm and for item no. 26.3 is 7 sqm.
3. The minimum clear height of the pump house shall be 3.30 m.
4. The columns, Beams, Lintels, Chajjas, and Slabs shall be constructed in RCC M - 25 grade of concrete and walls shall be constructed in brick masonry with 1:6 cement motor and of minimum 200 mm thickness, duly plastered with 1:6 cement mortar. Anti skid tiles of 600 mm X 600 mm flooring shall be done as per standard specification, 30 % of floor area shall be provided for door and windows. MS door of size 1.0 m x 2.10 m shall be provided.

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5. The door and windows shall be of 1mm thick M.S. sheet door with frame of 40x40x5 mm angle iron and 3mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, using M.S. angels 40x40x5 mm for diagonal braces, including applying a priming coat of approved steel primer and two coats of best quality enamel paint as per direction of engineer in charge.
6. Concealed electric fitting shall be done as per standard IE rules. Pump house shall be provided with sufficient number of points for lights, fans, power points, sockets and etc.
7. All fixtures like energy efficient tube lights/LED bulbs, Fan, Exhaust Fans, electric swithes etc. of ISI mark and of standard make shall be provided as per direction of engineer in charge.
8. Painting of pump house shall be done by all weather exterior paint as per direction of engineer in charge.
9. Payment breakup for this item is as follows :-

S.No.	Stage of payment	% of amount of BOQ Item	Cumulative Percentage
1	After construction upto top (Roof) slabs	40 %	40 %
2	After brick work and plaster	35 %	75 %
3	After electric work, painting and completion of work of this item in all respect.	25 %	100%

Above conditions/general specifications Sr. No. 1 to 9 shall be part & parcel of tender(contract)

NOTE- 1. If design & drawing will be provided by the department, then Rs 5000/- will be deducted from that running bill which includes first payment of this item. ***Deduction of an amount of Rs 5000/- on account of design-drawing shall not be made from item number 26.3.***

2. **GST shall be paid separately to the contractor as per prevailing Government norms.**

SOR Item no	Item	Unit	Rate in Rupees
26.3	Design and Construction of RCC framed brick masonry pump house over the sump with all necessary fitting and requirement as mentioned in relevant chapter of USOR, IS codes and departmental guidelines. Complete turn key job. ***This item will only be used with item no 26.2 only in cases where pumphouse to be constructed above the proposed sumpwell.***	no	85000
26.4	**Design and construction of RCC framed structured brick masonry pump house on the suitable foundation** with all necessary fitting as mentioned in relevant chapter of USOR, IS codes and departmental guidelines. Complete turn key job.	no	120500

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4. MILD STEEL (MS) 5 METER HIGH STAGING STRUCTURE FOR POLYETHYLENE TANK - FOR STAND ALONE SCHEMES

General Scope :-

1. Fabrication, Supply (Transportation up to site), including Erection of folding type Mild Steel (MS) 5m high staging sructure. Steel shall be confirming to IS:2062 (latest).
2. Suitable M20 RCC foundation (Pile foundation for black cotton soil/loose soil or similar type of soil strata having SBC up to 10 t/sqm & Open / Isolated footing for hard strata having SBC greater than 10 t/sqm as mentioned in the drawing.).
3. Stractural steel shall be fabricated in accordance to IS:800(Latest) and painted with two coat of zinc phosphate and HB mio primer & painted with aluminium paint.
4. Item will include all kind of welding works, nut-bolts and other fittings complete as per enclosed drawings.
5. The approximate weight mentioned in the item of the MS staging structure is excluding tank, GI pipe and GI pipe fitting .
6. This item includes cost of supply, erection and placing one/two number 5000 litres capacity polyethylene water tank confirming to IS:12701 above MS staging with tank cover and suitable locking arrangement and making necessary holes to fit inlet, outlet and over flow GI Pipes (class medium) of diameter as specified in the drawing with total approximate length of 35 meters. Length of pipes will be considered from the tank to 1 meter below ground level.
7. This item includes cost of installation of 2 or 3 nos gate valves, 1 no overflow valve & 1 no non return valve, connection with riser pipe & distribution pipe complete. Pipes & sockets shall be confirming to IS-1239/2004 Part-II, gate valves Confirming to IS 778/1984 (reaffirmed 2005) class-1.
8. All complete work shall be carried out as per enclosed drawings and as per direction of Engineer in Charge.
9. Payment breakup for this item is as follows :-

