

Sewerage Works at Fatehpur

Sl. No.	Item Description	Units	S/c Rates (Excl. Tax)	Free Issue Material
	Dismantling of flexible pavements for sewer line and manholes and disposal of dismantled materials up to a lead of 50 metres as directed by Engineer including allowances for any additional dismantling beyond the drawings (measurement for payment to be as per standard drawings), re-handling of material/earth to complete the task.			
1	Bituminous Courses	Cum	180	NA
2	Granular Courses	Cum	110	NA
3	Dismantling of cement concrete pavement for sewer line and manholes by mechanical means using pneumatic tools, cutting the peripheral edge by CC cutter, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials up to a lead of 1000 metres including allowances for any additional dismantling beyond the drawings (measurement for payment to be as per standard drawings), rehandling of material/earth to complete the task.	Cum	790	NA
	Dismantling of existing structures like culverts, bridges, retaining walls, CC road and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 50 metres as directed by Engineer.			
4	Cement Concrete Grade M-15 and above and PCC blocks	Cum	220	NA
	Dismantling Brick / Tile work			
5	In cement mortar	Cum	170	NA
	Providing, laying, spreading and compacting of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per MoRT&H specification clause - 401 including all material, labour, machinery, lighting, guarding and maintenance of diversion.			
6	Grading - I Material	Cum	1150	NA
7	Grading - II Material	Cum	1150	NA
8	Providing, laying, spreading (with paver finisher only) and compacting wet mix macadam (WMM) base course comprising of graded stone aggregate and granular material conforming to MORT&H specifications (Table 400-II) in layers of equal compacted thickness each consolidated, including pre-mixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tipplers to site, laying in uniform layers in base course on a well prepared sub-base/ base course and compacting with power vibratory roller to achieve the desired density complete as per MoRT&H specification clause - 406 including all material, labour, machinery, lighting, guarding and maintenance of diversion.	Cum	1400	NA
	Earthwork			
	Earth work for Sewer line and Manhole in excavation in foundation, trenches manholes, road side chambers etc. including dressing of sides and ramming of bottoms, including getting out the excavated material, refilling after laying pipe/ foundation and disposal of surplus excavated material at a lead upto 50m suitable site as per direction of Engineer for following depths, below natural ground / Road top level including allowances for any additional excavation beyond the drawings (measurement for payment to be as per standard drawings), re-handling of material/earth to complete the task.			
	In all types soils/ saturated soil such as moorum, sand, sandy silt, clay, black cotton soil, kankar, etc.			
9	Depth upto 1.5 m	Cum	88	NA
10	Depth above 1.5 m and upto 3.0 m	Cum	100	NA
11	Depth above 3.0 m and upto 4.5 m	Cum	109	NA
12	Depth above 4.5 m and upto 6.0 m	Cum	130	NA
13	Depth above 6.0 m and upto 7.5 m	Cum	145	NA
14	Depth above 7.5 m and upto 9.0 m	Cum	180	NA
	Timbering			
	Providing and fixing CLOSE timbering in trenches of sewer line and manholes including strutting, shoring and packing cavities (wherever required) complete. (Measurements to be taken of the face area timbered) for following depth below NGL.			
