

ADDENDUM 1

Loan No. and Title:

ADB Loan No.: Applied For ;

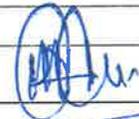
Kolkata Environmental Improvement Investment Program (KEIIP) – Project 2

Contract No. and Title

KEIIP/NCB/TR-2/WS15/ 2015-16

Construction of Underground Reservoirs and Overhead Reservoirs, Pumping Stations and Linking Pumping Station Main for Water Supply in Joka and adjoining areas including Operation & Maintenance of the Pumping Stations.

SL. No	Description and Reference clause of \ Bid document	Details of Addendum 1
	Section 4 : Bill of Quantities Bill no 1 Sl no 8	<p>Replace</p> <p>'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush'</p> <p>By</p> <p>'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering and removal of slush'.</p>
	Section 4 : Bill of Quantities Bill no 1 Sl no 108	Replace



		<p>'Cover plates over sump (with chequered plate) including stiffener frame and lifting arrangement'</p> <p>By</p> <p>'Cover plates over sump, pit, trench,etc. (with chequered plate) including stiffener frame and lifting arrangement'</p>
	Section 4 : Bill of Quantities Bill no 1 SI no 115	<p>Replace</p> <p>'Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catspuit/ gullypit cleaning or CCTV inspection works'.</p> <p>By</p> <p>'Wastewater/ sewage & overpumping'</p>
	Section 4 : Bill of Quantities Bill no 1 SI no 123	<p>Replace</p> <p>'Earthwork in silt clearance of ponds in all kinds of soil including sludge and slush and depositing the same in layers as per profile in proper place within STP premises as per specification and directed by the Engineer-in-charge including rough dressing and removing sludge and slush etc. mixed with any foreign materials by pan or bucket if required including dewatering from all sources along with making arrangement of disposal of bailed water and removal of sand or soil blown from underneath including shoring and as required all complete.(No extra lead and lift will be paid)'</p> <p>By</p> <p>'Earthwork in silt clearance of ponds in all kinds of soil including sludge and slush and depositing the same in layers as per profile in proper place within premises as per specification and directed by the Engineer-in-charge including rough dressing and removing sludge and slush etc. mixed with any foreign materials by pan or bucket if required including dewatering from all sources along with making arrangement of disposal of bailed water and removal of sand or soil blown from underneath including shoring and as required all complete.(No extra lead and lift will be paid)'</p>
	Section 4 : Bill of Quantities Bill no 1 SI no 128	<p>Replace</p> <p>'716 mm OD , 8.0 mm thick' by</p> <p>711 mm OD , 8.0 mm thick'</p>
	Section 4 : Bill of Quantities Bill no 1 SI no 129	<p>Replace</p>



		'816 mm OD , 8.0 mm thick' by 813 mm OD , 8.0 mm thick'
	Section 4 : Bill of Quantities Bill no 1 SI no 131	Replace '700 mm dia' by 711 mm OD '
	Section 4 : Bill of Quantities Bill no 1 SI no 132	Replace '800 mm dia' by 813 mm OD '
	Section 4 : Bill of Quantities Bill no 1 SI no 133	Replace 'Supply and fixing of MS pipe for Ventilation of UGR including inside & outside Epoxy coating (Epoxy 610, internal lining min. 430 micron & external coating min. 600 micron) and jointing the same over ground / inside the trench by means of electric arc welding using standard electrodes as per IS specification . The rate shall also include all labour, tools, miter cut fitting etc. as may be required as per direction of Engineer / site requirement. Measurement for payment of pipes shall be taken along the centre line of as laid pipes, fittings' by 'Supply and fixing of Cast Iron pipe for Ventilation of UGR including inside & outside Epoxy coating and jointing the same over ground / inside the trench as per IS specification . The rate shall also include all labour, tools, fitting etc. as may be required as per direction of Engineer / site requirement. Measurement for payment of pipes shall be taken along the centre line of as laid pipes, fittings'.
	Section 4 : Bill of Quantities Bill no 1 SI no 134	Replace '219mm dia OD 3.6mm thk' by '200 mm dia CI Pipe as per IS'
	Section 4 : Bill of Quantities Bill no 1 SI no 136	Replace 'Horizontal Split Casing type centrifugal pump and squirrel cage induction motor complete with all accessories, foundation bolts and base frame etc. as per drawing. Capacity 600 cum/hr head 37m' By 'Horizontal Split Casing type centrifugal pump and squirrel cage induction motor complete with all accessories, foundation bolts and base frame etc. as per drawing. Capacity 600 cum/hr head 44m'
	Section 4 : Bill of Quantities Bill no 1 SI no 137	Replace

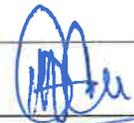


		<p>'Horizontal Split Casing type centrifugal pump and squirrel cage induction motor complete with all accessories, foundation bolts and base frame etc. as per drawing. Capacity 480 cum/hr head 42m'</p> <p>By</p> <p>'Horizontal Split Casing type centrifugal pump and squirrel cage induction motor complete with all accessories, foundation bolts and base frame etc. as per drawing. Capacity 480 cum/hr head 44m'</p>
	Section 4 : Bill of Quantities Bill no 2 Sl no 8	<p>Replace</p> <p>'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush'</p> <p>By</p> <p>'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering and removal of slush'.</p>
	Section 4 : Bill of Quantities Bill no 2 Sl no 115	<p>Replace</p> <p>'Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catshpit/ gullypit cleaning or CCTV inspection works'.</p> <p>By</p> <p>'Wastewater/ sewage & overpumping'</p>
	Section 4 : Bill of Quantities Bill no 2 Sl no 123	<p>Replace</p> <p>'Earthwork in silt clearance of ponds in all kinds of soil including sludge and slush and depositing the same in layers as per profile in proper place within STP premises as per specification and directed by the Engineer-in-charge including rough dressing and</p>

