

CHAPTER 09: PILE WORKS AND PILE TEST						
Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
09.1	Boring/drilling by wash or percussion method for cast in situ pile up to the required depth and diameter with minimum 6 m long temporary steel casing, true to vertical, providing bentonite slurry and maintaining water level in the hole, washing the hole for at least 30 minutes, cleaning the bore hole and making the bore hole ready for placing steel cage and concreting including hire charge of rig set with winch machine, tripod stand, tremie pipe, cost of fuel, lubricant, mobilization, demobilization, maintenance, spares, stand-byes, insurance coverage, water, electricity and other charges all complete, approved and accepted by the Engineer-in-charge. Before commencing boring operation, contractor shall submit the method statement of cast-in-situ pile work including sequence of boring and casting, disposal of spoils to the Engineer-in-charge for approval. However, Engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.					
09.1.1	400 mm dia	meter	Tk. 819.00	Tk. 813.00	Tk. 795.00	Tk. 795.00
09.1.2	450 mm dia	meter	Tk. 1,041.00	Tk. 1,034.00	Tk. 1,011.00	Tk. 1,011.00
09.1.3	500 mm dia	meter	Tk. 1,221.00	Tk. 1,213.00	Tk. 1,186.00	Tk. 1,186.00
09.1.4	550 mm dia	meter	Tk. 1,456.00	Tk. 1,446.00	Tk. 1,415.00	Tk. 1,415.00
09.1.5	600 mm dia	meter	Tk. 1,679.00	Tk. 1,668.00	Tk. 1,632.00	Tk. 1,632.00
09.2	Auger Boring/Rotary drilling for cast in situ pile up to the required depth and diameter with minimum 6 m long temporary steel casing, true to vertical, providing bentonite slurry and maintaining water level in the hole, washing the hole for at least 30 minutes, cleaning the bore-hole and making the bore-hole ready for placing steel cage and concreting including hire charge of rig set, tremie pipe, cost of fuel, lubricant, mobilization, demobilization, maintenance, spares, stand-byes, insurance coverage, bentonite, water, electricity and other charges etc. complete approved and accepted by the Engineer-in-charge. Before commencing boring operation, contractor shall submit the method statement of cast-in-situ pile work including sequence of boring and casting, disposal of spoils to the Engineer-in-charge for approval. However, Engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.					
09.2.1	600 mm dia	meter	Tk. 3,866.00	Tk. 3,861.00	Tk. 3,844.00	Tk. 3,844.00
09.2.2	750 mm dia	meter	Tk. 4,816.00	Tk. 4,809.00	Tk. 4,789.00	Tk. 4,789.00
09.2.3	1000 mm dia	meter	Tk. 6,985.00	Tk. 6,976.00	Tk. 6,947.00	Tk. 6,947.00
09.3	Removing of spoils / mud accumulated during boring for cast in situ pile by wash boring from working site to a safe distance by contractor's own arrangement i.e. with container set in truck or on cart including loading, unloading everything complete as per standard practice and accepted by the Engineer-in-charge. (Quantity should be given three times of solid volume of boring)	cum	Tk. 744.00	Tk. 742.00	Tk. 689.00	Tk. 689.00

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
09.4	Cast in situ pile with reinforced cement concrete works of high slump by adding high range water reducing admixture (ASTM C494 Type A or F) with minimum cement content relates to mix ratio 1 : 1.5 : 3 having minimum $f_{cr} = 26$ Mpa, and satisfying a specified compressive strength $f_c = 21$ Mpa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM & cement conforming to BDS EN-197-1- CEM -1,52.5 N / ASTM-C 150 Type – I, best quality coarse sand [Sylhet sand or coarse sand of equivalent F.M.2.2], 20 mm down well graded crushed stone chips conforming to ASTM C-33, including breaking chips, screening through proper sieves, making, placing re-bar cage in position, placing