S. No.	Stage of payment	% of amount of BOQ Item	Cumulative Percentage
1.	After supply of staging structure components/parts at site.	60%	60%
2.	After erection of staging on foundation.	20%	80%
3.	After installation of HDPE Tank on staging.	10%	90%
4	After Testing, Finishing work and completion of work of this item in all respect.	5%	95%
5.	After Successful Trial-Run of Entire Scheme	5%	100%

Above conditions/general specifications Sr. No. 1 to 9 shall be part & parcel of tender(contract)

NOTE :-

1. 10% variation in weight of MS staging item is allowed. However, reduction/increase in weight of MS staging as prescribed above shall be deductable/payable @ Rs. 97 per kg and tender premium shall be applicable on this rate.
2. **GST shall be paid separately to the contractor as per prevailing Government norms.**

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SOR Item no	Items	Unit	Rate in Rs.
26.5	Fabrication, supply & erection of 5m high Mild Steel (MS) staging structure including foundation and **1x5 KL** polyethylene tank with inlet, outlet and over flow pipe fittings complete Item of Work as per details given in the relevant chapter of USOR, enclosed drawings and relevant IS codes and direction of Engineer-in-Charge. The approximate weight of the MS staging structure excluding tank, GI pipe and GI pipe fitting is 1600kg. Complete turnkey job.	No	251000
26.6	Fabrication, supply & erection of 5m high Mild Steel (MS) staging structure including foundation and **2x5 KL** polyethylene tank with inlet, outlet and over flow pipe fittings complete Item of Work as per details given in the relevant chapter of USOR, enclosed drawings and relevant IS codes and direction of Engineer-in-Charge. The approximate weight of the MS staging structure excluding tank, GI pipe and GI pipe fitting is 2050 kg. Complete turnkey job.	No	358000

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Drawing for USOR (w.e.f. 03.07.2018) Item No 26.5
(Full size drawing is available on departmental website ; www.mpphed.gov.in

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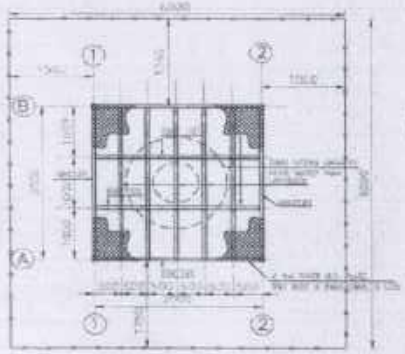
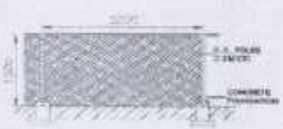
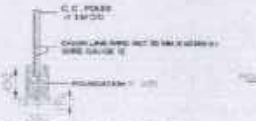