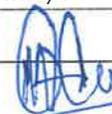
		<p>removing sludge and slush etc. mixed with any foreign materials by pan or bucket if required including dewatering from all sources along with making arrangement of disposal of bailed water and removal of sand or soil blown from underneath including shoring and as required all complete.(No extra lead and lift will be paid)'</p> <p>By</p> <p>'Earthwork in silt clearance of ponds in all kinds of soil including sludge and slush and depositing the same in layers as per profile in proper place within premises as per specification and directed by the Engineer-in-charge including rough dressing and removing sludge and slush etc. mixed with any foreign materials by pan or bucket if required including dewatering from all sources along with making arrangement of disposal of bailed water and removal of sand or soil blown from underneath including shoring and as required all complete.(No extra lead and lift will be paid)'</p>
	Section 4 : Bill of Quantities Bill no 2 Sl no 131	<p>Replace</p> <p>'Supply and fixing of MS pipe for Ventilation of UGR including inside & outside Epoxy coating (Epoxy 610, internal lining min. 430 micron & external coating min. 600 micron) and jointing the same over ground / inside the trench by means of electric arc welding using standard electrodes as per IS specification . The rate shall also include all labour, tools, miter cut fitting etc. as may be required as per direction of Engineer / site requirement. Measurement for payment of pipes shall be taken along the centre line of as laid pipes, fittings'</p> <p>by</p> <p>'Supply and fixing of Cast Iron pipe for Ventilation of UGR including inside & outside Epoxy coating and jointing the same over ground / inside the trench as per IS specification . The rate shall also include all labour, tools, fitting etc. as may be required as per direction of Engineer / site requirement. Measurement for payment of pipes shall be taken along the centre line of as laid pipes, fittings'.</p>
	Section 4 : Bill of Quantities Bill no 2 Sl no 132	Replace '219mm dia OD 3.6mm thk' by '200 mm dia CI Pipe as per IS'
	Section 4 : Bill of Quantities Bill no 2 Sl no 134	<p>Replace</p> <p>'Horizontal Split Casing type centrifugal pump and squirrel cage induction motor complete with all accessories, foundation bolts and base frame etc. as per drawing. Capacity 450 cum/hr head 40m'</p> <p>By</p> <p>'Horizontal Split Casing type centrifugal pump and squirrel cage induction motor</p>



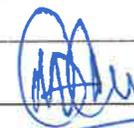
		complete with all accessories, foundation bolts and base frame etc. as per drawing. Capacity 450 cum/hr head 42m'
	Section 4 : Bill of Quantities Bill no 3 Sl no 8	<p>Replace</p> <p>'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush'</p> <p>By</p> <p>'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering and removal of slush'.</p>
	Section 4 : Bill of Quantities Bill no 3 Sl no 87	<p>Replace</p> <p>'Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catshpit/ gullypit cleaning or CCTV inspection works'</p> <p>By</p> <p>'Wastewater/ sewage & overpumping'</p>
	Section 4 : Bill of Quantities Bill no 3 Sl no 99	<p>Replace '450 mm ID, 6 mm Thick' by</p> <p>'457 mm OD 8mm thk'</p>



Section 4 : Bill of Quantities Bill no 3 SI no 100	Replace '600 mm ID, 8 mm Thick' by '610 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 3 SI no 101	Replace '300 mm ID, 5 mm Thick' by '323.9 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 3 SI no 102	Replace '250 mm ID, 3 mm Thick' by '273 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 3 SI no 104	Replace '450 mm ID, 6 mm Thick' by '457 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 3 SI no 105	Replace '600 mm ID, 8 mm Thick' by '610 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 3 SI no 107	Replace '450 mm ID' by '457 mm OD'
Section 4 : Bill of Quantities Bill no 3 SI no 108	Replace '600 mm ID' by '610 mm OD'
Section 4 : Bill of Quantities Bill no 4 SI no 8	Replace 'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush' By 'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering and removal of slush'.
Section 4 : Bill of Quantities Bill no 4 SI no 26	Replace 'Spreading and consolidating 1st class Jhama Metal (size 63 mm to' By 'Spreading and consolidating 1st class Jhama Metal (size 63 mm to 45 mm) to an



		average consolidated thickness of 75 mm (measured after compaction) in layers including screening of bats as necessary, hand packing, sweeping, watering and rolling in stages with power roller to proper line, grade and camber and preparing the bed by necessary cutting or filling and rolling all complete including the cost of all materials and hire & labour charges of all men and machineries and as per specification and direction of Engineer'.
	Section 4 : Bill of Quantities Bill no 4 SI no 28	Replace 'grade, line and cross section, through rolling with suitable power' By 'grade, line and cross section, through rolling with suitable power rollers for break down, inter-media and finished rolling to achieve the desired density as per relevant code, hand packing and pinning to give an even surface including cost and carriage of bitumen and hire charges of Hot Mix Plant and all other machines and equipment for construction and quality control as per specifications, cost of fuel and lubricants and wages of operational staff all complete as per and direction of Engineer'.
	Section 4 : Bill of Quantities Bill no 4 SI no 85	Replace 'Deep Colour & White Miscellaneous MS structural works as per drawing for railings, gates, trusses, brackets, suspenders, cover plates & frames etc. with rolled structural members (e.g. joists, angles, channels, flats, plates, tubes & sheets, square bars, hollow section tubes etc.) conforming to IS:226, IS:808 & SP:6 connected to one another with brackets, cleats or directly welded as per drawing/ direction of Engineer, including cutting to requisite shape and length, fabrication with necessary bolting, metal arc welding conforming to IS:816 & IS:9595 using electrodes of approved make and brand conforming to IS:814, haulage, hoisting and erection all complete.' By 'Deep Colour & White'
	Section 4 : Bill of Quantities Bill no 4 SI no 86	Replace 'The rate includes the cost of rolled steel section, consumables such as electrodes, gas and hire charges of all tools and plants and labour required for the work including all incidental charges such as electricity charges etc. (Payment to be made on the basis of calculated weight of structural members only in finished work as per IS specified weight. The rate is to include fitting and fixing at site with all labour, tools and plants and miscellaneous fixing materials.)'