and removing tri-pod as per requirement, pouring the concrete in bore-hole with the help of a tremie pipe, maintaining the tremie pipe immersed in concrete by at least 1 meter throughout the period of concreting, maintaining required slump, etc. mixing the aggregates with standard mixer machine with hopper, casting in formval leading to final approval of Engineer-in- charge.driving set, champering, test of materials and concrete etc. including carrying all complete approved and accepted by the Engineer-in-charge. (Rate is excluding the cost of reinforcement and its fabrication, binding, welding and placing)nd curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of	cum	Tk. 15,715.00	Tk. 15,879.00	Tk. 14,909.00	Tk. 14,519.00
09.5	Providing and making point welding at contact point of the spiral binders at reasonable intervals with the main reinforcements by electric arc welding for construction of cast in situ bored pile carefully with highly oxidized electrodes, making the points prominent and accepted by the Engineer-in-charge (Rate is inclusive of all materials labour, tools and plants, electricity and all equipment).	point	Tk. 4.00	Tk. 4.00	Tk. 4.00	Tk. 4.00
09.6	Providing and making welded splice over two sides of contact by welding of minimum 300 mm length at the lap of main reinforcement in re-bar cage to be placed in bore-hole where necessary by electric arc welding with highly oxidized electrodes making the joint prominent all complete and accepted by the Engineer-in-charge. (Rate is inclusive of all materials labour, tools and plants, electricity and all equipment).	meter of weld	Tk. 483.00	Tk. 483.00	Tk. 483.00	Tk. 483.00
09.7	Labour for breaking head of hardened cast in situ bored pile/pre-cast pile up to a required length by any means but without damaging the rest and removing the dismantled materials such as concrete to a safe distance including scraps and cleaning concrete from steel/M.S. rods, straightening and bending of pile bars, preparation and making platform where necessary, carrying, all sorts of handling, stacking the same properly after clearing, leveling and dressing the situ and clearing the bed etc. complete in all respect and accepted by the Engineer-in-charge. (Measurement will be given for the actual pile head volume to be broken)	cum	Tk. 3,595.00	Tk. 3,518.00	Tk. 3,274.00	Tk. 3,274.00

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
09.8	Conducting static load test as per ASTM D1143 or equivalent standard for the cast-in-situ/pre-cast pile providing required scaffolding, bracing, jacks, pressure test gauge, loading unloading, Kentledge and other plants and equipment including staging, mobilization, demobilization, hire charge, gunny bags, sand and filling sacs/gunny bags for loading, record readings and preparation of results in standard forms and other incidental charges as per standard practice and procedures including submission of load test report, furnishing all graph and chart etc. complete in all respect approved and accepted by the Engineer-in-charge (Minimum two cyclic loading; one at service load and another cycle at double the service load then to continue loading till failure of the pile). Before commencing load test, contractor shall submit method statement for conducting load test to the Engineer-in-charge for approval. However, Engineer's approval shall not relieve the Contractor of his responsibilities and obligations under Coval leading to final approval of Engineer-in-charge. the supervision of a professional Geotechnical Engineer registered in BPERB or Geotechnical firm registered in PWD. Boring and pouring logs / driving logs of piles and method statement shall be the part of load test report.					