15	Depth upto 3.0 m	Sqm	27	Shoring Box
16	Depth more than 3.0 m and upto 6.0 m	Sqm	32	Shoring Box
17	Extra for planking, strutting and packing material for cavities IN CLOSE TIMBERING of sewer line and manholes if required to be left permanently in position (face area of timber permanently left to be measured)	Sqm		NA
	Carriage of Materials by mechanical transport including loading, unloading and stacking ::			
	Earth, Stone, boulders, and gravelly material			
18	lead up to 1 Km	Cum	18	NA
19	lead up to 2 Km	Cum	20	NA
20	lead up to 3 Km	Cum	21	NA
	Barricading			

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21	Providing and fixing Barricading at site of work for restricting the general public using 40 mm dia M.S. pipe ("B" class) as vertical post with average spacing of 1.80 meter between two vertical posts, having height at least 1.5 m above road/ ground level and at least 30-45 cm below road/ ground level by making suitable size hole in road/ ground, providing and fixing suitably two rows of 100mm wide PVC Tape preferably of red colour. The M.S. pipe shall be painted in red and white colour strips as per approved pattern as and when it becomes shabby but at least after every alternate shifting at new location. After shifting/ removal of barricading the hole shall be filled up properly and site is to be cleared in all respect. (Note: measurement is to be done in linear basis).	metre	4	Barricading Material
22	Providing and fixing Barricading at site of work for restricting the general public using 40 mm dia M.S. pipe ("B" class) as vertical post with average spacing of 1.80 meter between two vertical posts, having height at least 1.5 m above road/ ground level and at least 30-45 cm below road/ ground level by making suitable size hole in road/ ground, providing and fixing two rows of 40 mm dia M.S. pipe("B" class) as horizontal members with nuts & bolts. Both vertical and horizontal members shall be painted in red and white colour strips as per approved pattern as when it becomes shabby but at least after every alternate shifting at new location. After shifting/ removal of barricading holes shall be filled up properly and site is to be cleared in all respect. (Note: measurement is to be done in linear basis)	metre	4	Barricading Material
23	Providing and Fixing Minimum 0.63mm thick GI corrugated sheets (minimum width of each sheet shall be 60 cm) for covering the barricading in one/ two rows one above another and painting in red and white stripes as per the specifications and directions of the Engineer Incharge with proper fixing arrangements with GI limpet washers nuts and bolts complete in all respect.	Sqm	5	Barricading Material
Pipes				
	Providing, lowering, laying, aligning, fixing in position and jointing at all level/ depths full round HDPE DWC (double wall corrugated) pipes of SN8 grade as per IS 16098 (Part 2) amended upto date in trenches in complete including all material, labour, sectional hydro testing (including the cost and conveyance of water to site for testing) as per direction of Engineer. Note : E/w to be measured and paid separately.			
24	200 mm	metre	40	DWC Pipe and Coupler
25	250 mm	metre	44	DWC Pipe and Coupler
	Providing at site, lowering & laying in trenches, aligning & jointing of RCC pipes NP4 class (with s/s ends) IS: 458 - 2003 (amended up to date) marked and pipes from 300 mm and upto 1800 mm manufactured through vertical casting process (with Sulphate Resistant cement) at all depths with Rubber gaskets (EPDM/SBR) for sewer lines as per IS: 5382 (including cost of Rubber gaskets, lubricants) as per drawing, sectional hydro testing of the sewer pipe line (including cost and conveyance of water to site for testing) etc., complete as per specification and / or as directed by Engineer. Note : E/w to be measured and paid separately			
26	400 mm	metre	145	RCC Pipe and Cement
27	700mm	metre	430	RCC Pipe and Cement
Bedding				
	Providing granular bedding having width = outer dia of pipe (Bc) + 500mm, thickness below pipe = 0.25Bc or 100mm (whichever is higher) and haunching = 0.5Bc, with graded hard crusher broken stone of 100% passing through 20mm sheave, 20 to 50 % passing through 10mm sheave and 100 % retain on 6.3mm sheave, laying in layers of thickness 10/15cm including ramming, consolidation etc complete for all type of pipes of following sizes as per drawing and or as directed by Engineer.			
28	400 mm diameter	metre	206	NA
29	700mm diameter	metre	435	NA
	Providing granular bedding having width = outer dia of pipe (Bc) + 500mm, thickness below pipe = 0.25Bc or 100mm (whichever is higher) and haunching = 0.5Bc, with graded hard crusher broken stone of 100% passing through 10mm sheave, 50 % passing through 6.3 mm sheave , laying in layers of thickness 10/15cm including ramming, consolidation etc complete for PVC/HDPE pipes of following sizes as per drawing and or as directed by Engineer.			