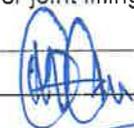


		<p>By</p> <p>'Miscellaneous MS structural works as per drawing for railings, gates, trusses, brackets, suspenders, cover plates & frames etc. with rolled structural members (e.g. joists, angles, channels, flats, plates, tubes & sheets, square bars, hollow section tubes etc.) conforming to IS:226, IS:808 & SP:6 connected to one another with brackets, cleats or directly welded as per drawing/ direction of Engineer, including cutting to requisite shape and length, fabrication with necessary bolting, metal arc welding conforming to IS:816 & IS:9595 using electrodes of approved make and brand conforming to IS:814, haulage, hoisting and erection all complete</p> <p>The rate includes the cost of rolled steel section, consumables such as electrodes, gas and hire charges of all tools and plants and labour required for the work including all incidental charges such as electricity charges etc. (Payment to be made on the basis of calculated weight of structural members only in finished work as per IS specified weight. The rate is to include fitting and fixing at site with all labour, tools and plants and miscellaneous fixing materials.)'</p>
	Section 4 : Bill of Quantities Bill no 4 SI no 90	<p>Replace</p> <p>'Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catshpit/ gullypit cleaning or CCTV inspection works'</p> <p>By</p> <p>'Wastewater/ sewage & overpumping'</p>
	Section 4 : Bill of Quantities Bill no 4 SI no 102	<p>Replace '350 mm ID, 6 mm Thick' by</p> <p>'355.6 mm OD 8mm thk'</p>
	Section 4 : Bill of Quantities Bill no 4 SI no 103	<p>Replace '450 mm ID, 6 mm Thick' by</p> <p>'457 mm OD 8mm thk'</p>
	Section 4 : Bill of Quantities Bill no 4 SI no 104	<p>Replace '300 mm ID, 5 mm Thick' by</p> <p>'323.9 mm OD 8mm thk'</p>

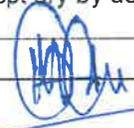


Section 4 : Bill of Quantities Bill no 4 SI no 105	Replace '250 mm ID, 3 mm Thick' by '273 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 4 SI no 107	Replace '350 mm ID, 6 mm Thick' by '355.6 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 4 SI no 108	Replace '450 mm ID, 6 mm Thick' by '457 mm OD 8mm thk'
Section 4 : Bill of Quantities Bill no 4 SI no 110	Replace '350 mm ID' by '355.6 mm OD '
Section 4 : Bill of Quantities Bill no 4 SI no 111	Replace '450 mm ID' by '457 mm OD '
Section 4 : Bill of Quantities Bill no 5 SI no 8	<p>Replace</p> <p>'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush'</p> <p>By</p> <p>'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering and removal of slush'.</p>
Section 4 : Bill of Quantities Bill no 5 SI no 82	<p>Replace</p> <p>'Supplying dividing strip, filled and fixed with cement sand mortar (1:3) in floor, dado, skirting etc. complete as per direction of the Engineer using 25 mm wide and 3 mm thick glass strips, all complete.</p> <p>Supplying and laying true to line and level vitrified tiles of approved brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry backside of tiles using cement @ 2.91Kg./sqM or using polymerised adhesive (6 mm thick layer applied directly over</p>

		<p>finished artificial stone floor / Mosaic etc without any backing course) laid after application slurry using 1.75 Kg of cement per sq M below mortar only, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles /epoxy grout materials of approved make as directed and removal of wax coating of top surface of tiles with warm water and polishing the tiles usings of tand dry cloth upto mirror finish complete including the cost of materials, labour and all other incidental charges complete true to the manufacturer's specification and direction of Engineer-inCharge. (White cement, synthetic adhesive and grout material to be supplied by the contractor'</p> <p>By</p> <p>'Supplying dividing strip, filled and fixed with cement sand mortar (1:3) in floor, dado, skirting etc. complete as per direction of the Engineer using 25 mm wide and 3 mm thick glass strips, all complete.'</p>
	<p>Section 4 : Bill of Quantities Bill no 5 Sl no 83</p>	<p>Replace</p> <p>'(l)With application slurry @1.75kg / Sq.m, 20 mm sand cement mortar (1:4) & 2 mm thick cement slurry at back side of tiles, 0.2kg/Sq.m white cement for joint filling with pigment.'</p> <p>By</p> <p>'Supplying and laying true to line and level vitrified tiles of approved brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry backside of tiles using cement @ 2.91Kg./sqM or using polymerised adhesive (6 mm thick layer applied directly over finished artificial stone floor / Mosaic etc without any backing course) laid after application slurry using 1.75 Kg of cement per sq M below mortar only, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles /epoxy grout materials of approved make as directed and removal of wax coating of top surface of tiles with warm water and polishing the tiles usings of tand dry cloth upto mirror finish complete including the cost of materials, labour and all other incidental charges complete true to the manufacturer's specification and direction of Engineer-inCharge. (White cement, synthetic adhesive and grout material to be supplied by the contractor.</p> <p>(l)With application slurry @1.75kg / Sq.m, 20 mm sand cement mortar (1:4) & 2 mm thick cement slurry at back side of tiles, 0.2kg/Sq.m white cement for joint filling with pigment'</p>