09.8.1	Mobilization & de-mobilization of testing equipment	per set per site	Tk. 5,644.00	Tk. 5,644.00	Tk. 5,154.00	Tk. 5,154.00
09.8.2	Calibration of pressure gauge	per set per site	Tk. 6,626.00	Tk. 6,626.00	Tk. 6,626.00	Tk. 6,626.00
09.8.3	For 50 tonne load					
09.8.3.1	For first test at one site for one testing set	per test	Tk. 89,803.00	Tk. 89,565.00	Tk. 88,241.00	Tk. 88,241.00
09.8.3.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 80,823.00	Tk. 80,608.00	Tk. 79,417.00	Tk. 79,417.00
09.8.4	For 100 tonne load					
09.8.4.1	For first test at one site for one testing set	per test	Tk. 149,807.00	Tk. 149,599.00	Tk. 147,786.00	Tk. 147,786.00
09.8.4.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 134,826.00	Tk. 134,639.00	Tk. 133,007.00	Tk. 133,007.00
09.8.5	For 150 tonne load					
09.8.5.1	For first test at one site for one testing set	per test	Tk. 208,444.00	Tk. 208,292.00	Tk. 206,087.00	Tk. 206,087.00
09.8.5.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 187,599.00	Tk. 187,463.00	Tk. 185,479.00	Tk. 185,479.00
09.8.6	For 200 tonne load					
09.8.6.1	For first test at one site for one testing set	per test	Tk. 269,168.00	Tk. 269,024.00	Tk. 266,292.00	Tk. 266,292.00
09.8.6.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 242,251.00	Tk. 242,121.00	Tk. 239,663.00	Tk. 239,663.00
09.8.7	For 250 tonne load					
09.8.7.1	For first test at one site for one testing set	per test	Tk. 330,259.00	Tk. 330,171.00	Tk. 327,048.00	Tk. 327,048.00
09.8.7.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 297,233.00	Tk. 297,154.00	Tk. 294,343.00	Tk. 294,343.00
09.8.8	For 300 tonne load					
09.8.8.1	For first test at one site for one testing set	per test	Tk. 390,998.00	Tk. 390,917.00	Tk. 387,267.00	Tk. 387,267.00
09.8.8.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 351,899.00	Tk. 351,825.00	Tk. 348,541.00	Tk. 348,541.00
09.8.9	For 350 tonne load					
09.8.9.1	For first test at one site for one testing set	per test	Tk. 449,635.00	Tk. 449,610.00	Tk. 445,569.00	Tk. 445,569.00
09.8.9.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 404,672.00	Tk. 404,649.00	Tk. 401,012.00	Tk. 401,012.00
09.8.10	For 400 tonne load					
09.8.10.1	For first test at one site for one testing set	per test	Tk. 508,272.00	Tk. 508,303.00	Tk. 503,871.00	Tk. 503,871.00
09.8.10.2	For 2nd & additional tests at same site for same testing set	per test	Tk. 457,445.00	Tk. 457,472.00	Tk. 453,484.00	Tk. 453,484.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalgonj)	Unit Rate (Rajshahi, Rangpur)
09.9	Rate for incremental loading					
09.9.1	For intermediate loading from 50 tonne to 100 tonne for each additional tonne					
09.9.1.1	For first test at one site for one testing set	tonne	Tk. 1,200.00	Tk. 1,201.00	Tk. 1,191.00	Tk. 1,191.00
09.9.1.2	For 2nd & additional tests at same site for same testing set	tonne	Tk. 1,080.00	Tk. 1,081.00	Tk. 1,072.00	Tk. 1,072.00
09.9.2	For intermediate loading from 100 tonne to 150 tonne for each additional tonne.					
09.9.2.1	For first test at one site for one testing set	tonne	Tk. 1,173.00	Tk. 1,174.00	Tk. 1,166.00	Tk. 1,166.00
09.9.2.2	For 2nd & additional tests at same site for same testing set	tonne	Tk. 1,055.00	Tk. 1,056.00	Tk. 1,049.00	Tk. 1,049.00
09.9.3	For intermediate loading from 150 tonne to 200 tonne for each additional tonne.					
09.9.3.1	For first test at one site for one testing set	tonne	Tk. 1,214.00	Tk. 1,215.00	Tk. 1,204.00	Tk. 1,204.00
09.9.3.2	For 2nd & additional tests at same site for same testing set	tonne	Tk. 1,093.00	Tk. 1,093.00	Tk. 1,084.00	Tk. 1,084.00