30	110mm dia	metre	86	NA
31	160mm dia	metre	90	NA
32	200 mm dia	metre	140	NA
33	250 mm dia	metre	160	NA
Manholes				
34	Construction of Shallow Manhole (0.60 to 1.0 m depth) with internal dia 560mm and depth upto 1000mm with 150 mm thick PCC M10 in foundation, 75mm thick PCC M15 flooring in slope 1:12, 230mm thick brick masonry in CM (1:4), 20mm thick inside and outside plastering with CM (1:3), inside plaster finished with neat coat of cement, with 560mm dia manhole frame and SFRC cover with double seal CI Frame embedded in 200mm thick PCC M20 grade concrete, refilling of Jhiri with watering and ramming complete as per approved drawing and/or directed by Engineer. Note : Only Excavation work will be measured and paid separately. With SEWER-BRICK masonry wall 230mm thick (At av. Depth 0.6 meter (0.6 m to 1.00m)	Each manhole	3400	Cement and SFRC Cover & Frame HD 20

Sl. No.	Item Description	Units	S/c Rates (Excl. Tax)	Free Issue Material
	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes with internal dia 1.0m and up to specified depth having pre-cast RCC M-40 grade circular manhole cover frame (ID 0.56m, OD 0.86m, height 0.20m), conical piece (top ID 0.56m, bottom ID 1.0m, vertical height 0.605m, wall thickness 125mm), and circular rings of required heights (ID 1.0m, height 150 / 300 mm, wall thickness 125mm) below conical piece as per required depth of manhole and having steel reinforcement in all pieces of manhole @ not less than 80 kg per cum of concrete, including cast-in-situ PCC M-10 grade (1:3:6) foundation of 1.625m dia and 150mm thickness, PCC M15 grade circular wall ID 0.925m, wall thickness 200mm, height equal to OD of sewer pipe + 50 mm, PCC M15 grade benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty SFRC manhole cover as per IS 12592 (Part I and II), supplying and fixing plastic encapsulated CI/MS foot steps, including cost of shuttering, steel reinforcement, testing for water tightness etc complete in all respect as per drawing, as per specification and the direction of the Engineer.</p> <p>Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately.</p>			
35	Pre-cast RCC M-40 grade circular manholes 1.055 m deep to invert with pre-cast manhole cover frame (height 0.20), conical piece (height 0.605), cast-in-situ PCC M-10 grade foundation, PCC M15 grade circular wall ID 0.925m, wall thickness 200mm height equal to OD of sewer pipe + 50mm, PCC M15 grade benching and channel portion.	Each manhole	3900	Prcast Manhole with Cover Frame, Cement
36	Providing and fixing pre-cast RCC M-40 grade circular ring of ID 1.0m, wall thickness 125mm, height 150 / 300 mm for constructing extra depth of manhole for depth beyond 1.055m as per drawing.	Metre	900	Precast Risers, Cement
	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes with internal dia 1.2m and up to specified depth having pre-cast RCC M-40 grade circular manhole cover frame (ID 0.56m, OD 0.86m, height 0.20m), conical piece (top ID 0.56m, bottom ID 1.2m, vertical height 0.805m, wall thickness 125mm), and circular rings of required heights (ID 1.2m, height 150/ 300/ 600/ 900mm, wall thickness 125mm) below conical piece as per required depth of manhole and having steel reinforcement in all pieces of manhole @ not less than 80 kg per cum of concrete, including cast-in-situ PCC M-10 grade (1:3:6) foundation of 1.825m dia and 150mm thickness, PCC M15 grade circular wall ID 1.125m, wall thickness 200mm, height equal to OD of sewer pipe +50mm, PCC M15 grade benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty SFRC manhole cover as per IS 12592 (Part I and II), supplying and fixing plastic encapsulated CI/MS foot steps, including cost of shuttering, steel reinforcement, testing for water tightness etc complete in all respect as per drawing, as per specification and the direction of the Engineer.</p> <p>Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately.</p>			