	Section 4 : Bill of Quantities Bill no 5 Sl no 89	Replace 'Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catshpit/ gullypit cleaning or CCTV inspection works' By 'Wastewater/ sewage & overpumping'
	Section 4 : Bill of Quantities Bill no 5 Sl no 101	Replace '350 mm ID, 6 mm Thick' by '355.6 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 5 Sl no 102	Replace '450 mm ID, 6 mm Thick' by '457 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 5 Sl no 103	Replace '300 mm ID, 5 mm Thick' by '323.9 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 5 Sl no 104	Replace '250 mm ID, 3 mm Thick' by '273 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 5 Sl no 106	Replace '350 mm ID, 6 mm Thick' by '355.6 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 5 Sl no 107	Replace '450 mm ID, 6 mm Thick' by '457 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 5 Sl no 109	Replace '350 mm ID' by '355.6 mm OD '
	Section 4 : Bill of Quantities Bill no 5 Sl no 110	Replace '450 mm ID' by '457 mm OD '
	Section 4 : Bill of Quantities Bill no 6 Sl no 8	Replace 'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush'



		By 'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering and removal of slush'.
	Section 4 : Bill of Quantities Bill no 6 SI no 77	Replace 'Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catchpit/ gullypit cleaning or CCTV inspection works' By 'Wastewater/ sewage & overpumping'
	Section 4 : Bill of Quantities Bill no 6 SI no 89	Replace '350 mm ID, 6 mm Thick' by '355.6 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 6 SI no 90	Replace '450 mm ID, 6 mm Thick' by '457 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 6 SI no 91	Replace '300 mm ID, 5 mm Thick' by '323.9 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 6 SI no 92	Replace '250 mm ID, 3 mm Thick' by '273 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 6 SI no 94	Replace '350 mm ID, 6 mm Thick' by '355.6 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 6 SI no 95	Replace '450 mm ID, 6 mm Thick' by '457 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 6 SI no 97	Replace '350 mm ID' by '355.6 mm OD'
	Section 4 : Bill of Quantities Bill no 6 SI no 98	Replace '450 mm ID' by '457 mm OD'
	Section 4 : Bill of Quantities Bill no 7 SI no 8	Replace 'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully

		<p>pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush'</p> <p>By</p> <p>'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering and removal of slush'.</p>
	<p>Section 4 : Bill of Quantities Bill no 7 Sl no 81</p>	<p>Replace</p> <p>'Supplying dividing strip, filled and fixed with cement sand mortar (1:3) in floor, dado, skirting etc. complete as per direction of the Engineer using 25 mm wide and 3 mm thick glass strips, all complete.</p> <p>Supplying and laying true to line and level vitrified tiles of approved brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry backside of tiles using cement @ 2.91Kg./sqM or using polymerised adhesive (6 mm thick layer applied directly over finished artificial stone floor / Mosaic etc without any backing course) laid after application slurry using 1.75 Kg of cement per sq M below mortar only, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles /epoxy grout materials of approved make as directed and removal of wax coating of top surface of tiles with warm water and polishing the tiles usings of tand dry cloth upto mirror finish complete including the cost of materials, labour and all other incidental charges complete true to the manufacturer's specification and direction of Engineer-inCharge. (White cement, synthetic adhesive and grout material to be supplied by the contractor.'</p> <p>By</p> <p>'Supplying dividing strip, filled and fixed with cement sand mortar (1:3) in floor, dado, skirting etc. complete as per direction of the Engineer using 25 mm wide and 3 mm thick glass strips, all complete.'</p>



	Section 4 : Bill of Quantities Bill no 7 SI no 82	<p>Replace '(I)With application slurry @1.75kg / Sq.m, 20 mm sand cement mortar (1:4) & 2 mm thick cement slurry at back side of tiles, 0.2kg/Sq.m white cement for joint filling with pigment.'</p> <p>By 'Supplying and laying true to line and level vitrified tiles of approved brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry backside of tiles using cement @ 2.91Kg./sqM or using polymerised adhesive (6 mm thick layer applied directly over finished artificial stone floor / Mosaic etc without any backing course) laid after application slurry using 1.75 Kg of cement per sq M below mortar only, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles /epoxy grout materials of approved make as directed and removal of wax coating of top surface of tiles with warm water and polishing the tiles usings of tand dry cloth upto mirror finish complete including the cost of materials, labour and all other incidental charges complete true to the manufacturer's specification and direction of Engineer-inCharge. (White cement, synthetic adhesive and grout material to be supplied by the contractor.'</p> <p>(I)With application slurry @1.75kg / Sq.m, 20 mm sand cement mortar (1:4) & 2 mm thick cement slurry at back side of tiles, 0.2kg/Sq.m white cement for joint filling with pigment.'</p>
	Section 4 : Bill of Quantities Bill no 7 SI no 83	<p>Replace 'Deep Colour & White Miscellaneous MS structural works as per drawing for railings, gates, trusses, brackets, suspenders, cover plates & frames etc. with rolled structural members (e.g. joists, angles, channels, flats, plates, tubes & sheets, square bars, hollow section tubes etc.) conforming to IS:226, IS:808 & SP:6 connected to one another with brackets, cleats or directly welded as per drawing/ direction of Engineer, including cutting to requisite shape and length, fabrication with necessary bolting, metal arc welding conforming to IS:816 & IS:9595 using electrodes of approved make and brand conforming to IS:814, haulage, hoisting and erection all complete.'</p> <p>By</p>