09.9.4	For intermediate loading from 200 tonne to 250 tonne for each additional tonne.					
09.9.4.1	For first test at one site for one testing set	tonne	Tk. 1,222.00	Tk. 1,223.00	Tk. 1,215.00	Tk. 1,215.00
09.9.4.2	For 2nd & additional tests at same site for same testing set	tonne	Tk. 1,100.00	Tk. 1,101.00	Tk. 1,094.00	Tk. 1,094.00
09.9.5	For intermediate loading from 250 tonne to 300 tonne for each additional tonne.					
09.9.5.1	For first test at one site for one testing set	tonne	Tk. 1,215.00	Tk. 1,215.00	Tk. 1,204.00	Tk. 1,204.00
09.9.5.2	For 2nd & additional tests at same site for same testing set	tonne	Tk. 1,093.00	Tk. 1,093.00	Tk. 1,084.00	Tk. 1,084.00
09.9.6	For intermediate loading from 300 tonne to 350 tonne for each additional tonne.					
09.9.6.1	For first test at one site for one testing set	tonne	Tk. 1,173.00	Tk. 1,174.00	Tk. 1,166.00	Tk. 1,166.00
09.9.6.2	For 2nd & additional tests at same site for same testing set	tonne	Tk. 1,055.00	Tk. 1,056.00	Tk. 1,049.00	Tk. 1,049.00
09.9.7	For intermediate loading from 350 tonne to 400 tonne for each additional tonne.					
09.9.7.1	For first test at one site for one testing set	tonne	Tk. 1,173.00	Tk. 1,174.00	Tk. 1,166.00	Tk. 1,166.00
09.9.7.2	For 2nd & additional tests at same site for same testing set	tonne	Tk. 1,055.00	Tk. 1,056.00	Tk. 1,049.00	Tk. 1,049.00
09.10	Pre-cast pile made in reinforced cement concrete with minimum cement content relates to mix ratio 1:1.25:2.5 having minimum f _{cr} = 38.5 Mpa, and satisfying specified compressive strength f _c = 30 Mpa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM & cement conforming to BDS EN-197-1- CEM-I (52.5 N) / ASTM-C 150 Type – I, best quality coarse sand (F.M.2.2), 20 mm down well graded crushed stone chips conforming to ASTM C-33, mixing in standard mixture machine and fed by standard measuring boxes, including all related works like screening through proper sieves, cleaning and washing, centering and placing reinforcement cages in position, casting, compacting by vibrators and tapered rods as where necessary, curing for 28 days etc. cost of water, electricity and other charges, providing fitting and fixing pile shoe in position, tools, plants & equipments, mobilization, demobilization, labour, test of materials and concrete etc. all complete as per design, drawing and accepted by tval leading to final approval of Engineer-in- charge. the supervision of a professional Geotechnical Engineer register	cum	Tk. 14,287.00	Tk. 14,436.00	Tk. 13,554.00	Tk. 13,199.00

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
09.11	Cost of bed preparation including one layer brick flat soling with first class/picked jhama bricks including preparation of bed and filling the interstices with local sand, leveling etc. complete and accepted by the Engineer-in-charge, Minimum 12 mm thick cement sand (F.M. 1.2) plaster with neat cement finishing with cement (1:4) including washing of sand, finishing the edges and corners and curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect and accepted by the Engineer-in-charge (Cement: CEM-II/B-M) and polythene as separator between pile layers during casting concrete	sqm	Tk. 324.00	Tk. 324.00	Tk. 324.00	Tk. 324.00
09.12	Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 18 BWG, angles of minimum size 1.5 x 1.5 x 3/16" for sides, angles of minimum size 1 x 1 x 3/16" for frames, 1.5" x 3/16" flat bars etc.) and removal of form for precast pile (The formwork is considered for two sides and front shuttering of the pile)	sqm	Tk. 409.00	Tk. 409.00	Tk. 398.00	Tk. 398.00