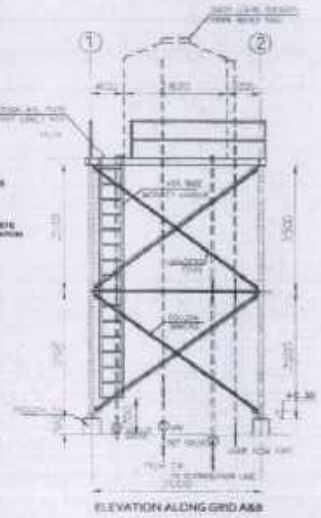
TOP PLAN OF TANK SUPPORTING STRUCTURE



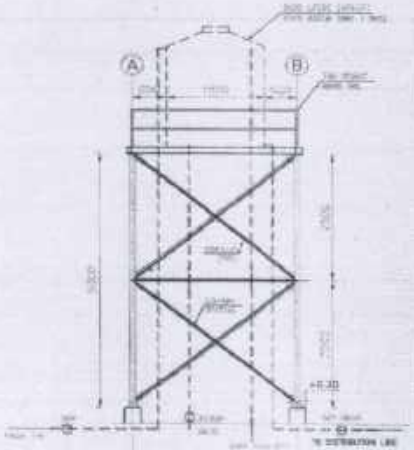
ELEVATION OF FENCING IN CHAIN LINK MESH



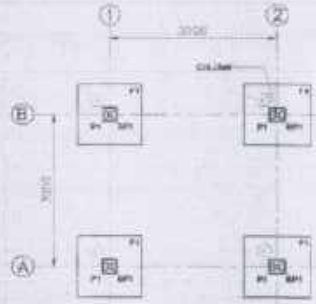
SECTION OF FENCING @ POLE



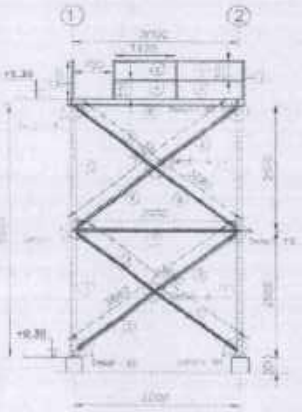
ELEVATION ALONG GRID A&B



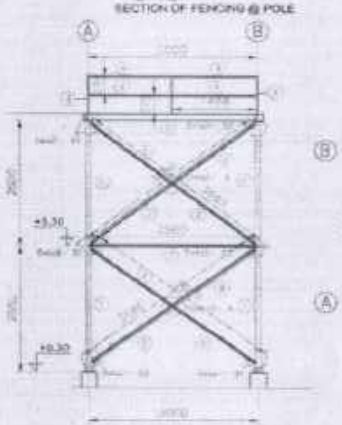
ELEVATION ALONG GRID 1&2



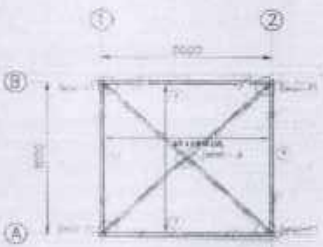
FOUNDATION PLAN OF TANK SUPPORTING STRUCTURE



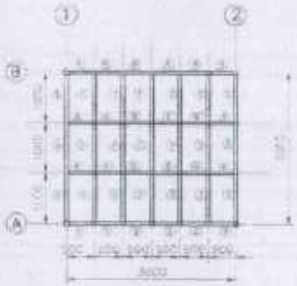
SECTIONAL ELEVATION ALONG GRID A&B



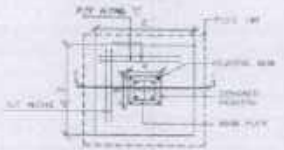
SECTIONAL ELEVATION ALONG GRID 1&2



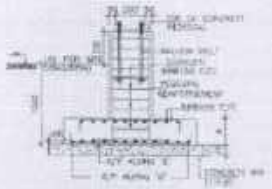
PLAN SHOWING DETAILS AND DIMENSIONS OF TIE BEAMS AT +2.80 LVL



PLAN SHOWING DIMENSIONS OF BEAMS FOR TANK STAGING AT +5.3 M LVL



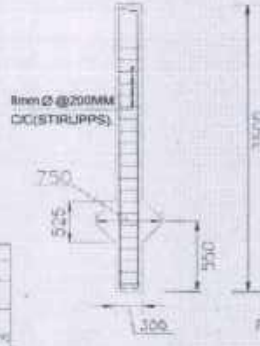
TYP.PLAN OF FOOTING



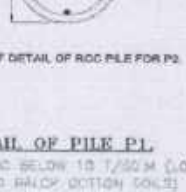
SECTION 1-1

DETAIL OF TOP PLATE (TP1)

DETAIL OF BASE PLATE (BP1)

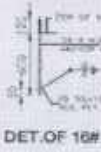


DETAIL OF PILE P1



R/F DETAIL OF RCC PILE FOR P2

TYP SECTION



DET.OF 16# BOLT

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Drawing for USOR (w.e.f. 03.07.2018) Item No 26.5