		'Deep Colour & White'
	Section 4 : Bill of Quantities Bill no 7 SI no 84	<p>Replace</p> <p>'The rate includes the cost of rolled steel section, consumables such as electrodes, gas and hire charges of all tools and plants and labour required for the work including all incidental charges such as electricity charges etc. (Payment to be made on the basis of calculated weight of structural members only in finished work as per IS specified weight. The rate is to include fitting and fixing at site with all labour, tools and plants and miscellaneous fixing materials.)'</p> <p>By</p> <p>'Miscellaneous MS structural works as per drawing for railings, gates, trusses, brackets, suspenders, cover plates & frames etc. with rolled structural members (e.g. joists, angles, channels, flats, plates, tubes & sheets, square bars, hollow section tubes etc.) conforming to IS:226, IS:808 & SP:6 connected to one another with brackets, cleats or directly welded as per drawing/ direction of Engineer, including cutting to requisite shape and length, fabrication with necessary bolting, metal arc welding conforming to IS:816 & IS:9595 using electrodes of approved make and brand conforming to IS:814, haulage, hoisting and erection all complete</p> <p>The rate includes the cost of rolled steel section, consumables such as electrodes, gas and hire charges of all tools and plants and labour required for the work including all incidental charges such as electricity charges etc. (Payment to be made on the basis of calculated weight of structural members only in finished work as per IS specified weight. The rate is to include fitting and fixing at site with all labour, tools and plants and miscellaneous fixing materials.)'</p>
	Section 4 : Bill of Quantities Bill no 7 SI no 88	<p>Replace</p> <p>'Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catshpit/ gullypit cleaning or CCTV inspection works'</p> <p>By</p> <p>'Wastewater/ sewage & overpumping'</p>
	Section 4 : Bill of Quantities Bill no 7 SI no 100	Replace '350 mm ID, 6 mm Thick' by '355.6 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 7 SI no 101	Replace '450 mm ID, 6 mm Thick' by

		'457 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 7 Sl no102	Replace '300 mm ID, 5 mm Thick' by '323.9 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 7 Sl no 103	Replace '250 mm ID, 3 mm Thick' by '273 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 7 Sl no 105	Replace '350 mm ID, 6 mm Thick' by '355.6 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 7 Sl no 106	Replace '450 mm ID, 6 mm Thick' by '457 mm OD 8mm thk'
	Section 4 : Bill of Quantities Bill no 7 Sl no 108	Replace '350 mm ID' by '355.6 mm OD'
	Section 4 : Bill of Quantities Bill no 7 Sl no 109	Replace '450 mm ID Supply and installation of the following items complete with all necessary accessories/ fasteners/ anchors/ brackets and sundries. The rates should include all taxes, transportation, insurance, storage, cost of erection, safety measures, night shift working (if required), dewatering, tools & plants, testing and commissioning the pumpsets/ equipment to the satisfaction of the Engineer.' by '457 mm OD'
	Section 4 : Bill of Quantities Bill no 8 Sl no 8	Replace 'Earthwork in excavation in trenches and pits for sewers/ drains, manholes, catch pits, gully pits, inspection pits etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). (Volume to be measured from the bottom of the road crust i.e. excluding the volume executed under item 1, 2, 3, 4 & 5 above.) Trench shall be kept dry by dewatering and removal of slush' By 'Earthwork in excavation in foundation trenches and pits, etc. and any other structures, including bailing out/ dewatering manually or by pumps in all sorts of soil or loose material including removing surplus spoils and debris to a destination to be arranged by Contractor and in keeping with laws of the land, as per specification, drawing and as directed by the Engineer (No extra lead will be payable). Trench and pit shall be kept dry by dewatering

		and removal of slush’.
	Section 4 : Bill of Quantities Bill no 8 SI no 91	Replace ‘Wastewater/ sewage & overpumping from manhole to manhole or otherwise. This item will not be payable for sewer/ drain/ manhole/ catshpit/ gullypit cleaning or CCTV inspection works’ By ‘Wastewater/ sewage & overpumping’
	Section 4 : Bill of Quantities Bill no 8 SI no 103	Replace ‘450 mm ID, 6 mm Thick’ by ‘457 mm OD 8mm thk’
	Section 4 : Bill of Quantities Bill no 8 SI no 104	Replace ‘600 mm ID, 8 mm Thick’ by ‘610 mm OD 8mm thk’
	Section 4 : Bill of Quantities Bill no 8 SI no105	Replace ‘300 mm ID, 5 mm Thick’ by ‘323.9 mm OD 8mm thk’
	Section 4 : Bill of Quantities Bill no 8 SI no 106	Replace ‘250 mm ID, 3 mm Thick’ by ‘273 mm OD 8mm thk’
	Section 4 : Bill of Quantities Bill no 8 SI no 108	Replace ‘450 mm ID, 6 mm Thick’ by ‘457 mm OD 8mm thk’
	Section 4 : Bill of Quantities Bill no 8 SI no 109	Replace ‘600 mm ID, 8 mm Thick’ by ‘610 mm OD 8mm thk’
	Section 4 : Bill of Quantities Bill no 8 SI no 111	Replace ‘450 mm ID’ by ‘457 mm OD ’
	Section 4 : Bill of Quantities Bill no 8 SI no 112	Replace ‘600 mm ID’ by ‘610 mm OD’
	Section 4 : Bill of Quantities Bill no 9 SI no 1	Replace ‘Operation of proposed Pumping stations, Sub stations and electrical facilities’ by ‘Operation of proposed 2 nos Pumping stations, Sub stations and electrical facilities including 2 nos underground reservoirs and 6 nos Elevated service water reservoirs’

	Section 4 : Bill of Quantities Bill no 9 SI no 1	Replace 'Maintenance of proposed Pumping stations, Sub stations and electrical facilities' by 'Maintenance of proposed 2 nos Pumping stations, Sub stations and electrical facilities including 2 nos underground reservoirs and 6 nos Elevated Service water reservoirs'
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ADDENDUM 1

Loan No. and Title:

ADB Loan No.: Applied For ;

Kolkata Environmental Improvement Investment Program (KEIIP) – Project 2

Contract No. and Title

KEIIP/NCB/TR-2/WS15/ 2015-16

Construction of Underground Reservoirs and Overhead Reservoirs, Pumping Stations and Linking Pumping Station Main for Water Supply in Joka and adjoining areas including Operation & Maintenance of the Pumping Stations.