09.13	Pre-cast pile shoe making & supplying pre-fabricated frustum of square cone having four sides and a toe made of 6 mm thick ASTM A36 complied MS steel plate jointed by line welding, 4 nos 12 mm dia deformed MS bar jointed by line welding with MS plate along the four edges of shoe aligning the corner main bar of the pile and 1-12mm dia bar to fix with and perpendicular to shoe toe plate aligning centre of pile, including cutting, shaping, sizing of MS plate and bar, all complete as per design & drawing and accepted by the Engineer-in-charge	each	Tk. 3,218.00	Tk. 3,187.00	Tk. 3,064.00	Tk. 3,064.00
09.14	Mobilization and demobilization of drop hammer type pre-cast pile driving rig.	per set per site	Tk. 11,964.00	Tk. 11,951.00	Tk. 10,921.00	Tk. 10,921.00
09.15	Driving 250 mm x 250 mm size pre-cast pile with drop hammer type rig, and maintaining driving log in prescribed format Before commencing driving operation, contractor shall submit method statement for carrying out the driving operation including sequence of driving to the Engineer-in-charge for approval. However, Engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.	meter	Tk. 514.00	Tk. 508.00	Tk. 489.00	Tk. 489.00
09.16	Driving 300 mm x 300 mm to 350 mm x 350 mm size pre-cast pile with drop hammer type rig, and maintaining driving log in prescribed format Before commencing driving operation, contractor shall submit method statement for carrying out the driving operation including sequence of driving to the Engineer-in-charge for approval. However, Engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.	meter	Tk. 817.00	Tk. 809.00	Tk. 778.00	Tk. 778.00
09.17	Mobilization and demobilization of automatic diesel hammer mounted complete rig set.	per set per site	Tk. 186,508.00	Tk. 186,508.00	Tk. 186,508.00	Tk. 186,508.00
09.18	Driving 250 mm x 250 mm size pre-cast pile by rig fitted with automatic diesel operated hammer. Before commencing driving operation by rig fitted with automatic diesel operated hammer, contractor shall submit method statement for carrying out the operation including sequence of driving to the Engineer-in-charge for approval. However, engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.	meter	Tk. 706.00	Tk. 702.00	Tk. 691.00	Tk. 691.00

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09.19	Driving 300 mm x 300 mm & 350 mm x 350 mm size pre-cast pile by rig fitted with automatic diesel operated hammer. Before commencing driving operation by rig fitted with automatic diesel operated hammer, contractor shall submit method statement for carrying out the operation including sequence of driving to the Engineer-in-charge for approval. However, engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.	meter	Tk. 914.00	Tk. 909.00	Tk. 894.00	Tk. 894.00
09.20	Driving 400 mm x 400 mm size pre-cast pile by rig fitted with automatic diesel operated hammer. Before commencing driving operation by rig fitted with automatic diesel operated hammer, contractor shall submit method statement for carrying out the operation including sequence of driving to the Engineer-in-charge for approval. However, engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.	meter	Tk. 1,036.00	Tk. 1,030.00	Tk. 1,013.00	Tk. 1,013.00
09.21	Driving 450 mm x 450 mm size pre-cast pile by rig fitted with automatic diesel operated hammer. Before commencing driving operation by rig fitted with automatic diesel operated hammer, contractor shall submit method statement for carrying out the operation including sequence of driving to the Engineer-in-charge for approval. However, engineer's approval shall not relieve the contractor of his responsibilities and obligations under contract.	meter	Tk. 1,110.00	Tk. 1,104.00	Tk. 1,085.00	Tk. 1,085.00