(Full size drawing is available on departmental website : www.mpphed.gov.in

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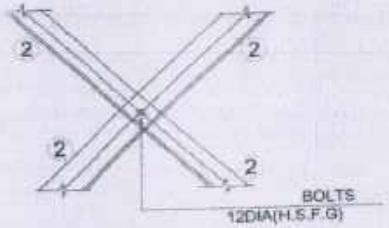
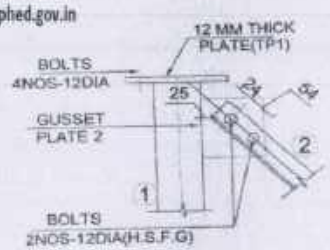
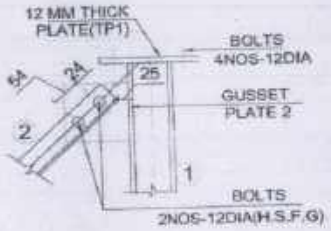


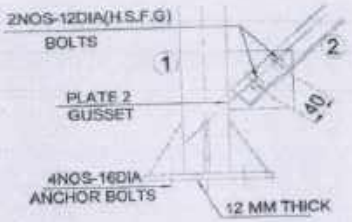
Detail- A



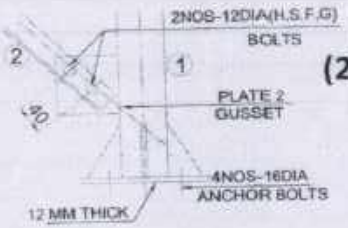
Detail- B1



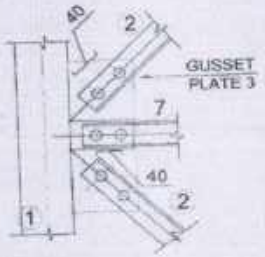
Detail- B2



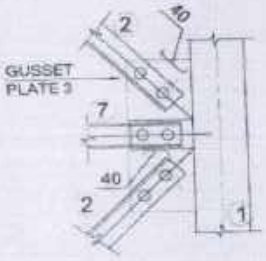
Detail- B3



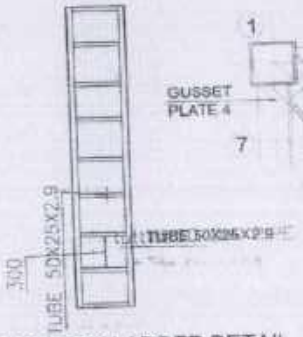
Detail- B4



Detail- C1

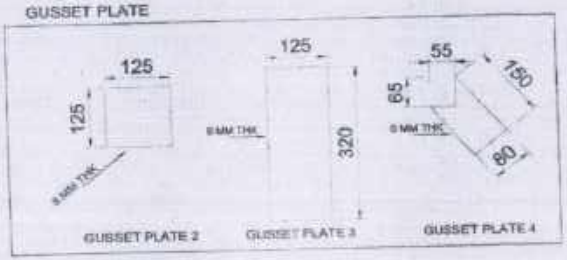


Detail- C2

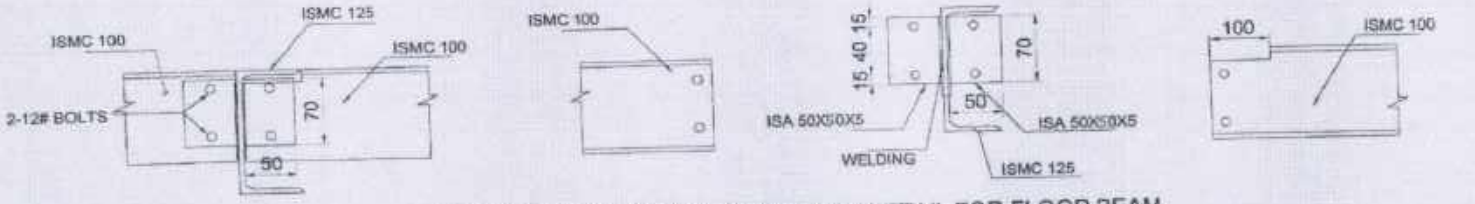


Detail- F1

MONKEY LADDER DETAIL



TYPICAL ISMC AND ISA CONNECTION DETAIL FOR FLOOR BEAM

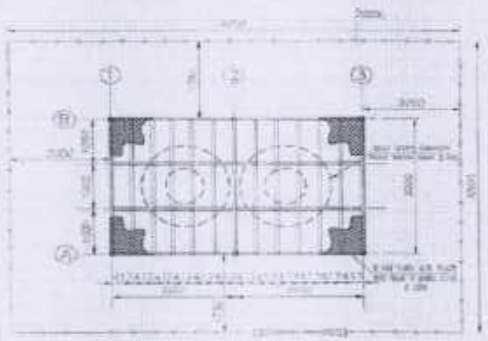


TYPICAL ISMC AND ISMC CONNECTION DETAIL FOR FLOOR BEAM

1.8.2020

Drawing for USOR (w.e.f. 03.07.2018) Item No. 26.0
(Full size drawing is available on departmental website : www.mpphed.gov.in)

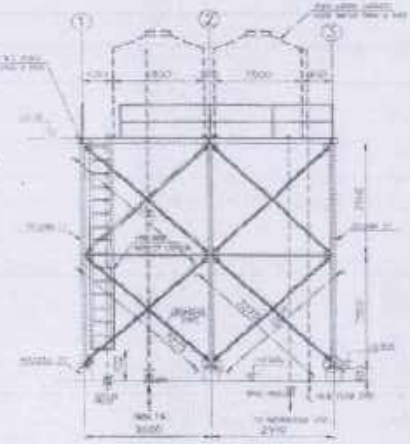
(1/2)



