

Mahindra World City - Jaipur

Addendum-BOQ for site grading for roads, road, box culvert, pipe culvert and channel deepening in DTA-II, Phase - I

S.No	Description	Unit	Total Qty	Rate	Amount
1	Excavation, preparation and consolidation of sub-grade for road and utility corridor including surveying wherever necessary in any kind of soil, soft and hard murum with boulders and soft rock, up to required depth with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers & unloading, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the location shown by the Engineer in charge watering, compacting, and consolidating the surface using by vibratory roller 8 to 10 T capacity to achieve 97% of maximum laboratory dry density (IS:2720 Part-8) with optimum moisture content etc and transporting the surplus excavated earth for filling or disposal within the project boundary all complete as specified and as per the direction of engineer-in-charge. (Payment shall be made for the finished item of work after compaction based on original and finished levels)	Cum	168,304.00		
2	Earthwork excavation in all stiff clay, stiff black cotton, hard red earth, shales, murum, gravel, and earth mixed with small size boulders and to the required depth (depth up to 1.50 m) including surveying wherever necessary with all leads and lifts for the materials as may be directed except in hard rock requiring blasting but inclusive of shoring strutting and baling out water wherever necessary, depositing the surplus earth in places shown and clearing & leveling the site all complete in all respects complying with relevant standard specification and including the cost of removing shrubs, logs, roots, jungles if any, providing barricading arrangements and adequate safety measures (excluding refilling) and as per the direction of engineer-in-charge for the work of providing culverts.	Cum	7,127.57		
3	Earthwork excavation in all stiff clay, stiff black cotton, hard red earth, shales, murum, gravel, and earth mixed with small size boulders and to the required depth (depth exceeding 1.50 m) including surveying wherever necessary with all leads and lifts for the materials as may be directed except in hard rock requiring blasting but inclusive of shoring strutting and baling out water wherever necessary, depositing the surplus earth in places shown and clearing & leveling the site all complete in all respects complying with relevant standard specification and including the cost of removing shrubs, logs, roots, jungles if any, providing barricading arrangements and adequate safety measures and as per the direction of engineer-in-charge. (excluding refilling) for the work of providing culverts.	Cum	1,998.13		
4	Back filling with available suitable excavated earth (excluding rock, shrubs, logs, roots etc.) in culvert, service area, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering etc. and as per the direction of engineer-in-charge.	Cum	7,135.52		
5	Carrying out earth filling with approved material for road area to the required level & grade with material obtained from the excavation of roads, channel, water body etc. in the site areas in layers not more than 200 mm thick, including surveying, breaking the clods, spreading, grading to required slope, watering the surface to achieve optimum moisture content, rolling the surface by vibratory roller of 8 to 10 T capacity and compacting the project area to minimum 97% of maximum laboratory dry density as per MoRT&H specification (Fifth revision) clause 305, 902 and 903, with all lift and lead, using mechanical means including removal of vegetations and other unwanted materials & providing barricading arrangements, safety measures etc complete within the project area as per the direction of engineer-in-charge.	Cum	49,457.00		
6	Providing and laying of plain Cement Concrete 1:2:4 (one of Cement -PPC : two of Sand: four of hard broken stone jelly 20mm nominal size) including laying, vibrating, curing, finishing etc complete complying with relevant standard specification and as directed by the engineer in charge - For culvert (Cement shall be issued free of cost by MWCJ)	Cum	1,186.56		
7	Providing centering and shuttering including attached pilasters, buttresses, strutting, propping etc. and removal of centering and shuttering (any thickness) and complete as per direction of Engineer in Charge etc., For culvert	sqm	2,594.49		
8	Providing and laying RCC pipe of 600 mm dia NF-4 with collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc, 600 mm dia. R.C.C. pipe For pipe culvert. (Cement and RCC Pipes shall be issued free of cost by MWCJ)	meter	1,189.00		
9	Providing and constructing random rubble stone masonry with hard stone in foundation and plinth etc. with cement mortar 1:6 with quarried stone boulders of approved quality including curing, providing all materials, tools, plants, all lead and lifts and labour etc complete as per the direction of Engineer-in-charge. For culvert. (Cement shall be issued free of cost by MWCJ)	Cum	251.65		