SL. No	Description and Reference clause of \ Bid document	Details of Addendum 1																
	Sub-clause no 12 Implementation Schedule : Project Background and Scope of Work Section 6 Technical Specifications	Replace 27 months (820 days) by 910 days																
	Sub-clause 12.1 Structural Steel of Part A1 Civil works - Standard Specifications of Section 6 Technical Specifications	<p>Add the following under sub clause 12.1.1: Structural Steel</p> <p>Unless otherwise permitted herein, all structural steel shall before fabrication comply with the requirement of the following Indian Standards :</p> <table border="1" data-bbox="1070 882 2011 1364"> <tbody> <tr> <td data-bbox="1070 882 1205 962">IS:808</td> <td data-bbox="1205 882 2011 962">Dimensions for hot rolled steel beam, column, channel and angle sections</td> </tr> <tr> <td data-bbox="1070 962 1205 1007">IS:1148</td> <td data-bbox="1205 962 2011 1007">Hot rolled rivet bars (upto 40 mm dia) for structural purposes</td> </tr> <tr> <td data-bbox="1070 1007 1205 1051">IS:1149</td> <td data-bbox="1205 1007 2011 1051">High tensile steel rivet bars for structural purposes</td> </tr> <tr> <td data-bbox="1070 1051 1205 1096">IS:1161</td> <td data-bbox="1205 1051 2011 1096">Steel tubes for structural purposes – Specification</td> </tr> <tr> <td data-bbox="1070 1096 1205 1141">IS:1239</td> <td data-bbox="1205 1096 2011 1141">Steel tubes, tubulars and other wrought steel fittings – Specification</td> </tr> <tr> <td data-bbox="1070 1141 1205 1220">IS:1730</td> <td data-bbox="1205 1141 2011 1220">Dimensions for steel plates, sheet strips and flats for general engineering purposes</td> </tr> <tr> <td data-bbox="1070 1220 1205 1300">IS:1732</td> <td data-bbox="1205 1220 2011 1300">Dimensions for round and square steel bars for structural and general engineering purposes</td> </tr> <tr> <td data-bbox="1070 1300 1205 1364">IS:1852</td> <td data-bbox="1205 1300 2011 1364">Rolling and cutting tolerances for hot rolled steel products</td> </tr> </tbody> </table>	IS:808	Dimensions for hot rolled steel beam, column, channel and angle sections	IS:1148	Hot rolled rivet bars (upto 40 mm dia) for structural purposes	IS:1149	High tensile steel rivet bars for structural purposes	IS:1161	Steel tubes for structural purposes – Specification	IS:1239	Steel tubes, tubulars and other wrought steel fittings – Specification	IS:1730	Dimensions for steel plates, sheet strips and flats for general engineering purposes	IS:1732	Dimensions for round and square steel bars for structural and general engineering purposes	IS:1852	Rolling and cutting tolerances for hot rolled steel products
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IS:2062	Hot rolled low, medium and high tensile structural steel							
IS:4923	Hollow steel sections for structural use							
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	Sub-clause 26.3 Butterfly valves of Part A1 Civil works - Standard Specifications of Section 6 Technical Specifications	Delete in entirety						
	Sub-clause 26.4 Sluice valves of Part A1 Civil works - Standard Specifications of Section 6 Technical Specifications	Delete in entirety						
	Sub-clause 26.5 Swing check (Non-return valve) of Part A1 Civil works - Standard Specifications of Section 6 Technical Specifications	Delete in entirety						
	Sub-clause 5.0 Underground Reservoir cum Pumping station of Part A2 Civil works - Particular Specifications of Section 6 Technical Specifications	<p>Sub clause 5.2 Specific Scope Item sl no (iv)</p> <p>Replace</p> <p>'The work includes Construction of 2 (Two) No of Under Ground Reservoirs and Pumping stations including related earthwork, piling works, construction of foundations, erection, piping works, etc. as per design and construction drawings issued by the Engineer showing detailed reinforcement and sizes'</p> <p>By</p> <p>'The work includes Construction of 2 (Two) No of Under Ground Reservoirs and Pumping stations including related earthwork, backfilling as indicated in BOQ Sl. No. 8 to 16 of Bill no 1 and Bill no 2 , piling works, construction of foundations, erection, piping works, etc. as per design and construction drawings issued by the Engineer showing detailed reinforcement and sizes'</p>						