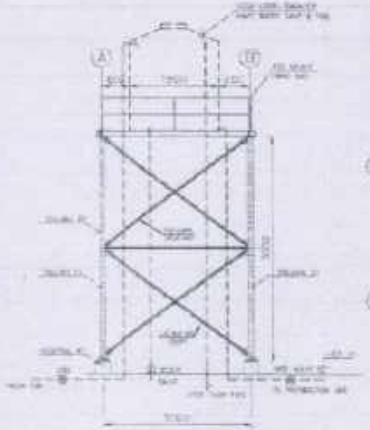
TOP PLAN OF TANK SUPPORTING STRUCTURE

ELEVATION OF FENCING IN CHAIN LINK MESH

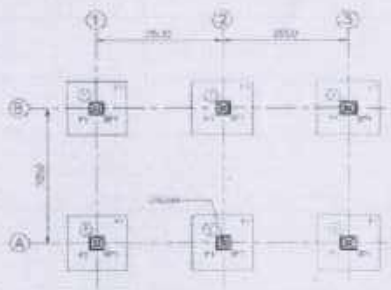
SECTION OF FENCING @ POLE



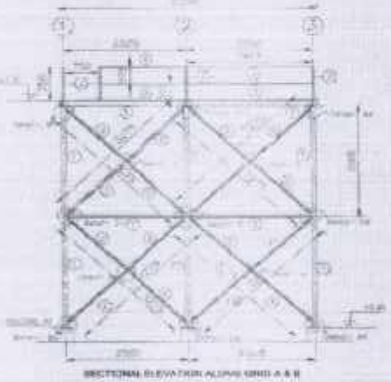
ELEVATION ALONG GRID A&B



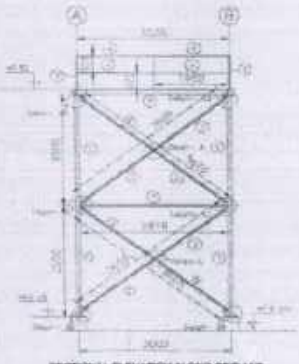
ELEVATION ALONG GRID 1&3



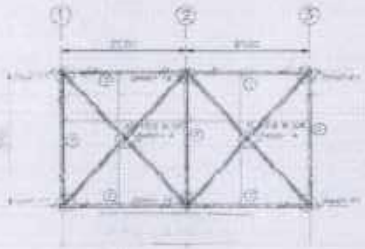
FOUNDATION PLAN OF SUPPORTING STRUCTURE



SECTIONAL ELEVATION ALONG GRID A & B

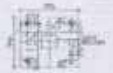


SECTIONAL ELEVATION ALONG GRID 1&3

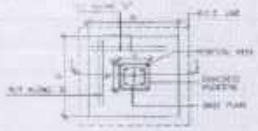


PLAN SHOWING DETAILS AND DIMENSIONS OF TIE BEAMS AT +7.65 LVL

PLAN SHOWING DIMENSIONS OF BEAMS FOR TANK STAGING AT +6.3 M LVL



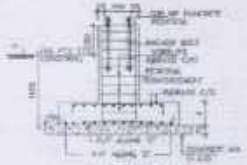
DETAIL OF BASE PLATE (BP1)



TYP.PLAN OF FOOTING

DET.OF 16# BOLT

DETAIL OF TOP PLATE (TP1)



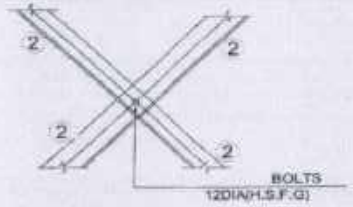
SECTION 1-1

RLF DETAIL OF RCC PILE FOR P2

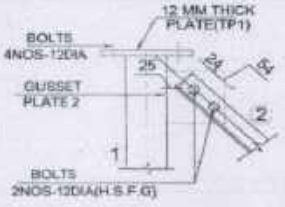
DETAIL OF PILE P1

6.8.2020

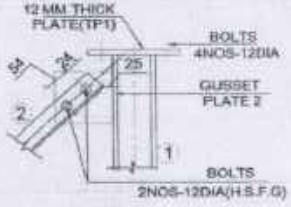
Drawing for USOR (w.e.f. 03.07.2018) Item No. 26.6
(Full size drawing is available on departmental website : www.mpphed.gov.in)