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10	Preparation and consolidation of granular sub-base by providing close graded Material conforming to Table 400-1, Grading I of MoRT&H & H (Fifth Revision) specifications, in layers of maximum 150 mm. compacted thickness over compacted sub grade, to achieve a minimum soaked CBR value of 30% in accordance with standard specifications, including watering, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting by 8-10 M.T. vibratory power roller to achieve the desired standard proctor density of 98% (IS:2720 Part - 8) including surveying wherever necessary etc. complete as per Clause 401 of MoRT&H specification and as per the direction of engineer-in-charge. (Payment to be made for finished item of work after completion based on original and finished levels)	Cum	20,993.00		
11	Providing, laying, spreading and compacting graded stone aggregate of size 75 micron- 53mm from approved quarry to Wet Mix Macadam (WMM) of 2 layers (125 mm compacted thickness of each layers laying of WMM by pavers) specification with water to OMC in mechanical mix, carriage of mixed material by tipper to site, laying in uniform layers in base course on a well prepared under base and compacting with power vibratory roller to achieve the desired density including surveying wherever necessary etc complete as per Ref. clause No 406 of MoRT&H (Fifth Revision) and as per the direction of engineer-in-charge. - (250 mm thick)	Cum	22,055.00		
12	Providing and applying prime coat over top surface of WMM, a single layer of low viscosity liquid bituminous material of medium curing cutback quality of SS (slow setting emulsion) @ 0.7 kg /sqm. (Ref. Clause No.502 of MoRT&H-Fifth Revision) includes cost of bitumen emulsion, cleaning the surface by mechanical means and temporary covering on the Kerb to prevent bitumen spillage before applying the prime coat.	Sqm	82,621.00		
13	Providing and applying single tack coat of liquid bituminous material of RS (Rapid setting emulsion) on existing W.M.M surface which is preparatory to another bituminous construction over it as a tack coat @ 0.25 kg / sqm. Area, as per Table No.500-5 of MoRT&H (Fifth Revision) specifications. Including cost of bitumen emulsion, cleaning the surface by mechanical means and temporary covering on the Kerb to prevent bitumen spillage before applying the prime coat	Sqm	82,621.00		
14	Providing and laying evenly graded Dense Bituminous Macadam (DBM) 100-120 TPH batch type HMP producing an average output of 75 tones per hour using crushed aggregates of specified grading, premixed with bituminous binder of grade 60/70 @ 4.0 to 4.5 per cent by weight of total mix and filler by weight of total mix and transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers of 8-10 M.T. static weight including all material, labour and machinery with all leads and lifts including surveying wherever necessary etc. complete including cost of bitumen as per clause 505 of MoRT&H (Fifth Revision) specification and as per the direction of engineer-in-charge.	Cum	5,574.00		
15	Providing and applying single tack coat of liquid bituminous material of RS (Rapid setting emulsion) over the first layer of DBM surface which is preparatory to lay another layer of DBM as a tack coat @ 0.2 kg / sqm. area and applying another layer of single tack coat over the finished layer of DBM surface which is preparatory to lay bituminous concrete as a tack coat @ 0.20 kg/sqm. Area, as per Table No.500-5 of MoRT & H (Fifth Revision) specifications. Including cost of bitumen and cleaning the surface by mechanical means as per the direction of engineer-in-charge.	Sqm	82,621.00		
16	Providing and laying Bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tones per hour using crushed aggregates of specified grading, premixed with VG-40 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) filler as per Job Mix Formula, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per Clause No. 507 of MoRT&H specification, complete in all respects as per the direction of engineer-in-charge.	Cum	3,227.00		
17	Construction of cast-in-situ cement concrete kerb with top and bottom width 115 and 165 mm respectively, 325 mm high in M20 grade Plain Cement Concrete (PCC) using OPC and hard broken stone jelly of 20 mm nominal and downgraded size with 270 kg of cement and 50 kg of fly ash on M10 grade Plain Cement Concrete (PCC) using OPC 53 grade (considered 20% fly ash in replacement of cement) and hard broken stone jelly of 20 mm nominal and downgraded size with 173 kg of cement and 43 kg of fly ash 100 mm thick, foundation having 68 mm projection beyond kerb stone, kerb stone laid with kerb laying machine, foundation concrete laid manually, finish the surface neatly, shape and dimensions as per drawing, curing and groove cutting for expansion at regular intervals all complete as per clause 409 of MoRT&H (Fifth Revision) specification and as per the direction of engineer-in-charge. (Cement shall be issued by free of cost by MWCJ.)	Rmt	13,276.00		
18	Providing and laying uPVC pipes of 110 mm ID of approved make like Kissan/Prince / Supreme as per I.S:4985-1988 at every 20 meter. centre to centre distance with proper bedding for joints, for diverting flow of storm water from road surfaces through catch basins to storm water drain to be fixed in position as shown in drawing including trenching, refilling & testing of joints with solvent cement etc. complete in all respect (Class-IV, 4Kg/Sq.cm working pressure) and as per the direction of Engineer-in-charge. (uPVC Pipe shall be issued free of cost by MWCJ.)	Rmt	522.00		
19	Laying non pressure NP3 class medium duty R.C.C pipes with Spigot and socket jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement :2 fine sand) including testing of joints etc. complete under road for heavy traffic - 100 mm dia. R.C.C. pipe as per the direction of Engineer-in-charge. (Cement and RCC Pipe shall be issued free of cost by MWCJ.)	Rmt	230.00		
20	Laying non pressure NP3 class medium duty R.C.C pipes with Spigot and socket jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement :2 fine sand) including testing of joints etc. complete under road for heavy traffic - 150 mm dia. R.C.C. pipe as per the direction of Engineer-in-charge. (Cement and RCC Pipe shall be issued free of cost by MWCJ.)	Rmt	171.00		
21	Laying non pressure NP3 class medium duty R.C.C pipes with Spigot and socket jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement :2 fine sand) including testing of joints etc. complete under road for heavy traffic - 200 mm dia. R.C.C. pipe as per the direction of Engineer-in-charge. (Cement and RCC Pipe shall be issued free of cost by MWCJ.)	Rmt	500.00		
22	Laying non pressure NP3 class medium duty R.C.C pipes with Spigot and socket jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement :2 fine sand) including testing of joints etc. complete under road for heavy traffic - 250 mm dia. R.C.C. pipe as per the direction of Engineer-in-charge. (Cement and RCC Pipe shall be issued free of cost by MWCJ.)	Rmt	1,880.00		