09.22	Pre-cast driven micro-pile with reinforced cement concrete works with minimum cement content relates to mix ratio 1:1.25:2.5 having minimum f _{cr} = 35 MPa, and satisfying a specified compressive strength f _c = 30 MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM & cement conforming to BDS EN-197-1- CEM-I (32.5 to 52.5 N) / ASTM-C 150 Type – I, best quality coarse sand (F.M.2.5) and 20 mm down well-graded crushed stone chips conforming to ASTM C-33, mixing in standard mixture machine with hopper and fed by standard measuring boxes, including cost of breaking chips, screening through proper sieves, cleaning and washing, centering and shuttering with M.S sheet, M.S angle, F.I bar, nuts and bolts, preparation of bed, laying polythene, placing of reinforcement cage, casting, compacting by vibrators and tapered rods, curing for 28 days etc. including cost of water, electricity and other charges as per standard practice or specified method providing head cushion, all equipments incluvial leading to final approval of Engineer-in- charge, the supervision of a professional Geotechnical Engineer registered in BPERB or Geotechnical firm registered in PWD. Boring and pouring logs / driving logs of piles and method statement shall be the part of load test report,ys, removing c					
09.22.1	Casting of 180 mm x 180 mm x 7.6 m Pile with reinforced cement concrete (1:1.25:2.5) with stone chips	meter	Tk. 596.00	Tk. 600.00	Tk. 570.00	Tk. 559.00
09.22.2	Casting of 205 mm x 205 mm x 7.6 m Pile with reinforced cement concrete (1:1.25:2.5) with stone chips	meter	Tk. 745.00	Tk. 750.00	Tk. 711.00	Tk. 697.00
09.22.3	Driving of 180 mm x 180 mm x 7.6 m pre-cast pile	meter	Tk. 217.00	Tk. 215.00	Tk. 207.00	Tk. 207.00
09.22.4	Driving of 205 mm x 205 mm x 7.6 m pre-cast pile	meter	Tk. 261.00	Tk. 258.00	Tk. 248.00	Tk. 248.00

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
09.22.5	Supply of Cold-Drawn Wire Pre-stressed Concrete (CWPC) micro-pile which is made by using cold drawn wire minimum cement content relates to mix ratio 1:1.5:3 cement conforming to BDS EN-197-1-CEM-1, 52.5N (52.5MPa) / ASTM-C 150 type - 1, having minimum f _{cr} = 35 MPa and satisfying specified compressive strength f _c = 30 MPa at 28 days best quality coarse sand (F.M. 2.2), 20 mm down well graded stone chips conforming to ASTM C-33, mixing in standard mixture machine and fed by standard measuring boxes, including cost of all kind of reinforcement BDS ISO 6935-2:2006 including strengthening and cleaning rust if any bending and binding in position with supply of GI wires (24 BWG), centering and shuttering with M.S. sheet, M.S. angle, F.I. bar, nuts and bolts, preparation of bed, supplying & tensioning of cold drawn wire, laying polythene, placing of reinforcement cage in position, casting, compacting by vibrator and tapered rods, curing at least 28 days etc. including cost of water, electricity and other charges, prval leading to final approval of Engineer-in- charge. the supervision of a professional Geotechnical Engineer registered in BPERB or Geotechnical firm registered in PWD. Boring and pouring logs / driving logs of piles and method statement shall be the part of load test report,ys, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and oth	meter	Tk. 1,266.00	Tk. 1,257.00	Tk. 1,216.00	Tk. 1,210.00
09.23	PIT (Pile integrity test) : Conducting low strain dynamic testing of pile as per ASTM D5882-The standard method for low-strain integrity testing of pile by a qualified and approved PIT expert, preparing pile heads and providing all relevant materials, equipment, experts, labour, mobilization, demobilization, data acquisition and analysis, preparation of results in standard forms and compiling final report with recommendations on the tests etc. complete in all respect approved and accepted by the Engineer-in-charge. (Report shall contain driving log / boring and pouring logs, graphs & statement on "Callibration Pile" (pile that tested for its capacity and PIT done eralier on it, at a place of known soil profiles), soil investigation report. (Caliberation pile shall be made and tested first). Method statement for conducting PIT shall be submitted to the Engineer for approval, and shall be the part of PIT report, However, Engineer's approval shall not relieve the contractor of his responsibilities and obligatioval leading to fi					