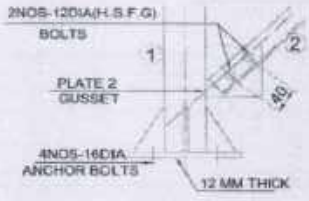
Detail- A



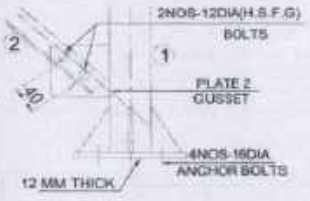
Detail- B1



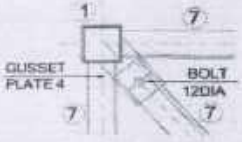
Detail- B2



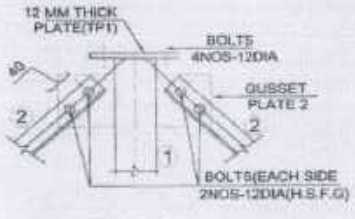
Detail- B3



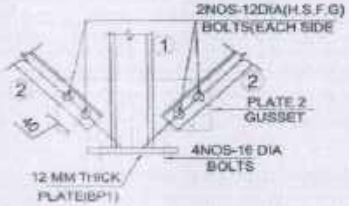
Detail- B4



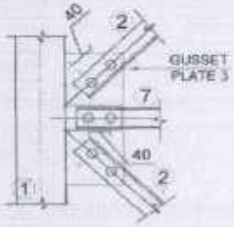
Detail- F1



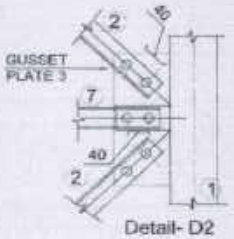
Detail- C1



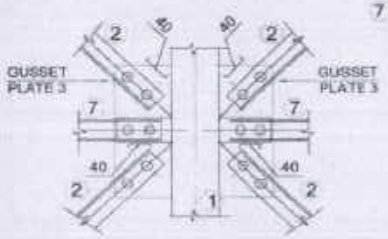
Detail- C2



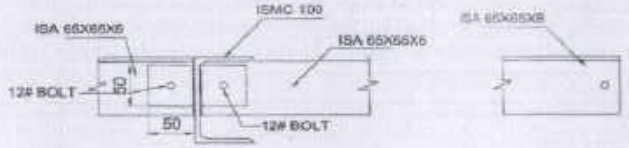
Detail- D1

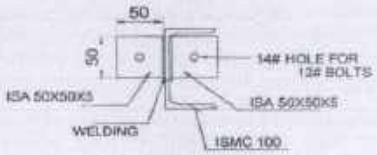


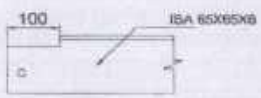
Detail- D2



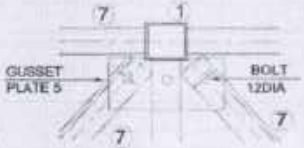
Detail- E



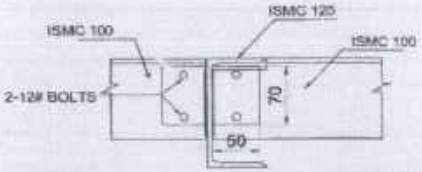


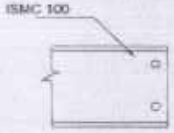


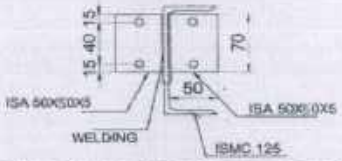
TYPICAL ISMC AND ISA CONNECTION DETAIL FOR FLOOR BEAM

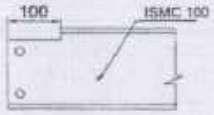


Detail- F2

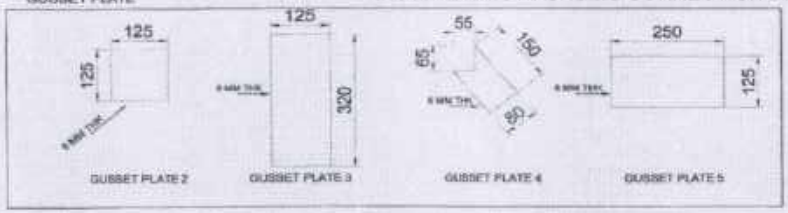


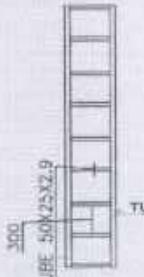






TYPICAL ISMC AND ISMC CONNECTION DETAIL FOR FLOOR BEAM





MONKEY LADDER DETAIL

6-8-2020

CHAPTER-XXVII

ORIENTED P.V.C. (PVC-O) PIPES

(New Chapter)

CHAPTER – XXVII
ORIENTED P.V.C. (PVC-O) PIPES

General Notes:-

1. The Oriented Un-plasticized Polyvinyl Chloride PVC-O pipes for potable water supply as per IS: 16647-2017 duly inspected and tested and having BIS certification mark.
2. Selection, Handling, storage and installation of PVC-O pipes as per IS: 7634-2003 (Part-3)
3. Pipes should be stacked on a surface flat and free form sharp objects, stones or projection in order to avoid deformation or damages. Ends of pipes should be protected from abrasion and chipping.
4. In rocky area 15 cm. cushion of sand or moorum below and above the pipes should be provided as per IS: 7634-2003 (Part III)
5. All measurements shall be of the finished work. The net length of pipes as laid or fixed shall be measured in running meters correct to 10 mm. Specials shall be excluded and measured and paid separately under the relevant item. The portion of the pipe inside the joints not be included in the length of pipe work. Excavation refilling masonry and concrete work wherever required shall be measured and paid for separately under relevant items of work.
6. Work shall be executed in accordance with the Indian Standards Specifications and special notes if any, mentioned in the agreement of the work.
7. Ordinary HDPE/DI/CI fittings of relevant class shall be used for connecting and laying the PVC-O Pipe line.The rates for such works will be payable as per relevant chapters in SOR.
8. **GST shall be paid separately to the contractor as per prevailing Government norms.**

   All the estimates based on this USOR will include GST as an extra amount as per prevailing rates on the sum of the estimate to arrive at the gross amount.