37	Pre-cast RCC M-40 grade circular manholes 1.255 m deep to invert with pre-cast manhole cover frame (height 0.20), conical piece (height 0.805), cast-in-situ PCC M-10 grade foundation, PCC M15 grade circular wall ID 1.125m, wall thickness 200mm height equal to OD of sewer pipe +50 mm, PCC M15 grade benching and channel portion.	Each manhole	4500	Prcast Manhole with Cover Frame, Cement
38	Providing and fixing pre-cast RCC M-40 grade circular ring of ID 1.2m, wall thickness 125mm, height 150 /300/600/900mm for constructing extra depth of manhole for depth beyond 1.255m as per drawing.	Metre	1100	Precast Risers, Cement
	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes with internal dia 1.5m and up to specified depth having pre-cast RCC M-40 grade circular manhole cover frame (ID 0.56m, OD 0.86m, height 0.20m), conical piece (top ID 0.56m, bottom ID 1.5m, vertical height 1.105m, wall thickness 125mm), and circular rings of required heights (ID 1.5m, height 150/300/600/900/1200 mm, wall thickness 125mm) below conical piece as per required depth of manhole and having steel reinforcement in all pieces of manhole @ not less than 80 kg per cum of concrete, including cast-in-situ PCC M-10 grade (1:3:6) foundation of 2.125m dia and 150mm thickness, PCC M15 grade circular wall ID 1.425 m, wall thickness 200mm, height equal to OD of sewer pipe+50mm , PCC M15 grade benching and channel portion and up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty SFRC manhole cover as per IS 12592 (Part I and II), supplying and fixing plastic encapsulated CI/MS foot steps, including cost of shuttering, steel reinforcement, testing for water tightness etc complete in all respect as per drawing, as per specification and the direction of the Engineer.</p> <p>Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately.</p>			
39	Pre-cast RCC M-40 grade circular manholes 1.555 m deep to invert with pre-cast manhole cover frame (height 0.20), conical piece (height 1.105), cast-in-situ PCC M-10 grade foundation, PCC M15 grade circular wall ID 1.425m, wall thickness 200mm height equal to OD of sewer pipe+50mm, PCC M15 grade benching and channel portion.	Each manhole	5800	Prcast Manhole with Cover Frame, Cement
40	Providing and fixing pre-cast RCC M-40 grade circular ring of ID 1.5m, wall thickness 125mm, height 150/300/600/900/1200mm for constructing extra depth of manhole for depth beyond 1.555m as per drawing.	Metre	1500	Precast Risers, Cement
	House Sewer Connections			

Sl. No.	Item Description	Units	S/c Rates (Excl. Tax)	Free Issue Material
	Constructing providing and fixing of pre-cast RCC M-40 grade circular Road Side Inspection Chamber including earthwork using sulphate resistant cement with following dia and depth cylindrical piece with 100mm wall thickness, 100mm base slab, inbuilt cover & frame on top, provision for 110mm OD in and out sewer connection with making proper in built benching and channel with PCC M-15 grade including providing cast-in-situ 100mm thick foundation of PCC M-10 grade, supplying and fixing circular precast SFRC Circular 300 mm dia manhole cover with frame - M.D. - 10, including steel reinforcement minimum @ 80kg/cum, testing for water tightness complete in all respect as per drawing, specification and the direction of the Engineer.			
41	Pre-cast Road side inspection chamber of 300mm dia (internal), 450mm depth and 600mm dia base foundation	Each	1050	Precast Property Chamber with cover and Cement
42	Pre-cast Road side inspection chamber of 450mm dia (internal), 600mm depth and 750mm dia base foundation.	Each	1200	Precast Property Chamber with cover and Cement
43	Pre-cast Road side inspection chamber of 450mm dia (internal), 900mm depth and 750mm dia base foundation.	Each		Precast Property Chamber with cover and Cement
	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification			
44	110 mm Nominal dia	Metre	30	PVC-U Pipe
45	160 mm Nominal dia	Metre	35	PVC-U Pipe