09.23.1	Mobilization and demobilization to site and PIT on12(twelve) piles or less	upto 1st 12 piles	Tk. 34,357.00	Tk. 34,357.00	Tk. 34,357.00	Tk. 34,357.00
09.23.2	For PIT test of each additional pile after 12(Twelve) pile tested at same site	per pile	Tk. 1,472.00	Tk. 1,472.00	Tk. 1,472.00	Tk. 1,472.00

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09.24	Pre-cast spliced pile jointing by supplying, fitting, fixing prefabricated square shaped two steel caps made up by 6 mm thick ASTM A36 complied M.S plate, sides formed by bent in channel shape to have only two line of joinery on faces, having min 50 mm dia hole on its web; capping by min 12 mm thick ASTM A36 complied M.S plate shaping the edges in 45°, having min 40 mm dia hole at centre to pass 25 mm M.S bar 433 mm in length; jointed at channels root by welding; caps fitted with 2 nos BDS ISO 6935-2009: B400 DWR complied d20 U-bar 1244mm in length by welding, equidistant from centre holes of cap and shall have min 75 mm clear from pile faces; and finally, the system to be fitted in correct alignments on pile head positions waiting for concreting; both the pile heads fitted with the steel caps to be welded together through v-notches in field, while one of the companion segment of piles driven in ground and other one placed over it maintaining true verticality; all complete as per direction and stepwise approval leading to final approval of Engineer-in-charge.					
09.24.1	X-sec of pre cast pile segments :300 mm x 300 mm	each	Tk. 10,599.00	Tk. 10,581.00	Tk. 10,479.00	Tk. 10,466.00
09.24.2	X-sec of pre cast pile segments :350 mm x 350 mm	each	Tk. 12,021.00	Tk. 12,002.00	Tk. 11,892.00	Tk. 11,880.00
09.24.3	X-sec of pre cast pile segments :400 mm x 400 mm	each	Tk. 13,595.00	Tk. 13,577.00	Tk. 13,459.00	Tk. 13,447.00
09.24.4	X-sec of pre cast pile segments :450 mm x 450 mm	each	Tk. 13,951.00	Tk. 13,934.00	Tk. 13,819.00	Tk. 13,807.00
09.25	Pile Driving by Hydraulic Static Pile Driver					
09.25.1	Mobilization and demobilization of hydraulic static pile driver(Upto 320 metric ton capacity)	per set per site	Tk. 559,524.00	Tk. 559,524.00	Tk. 559,524.00	Tk. 559,524.00
09.25.2	Mobilization and demobilization of hydraulic static pile driver(321 Metric Ton to 500 Metric Ton Capacity)	per set per site	Tk. 671,429.00	Tk. 671,429.00	Tk. 671,429.00	Tk. 671,429.00
09.25.2.1	Driving pre-cast pile of 300 mm x 300 mm to 350 mm x 350 mm X-section made with shoe/ without shoe by Hydraulic static pile driver of upto 320 tonne (metric ton) capacity; arranged with necessary cranes, power source, maintaining driving log and record of pressure exerted on piles driven in to desired RL or capacity level ; complete in all respect including handling of piles, dressing & leveling of site, way making, surveying, layout setting etc ended with the submission of pile driving report in three copies duly signed by professional engineer and approved by the Engineer-in-charge.	meter	Tk. 886.00	Tk. 885.00	Tk. 883.00	Tk. 883.00
09.25.2.2	Driving pre-cast pile of 400 mm x 400 mm X-section made with shoe/ without shoe by hydraulic static pile driver of approx. 321 tonne to 500 tonne (metric ton) capacity; arranged with necessary cranes, power source, maintaining driving log and record of pressure exerted on piles driven in to desired RL or capacity level ; complete in all respect including handling of piles, dressing & leveling of site, way making, surveying, layout setting etc ended with the submission of pile driving report in three copies duly signed by professional engineer and approved by the Engineer-in-charge.	meter	Tk. 997.00	Tk. 996.00	Tk. 993.00	Tk. 993.00