<p>Sub-clause 6.0 Elevated Service Reservoir of Part A2 Civil works - Particular Specifications of Section 6 Technical Specifications</p>	<p>Sub clause 6.1. Specific Scope Item sl no (v)</p> <p>Replace 'The work includes construction of (Six) No of Elevated (Overhead) Service Reservoirs including related earthwork, piling works, construction of foundations, erection, piping works, etc. as per design and construction drawings showing detailed reinforcement and sizes'</p> <p>By 'The work includes construction of (Six) No of Elevated (Overhead) Service Reservoirs including related earthwork , backfilling as indicated in BOQ Sl. No. 8 to 15 of Bill no 3 , Bill no 4, Bill no 5, Bill no 6, Bill no 7 & Bill no 8, piling works, construction of foundations, erection, piping works, etc. as per design and construction drawings showing detailed reinforcement and sizes'</p>												
<p>Sub-clause 5.7.7 RCC Ventilators of Part A2 Civil works – Particular Specifications of Section 6 Technical Specifications</p>	<p>Replace 'Required number of air vents shall be provided in the UGR roof and the vents shall open 0.3m above the soil fill'</p> <p>By 'Required number of Cast Iron air vents shall be provided in the UGR roof and the vents shall open 0.3m above the soil fill '</p>												
<p>Sub clause 1.1.1 Line no 22 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications</p>	<p>Replace 5MT by 10MT</p>												
<p>Sub clause 2.3.7 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications</p>	<p>Volute casing : Replace 'Double volute ' by 'Single volute'</p>												
<p>Sub clause 2.3.7 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications and GA drawing nos KEIIP/WS-15/PS/PPIII/GA/02 & KEIIP/WS-15/PS/JUL/GA/02</p>	<p>Head of Pumpset:</p> <table border="1" data-bbox="1034 1114 2016 1305"> <thead> <tr> <th data-bbox="1034 1114 1288 1157">Parameter</th> <th colspan="2" data-bbox="1288 1114 1780 1157">PRANTIK Ph III</th> <th data-bbox="1780 1114 2016 1157">JULPIA ROAD</th> </tr> <tr> <td data-bbox="1034 1157 1288 1197"></td> <td data-bbox="1288 1157 1541 1197">Type A</td> <td data-bbox="1541 1157 1780 1197">Type B</td> <td data-bbox="1780 1157 2016 1197">Julpia</td> </tr> </thead> <tbody> <tr> <td data-bbox="1034 1197 1288 1305">Head</td> <td data-bbox="1288 1197 1541 1305">Replace '37 m' by '44 m'</td> <td data-bbox="1541 1197 1780 1305">Replace '42 m' by '44 m'</td> <td data-bbox="1780 1197 2016 1305">Replace '40 m' by '42 m'</td> </tr> </tbody> </table>	Parameter	PRANTIK Ph III		JULPIA ROAD		Type A	Type B	Julpia	Head	Replace '37 m' by '44 m'	Replace '42 m' by '44 m'	Replace '40 m' by '42 m'
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<p>Sub clause 4.1.2, 4.2.1, 4.3.1, 4.4.1 of Part B2 Mechanical Works – Particular Specifications of Section 6</p>	<p>Replace PN 10 by PN 16</p>												



	Technical Specifications	
	Sub clause 4.2.1 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications	Replace 'Size DN -100 to DN 3000' by 'Size DN 100 to DN 1200'
	Sub clause 4.2.2 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications	Replace Butterfly valve Material of construction : Body seat : Integral Nickel weld overlay micro finished by Body seat : Micro finished Chromium Steel plated / Nickel weld overlay
	Sub clause 4.2.4 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications	Add the following : The Butterfly valves shall be double flanged operable through worm and worm wheel type gear and electrically actuated motor and so constructed that the same shall retain the drop tight characteristics of the valve seats during the operational life of the same. The valves should also have the option of manual operation facilities. There should be one worm gear box and another auxiliary gear box. The gear unit shall be worm type with secondary spur gear, Gear casing : SG Iron IS-1865 (Grade 500/7) / Ductile Iron(EN-JS-1030 GGG-50 / SG Iron IS-1865 (Grade 400/17) / EN-JS-1030 GGG-40. All the butterfly valves should be of PN 16 rating. The gear box component i.e. worm, worm wheel, spur gear etc. should be designed and selected in such a way so that material of construction, hardness value, etc. of each of the component can withstand the minimum output torque requirement of PN 16 valve irrespective of size. The operating temperature shall be in the range of 1 – 50 deg C. The leakage class shall be 100 % leakproof in both directions. The corrosion protection shall be achieved by: Epoxy coating both inside & outside and disk Coating thickness – 250 micron; Shade : Blue/Cascade Green Gear ratio shall be ascertained in accordance with the differential pressure rating of about 6 KG/cm ² and travel time (minimum) of 250 mm/min with

actuator drive. The minimum gear ratio shall be as per following chart :

Size	Gear ratio (Minimum)
1800 NB	600 : 1
1600 NB	600 : 1
1500 NB	528:1
1200 NB	480 : 1
1000 NB	480 : 1
900 NB	356 : 1
750 NB	336 : 1
700 NB	336 : 1
600 NB	300 : 1
200 NB to 500 NB	As per manufacturer's standard

Actuator

Actuator should be IP 68 with integral starter actuator, local push button control panel with open, stop, close push buttons, two numbers each of limit and torque switches with additional contacts for remote operation protective fuses and relays with valve opening/closing indicator. Worm gear unit having calibrated visual indicator on the gear box as well as calibrated electrical signaling facility of the valve opening percentage and full open/full close limit cut off facility of the motor operation. The actuator motor and control panel of the electrically operated butterfly valve shall be suitable to operate on 400 volts, 3 ph, 50 cycles/sec, earth neutral mains power systems; Make – ROTORK/AUMA

Test Certificates to be produced.