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23	Laying non pressure NP3 class medium duty R.C.C pipes with Spigot and socket jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement :2 fine sand) including testing of joints etc. complete under road for heavy traffic -300 mm dia. R.C.C. pipe as per the direction of Engineer-in-charge. (Cement and RCC Pipe shall be issued free of cost by MWCJ.)	Rmt	3,400.00		
24	Laying non pressure NP3 class medium duty R.C.C pipes with Spigot and socket jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement :2 fine sand) including testing of joints etc. complete under road for heavy traffic - 450 mm dia. R.C.C. pipe as per the direction of Engineer-in-charge. (Cement and RCC Pipe shall be issued free of cost by MWCJ.)	meter	1,345.00		
25	Construction of catch basin drain chamber with plain cement concrete of 300 mm x 400 mm x 450mm clear size at 20m interval in PCC 1:2:4 (Considered 20% of fly ash in replacement of cement) 150mm thick wall over 100 mm thick foundation concrete 1:3:6 (1 cement : 3 fine sand : 6 graded stone aggregate 40 mm nominal size, with C.I. grating and frame of 300 x 400 mm size (clear) and the weight of grating to be not less than 6.00 kg and frame to be not less than 3.60 kg and sunk portion in PCC 1:2:4 (Considered 20% of fly ash in replacement of cement) 50mm thick with neat finish for bed concrete complete as per standard design / drawing and directions of Engineer-in-Charge. (Cement shall be issued free of cost by MWCJ.)	No	470.00		
26	Providing and laying of plain cement concrete 1:3:6 (one of Cement -PCC three of Sand; six of hard broken stone jelly 40 mm nominal size : including laying, curing, finishing etc complete. Complying with relevant standard specification and as directed by the Engineer in charge. (Bed concrete) (Cement shall be issued free of cost by MWCJ.)	Cum	609.29		
27	Providing and fixing at or near ground level factory made RCC (Kerb) channel slab of M-30 grade of size 300x600x50 mm, including reinforcement with 6 mm dia M.S. bars 4 nos. on each side, including setting in position in drain at the end of the road to the required level and line over a bed of 20 mm average thick cement mortar 1:5 (1 cement : 5 coarse sand), having joint thickness not more than 5mm except on curve, including filling of joints with same cement mortar and making grooves etc. complete as per drawings and direction of Engineering-charge. (Cement and Steel shall be issued free of cost by MWCJ.)	Sqm	3,917.00		
28	Providing and constructing masonry Chamber 1200x1200x1000 mm (clear size) with fly ash brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for utility road crossing and Plot manhole, RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including C.I. cover with frame (medium duty) 600 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg), necessary excavation, foundation concrete 1:4:8 (1 cement : 4 fine sand : 8 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design / drawing and directions of Engineer-in-Charge. (Cement shall be issued free of cost by MWCJ.)	each	220.00		
29	Providing and applying 2.5 mm thick road marking strips for center line and stop line (retro reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per drawings and direction of Engineer-in-charge and accordance with applicable specifications.	Sqm	3,646.00		
30	Providing and applying two coats with oil bound washable distemper of approved brand and shade on concrete surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour etc. complete as per specifications, drawings and direction of Engineering-charge. . - For Kerb	Sqm	4,182.00		
31	Cement concrete M30 design mix (RMC) for all reinforced cement concrete works namely side walls, deck slab and other similar works and other similar structures etc. with water cement ratio not exceeding 0.45 and minimum cement content of 310 kg per cubic meter, using PPC, river sand, 20 mm and down size coarse aggregates, necessary approved admixtures as per requirement and using fly ash content 100 kg per cubic meter in structural and non structural works excluding the cost of steel reinforcement, fabrication charges, shuttering and centering but including all leads, lift, laying, vibrating the concrete, curing etc, all complete and as directed by the Engineer in charge. Mix design data has to be got approved engineer in-charge before commencement of work in the box culverts and drain slab. (Cement shall be issued free of cost by MWCJ.)	Cum	320.74		
32	Fabricating and placing in position of Thermo-Mechanically Treated bars (TMT) for reinforcement with Fe 500 grade steel for all structures in the drain including cost of binding wire, cutting, bending, tying etc, all complete complying with relevant standard specification and as directed by the Engineer in charge in rectangular drain (RCC) and box culverts. (Steel shall be issued free of cost by MWCJ.)	Kg	35,217.00		
33	Constructing of circular type manhole 0.91 m internal dia at bottom and 0.60 m dia at top and beyond 0.91 m to 1.67 m deep and 600 mm dia S.F.R.C cover with frame (heavy duty,HD-20 grade designation) conforming to I.S 12592,, total weight of cover and frame to be not less than 182 kg brick masonry in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, including earth work excavation and refilling with the excavated earth after completion of the work necessary water proofing and centering, shuttering etc all complete as per as per drawing (Sulphate resistant cement should be used for all cement works). (Cement shall be issued free of cost by MWCJ)	Each	6.00		