09.25.2.3	Driving pre-cast pile of 450 mm x 450 mm X-section made with shoe/ without shoe by hydraulic static pile driver of approx. 500 tonne (metric ton) capacity; arranged with necessary cranes, power source, maintaining driving log and record of pressure exerted on piles driven in to desired RL or capacity level ; complete in all respect including handling of piles, dressing & leveling of site, way making, surveying, layout setting etc ended with the submission of pile driving report in three copies duly signed by professional engineer and approved by the Engineer-in-charge.	meter	Tk. 1,043.00	Tk. 1,042.00	Tk. 1,039.00	Tk. 1,039.00

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalgonj)	Unit Rate (Rajshahi, Rangpur)
09.26	Mobilization and demobilization of Crane (crawler) and crane mounted Vibratory Hammer complete rig set.	per set per site	Tk. 149,206.00	Tk. 149,206.00	Tk. 149,206.00	Tk. 149,206.00
09.27	Supplying U-shape hot rolled steel sheet pile of specified sections having chemical composition Phosphorus = 0.04% (Maximum), Sulphur = 0.04% (Maximum), and mechanical properties Tensile strength=> 490 N/mm ² , Yield strength => 296 N/mm ² , Elongation =15% (Minimum) (according to ASTM Standards), as specified by appropriate means to the construction site and stacking at proper place including loading, unloading, local handling as per specifications, including all taxes, freights, incidental charges etc. complete as per direction of the Engineer -in-charge U-shape, hot- rolled steel sheet pile width = 400mm to 600mm: height => 100mm, length = 12.0m, Thickness >= 10.5mm, Thickness >= 13.0mm (±0.50mm), Thickness >= 15.5mm (±0.50mm), Thickness >= 17.0mm (±0.50mm) This rate excludes the cost of bed preparation. Sheet piles have to be unloaded on a firm flat base. (Salvage materials shall be the contractors property after completion of the work, rate is excluding the cost of driving and taking out).	kg	Tk. 52.00	Tk. 52.00	Tk. 52.00	Tk. 52.00
09.28	Cutting (if necessary) charge of U-type Hot rolled steel sheet piles to design length and shape as per design and specification (thickness, length and mechanical properties) and instruction by all complete as per direction of the Engineer-in-charge.	Each	Tk. 372.00	Tk. 372.00	Tk. 358.00	Tk. 358.00
09.29	Jointing steel sheet piles (if necessary) of different thickness by welding along width (both sides) and along collars (outside) (i.e. at 4 points) to increase the length of pile as per requirement including necessary modification of the ends to receive the weld, supply of welding materials, equipments and other accessories as per specification and direction of Engineer in charge.	Each	Tk. 495.00	Tk. 493.00	Tk. 476.00	Tk. 476.00
09.30	Fabrication and construction of corner Joints in steel sheet piles including cutting, welding, shaping as per design and specification and as per requirement including supply of necessary welding materials, equipments and other accessories as per specification and direction of Engineer in charge.	Each	Tk. 225.00	Tk. 225.00	Tk. 221.00	Tk. 221.00
09.31	Driving steel sheet piles					
09.31.1	Driving steel sheet piles (up to 6.0m depth) of various sections and weights in any type of soil by mechanical device (Crawler Crane having 50 to 55 Ton capacity and Vibratory Hammer etc.) including handling and placing in position, supply of all materials and equipments related with driving of sheet piles, correcting leaning beyond tolerance and other defects etc. all complete as per direction of Engineer in charge (measurement will be taken on projected width x height).	sqm	Tk. 1,109.00	Tk. 1,115.00	Tk. 1,109.00	Tk. 1,109.00

Handwritten signatures and initials in blue ink are present below the table, including a large signature on the left and several initials and marks scattered across the bottom right area.