ORIENTED P.V.C. (P.V.C.-O) PIPES

SOR Item no	Items	Unit	Rate in Rs.
27.1	Providing, laying and jointing following ISI marked PVC-O (oriented uplasticized polyvinyl chloride) ring fit type pipe having orientation class 500 (IS 16647), with integral homogeneous spigot having elastomeric sealing ring made of EPDM rubber (one per pipe) including testing of Joint, cost of Jointing materials etc. complete in all respect.Presure Rating as per IS Code – IS:16647-2017-PN-10		
27.1.1	110 mm dia	RM	444
27.1.2	160 mm dia	RM	765
27.1.3	200 mm dia	RM	1048
27.1.4	250 mm dia	RM	1437
27.1.5	315 mm dia	RM	1864

6.9.2020

SOR Item no	Items	Unit	Rate in Rs.
27.1.6	400 mm dia	RM	2773
27.2	Providing, laying and jointing following ISI marked PVC-O (oriented plasticized polyvinyl chloride) ring fit type pipe having orientation class 500 (IS 16647), with integral homogeneous spigot having elastomeric sealing ring made of EPDM rubber (one per pipe) including testing of Joint, cost of Jointing materials etc. complete in all respect.Presure Rating as per IS Code – IS:16647-2017-PN-12.5		
27.2.1	110 mm dia	RM	493
27.2.2	160 mm dia	RM	850
27.2.3	200 mm dia	RM	1165
27.2.4	250 mm dia	RM	1597
27.2.5	315 mm dia	RM	2071
27.2.6	400 mm dia	RM	3192
27.3	Providing, laying and jointing following ISI marked PVC-O (oriented uplasticized polyvinyl chloride) ring fit type pipe having orientation class 500 (IS 16647), with integral homogeneous spigot having elastomeric seeling ring made of EPDM rubber (one per pipe) including testing of Joint, cost of Jointing materials etc. complete in all respect.Presure Rating as per IS Code – IS:16647-2017-PN-16		
27.3.1	110 mm dia	RM	591
27.3.2	160 mm dia	RM	990
27.3.3	200 mm dia	RM	1227
27.3.4	250 mm dia	RM	1727
27.3.5	315 mm dia	RM	2176
27.3.6	400 mm dia	RM	3320
27.4	Providing, laying and jointing following ISI marked PVC-O (oriented uplasticized polyvinyl chloride) ring fit type pipe having orientation class 500 (IS 16647), with integral homogeneous spigot having elastomeric seeling ring made of EPDM rubber (one per pipe) including testing of Joint, cost of Jointing materials etc. complete in all respect.Presure Rating as per IS Code – IS:16647-2017-PN-20		
27.4.1	110 mm dia	RM	664
27.4.2	160 mm dia	RM	1030
27.4.3	200 mm dia	RM	1341

6.2.2018

SOR Item no	Items	Unit	Rate in Rs.
27.4.4	250 mm dia	RM	1882
27.4.5	315 mm dia	RM	2677
27.4.6	400 mm dia	RM	4069
27.5	Providing, laying and jointing following ISI marked PVC-O (oriented uplasticized polyvinyl chloride) ring fit type pipe having orientation class 500 (IS 16647), with integral homogeneous spigot having elastomeric seeling ring made of EPDM rubber (one per pipe) including testing of Joint, cost of Jointing materials etc. complete in all respect.Presure Rating as per IS Code – IS:16647-2017-PN-25		
27.5.1	110 mm dia	RM	736
27.5.2	160 mm dia	RM	1070
27.5.3	200 mm dia	RM	1455
27.5.4	250 mm dia	RM	2037
27.5.5	315 mm dia	RM	3177
27.5.6	400 mm dia	RM	4818

08.2025

Engineer-in-Chief
Public Health Engineering Department
Banganga Jal Bhawan, Bhopal