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S.No	Description	Unit	Total Qty	Rate	Amount
34	Constructing of circular type manhole 1.22 m internal dia at bottom and 0.6 m dia at top and deep beyond 1.68 m to 2.29 m and 600 mm dia S.F.R.C cover with frame (heavy duty,HD-20 grade designation) confirming to I.S 12592,, total weight of cover and frame to be not less than 182 Kg brick masonry in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, including earth work excavation and refilling with the excavated earth after completion of the work necessary water proofing and centering, shuttering etc all complete as per as per drawing (Sulphate resistant cement should be used for all cement works). (Cement shall be issued free of cost by MWCJ.)	Each	8.00		
35	Constructing of circular type manhole 1.52 m internal dia at bottom and 0.6 m dia at top and 2.31 m to 3.30 m deep and 600 mm dia S.F.R.C cover with frame (heavy duty,HD-20 grade designation, fixed in cement concrete 1:2:4) confirming to I.S 12592,, total weight of cover and frame to be not less than 182 Kg brick masonry in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, including earth work excavation and refilling with the excavated earth after completion of the work necessary water proofing and centering, shuttering etc all completes per (Sulphate resistant cement should be used for all cement works). (Cement shall be issued free of cost by MWCJ.)	Each	9.00		
36	Providing orange colour safety foot rest of minimum 6 mm thick plastic ,encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mm x25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tall length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacturer's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design. (Cement shall be issued free of cost by MWCJ.)	Each	199.00		
37	Providing and laying of plain Cement Concrete 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) considered 20% of fly ash in replacement of cement including laying, vibrating, curing, finishing etc complete complying with relevant standard specification and as directed by the engineer in charge - For over flow weir. (Cement shall be issued free of cost by MWCJ.)	Cum	3.00		
38	Providing dry rubble stone pitching 23cm. (about 9 inch) thick. etc. complete. Spec : MORTH 306. For over flow weir. (Cement shall be issued free of cost by MWCJ.)	Sqm	12.00		
39	Providing and Fixing of Road Reflective Studs with fastener with test certificate of load capacity not less than 45 Tons. Size- 100X100X20mm.	Nos	2,500.00		
40	Cleaning and Grubbing as per Clause No.201 of MORTH Specification,complete in all respects as per the direction of Engineer-in-Charge.	Hectare	19.97		
41	Providing and laying Bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tones per hour using crushed aggregates of specified grading, premixed with (Crumb rubber modified bitumen) CRMB-60 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) filler as per Job Mix Formula, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per Clause No. 507 of MORTH specification, complete in all respects as per the direction of engineer-in-charge.	cum	Rate Only		
	Total cost				
	Total cost in Lakhs				
	Total Cost incl.Service Tax				

Note:-

- 1.Rate shall be inclusive of cess, all statutory charges and applicable taxes except Service Tax which shall be paid as per applicability.
- 2.Cement,Steel,uPVC Pipes,R.C.C. Pipes shall be supplied free of cost by MWCJ based on reconciliation as per consumption as approved by Engineer-in-charge.
- 3.Crust Thickness is to be followed as per drawing and as per direction-in-Charge.
- 4.Above BOQ & Work Order will be divided in two two parts and same shall be clarified during negotiations.
- 5.Tax to be elaborated by the Contractor below the bid price.