1. Material test Certificate of each component of the valve ,gear box etc.

		<ol style="list-style-type: none"> 2. Hydraulic test Certificate of the valve body. 3. Pressure test of the valve in the test bench. 4. Guarantee certificate confirming of at least one year from the date of commissioning against any manufacturing defects, bad workmanship and faulty materials. 			
	Sub clause 4.3.1 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications	Replace 'Size DN -40 to DN 600' by 'Size DN 40 to DN 1200'			
	Subclause 2.2.5 of Part B2 Mechanical Works – Particular Specifications of Section 6 Technical Specifications	Replace '400 C' by '40 ⁰ C'			
	Subclause 26.15 of Part A1 Civil works - Standard Specifications of Section 6 Technical Specifications	Make of Butterfly Valves: VAG/KBL/AUDCO/FOURESS Make of Sluice Valves: KBL/FOURESS Make of Air Valve : VAG/KBL/FOURESS Make of Non Return Valve : KBL/VAG/FOURESS			
	Subclause 6.6.13 of Part A2 Civil works - Particular Specifications of Section 6 Technical Specifications	Replace 'All the pipes shall be internally lined and externally coated with epoxy with 430 micron and 600 micron thickness respectively, both factory applied' by 'All the pipes shall be internally lined and externally coated with epoxy of food grade quality with 430 micron and 600 micron thickness respectively, both factory applied'			
	Subclause 6.6.13 of Part A2 Civil works - Particular Specifications of Section 6 Technical Specifications	ESR Zone	Inlet	Outlet	Overflow
ESR A-2 (Prantic PH-III)		Replace 450 mm ID, 6 mm thk by 457 mm OD, 8 mm thk	Replace 600 mm ID, 8 mm thk by 610 mm OD, 8 mm thk	Replace 300 mm ID, 5 mm thk by 323.9 mm OD, 8 mm thk	
ESR A-3 (North East SSE STP)		Replace 350 mm ID, 6 mm thk by 355.6 mm OD, 8 mm thk	Replace 450 mm ID, 6 mm thk by 457 mm OD, 8 mm thk	Replace 300 mm ID, 5 mm thk by 323.9 mm OD, 8 mm thk	

		ESR A-4 (North West SSE STP)	Replace 350 mm ID, 6 mm thk by 355.6 mm OD, 8 mm thk	Replace 450 mm ID, 6 mm thk by 457 mm OD, 8 mm thk	Replace 300 mm ID, 5 mm thk by 323.9 mm OD, 8 mm thk
		ESR B-1 (Company Pukur)	Replace 350 mm ID, 6 mm thk by 355.6 mm OD, 8 mm thk	Replace 450 mm ID, 6 mm thk by 457 mm OD, 8 mm thk	Replace 300 mm ID, 5 mm thk by 323.9 mm OD, 8 mm thk
		ESR C-2 (WBSETCL)	Replace 350 mm ID, 6 mm thk by 355.6 mm OD, 8 mm thk	Replace 450 mm ID, 6 mm thk by 457 mm OD, 8 mm thk	Replace 300 mm ID, 5 mm thk by 323.9 mm OD, 8 mm thk
		ESR C-3 (22 BIGHA)	Replace 450 mm ID, 6 mm th by 457 mm OD, 8 mm thk	Replace 600 mm ID, 8 mm thk by 610 mm OD, 8 mm thk	Replace 300 mm ID, 5 mm thk by 323.9 mm OD, 8 mm thk
		Add the following :			
		Pumphouse at Prantik pally and Julpia Road	Suction and delivery pipes including common manifold and delivery headers of 323.9mm OD/355.6 mm OD/406.4mmOD/457mmOD/508mmOD/610mmOD/711mmOD/ 813mm OD/ 914 mm OD shall be of MS construction 8 mm thick; Header of 1016 mm OD /1219 mm OD shall be 10mm thk and of MS construction; All the pipes shall be internally lined and externally coated with epoxy of food grade quality with 430 micron and 600 micron thickness respectively, both factory applied'		
Section 6 Technical Specifications : Operation and Maintenance Requirements sub clause 1.1	Replace 'Operate the two proposed clear water pumping stations including the substation and electrical facilities for 3 years from the date of taking over .of the Section-3 of 'Summary of Sections of Work'(ref: Section 8 – Particular Condition of Contract)'				

		<p>by</p> <p>'Operate the two proposed clear water pumping stations including the substation and electrical facilities, two underground reservoirs and 6 nos service water reservoirs for 3 years from the date of taking over of the Section-3 of 'Summary of Sections of Work'(ref: Section 8 – Particular Condition of Contract)'</p>
	Section 6 Technical Specifications : Operation and Maintenance Requirements sub clause 1.1- The tasks of the Contractor	<p>Replace</p> <p>'Maintain the two proposed clear water pumping stations for 2 years after the defect liability period of the section-3 of 'Summary of Sections of Work' (Ref: Section 8 – Particular Condition of Contract)'</p> <p>by</p> <p>'Maintain the two proposed clear water pumping stations including the substation and electrical facilities, two underground reservoirs and 6 nos service water reservoirs for 2 years after the defect liability period of the section-3 of 'Summary of Sections of Work' (Ref: Section 8 – Particular Condition of Contract)'</p>
	Section 6 Technical Specifications : Operation and Maintenance Requirements sub clause 1.2- General Obligations	<p>Replace</p> <p>'The Contractor shall operate and maintain the clear water Pumping Stations and all the existing and proposed facilities, including roads, plantations, illumination etc., within the premises under this contract for the period specified in the scope of services mentioned in para 1.0 above'</p> <p>by</p> <p>'The Contractor shall operate and maintain the clear water Pumping Stations including the substation and electrical facilities, two underground reservoirs and 6 nos service water reservoirs and all the existing and proposed facilities, including roads, plantations, illumination etc., within the premises under this contract for the period specified in the scope of services mentioned in para 1.0 above'</p>
	Section 6 Technical Specifications : Operation and Maintenance Requirements sub clause 1.2(a) - General Obligations	<p>Replace</p> <p>'Operation and Maintenance of the two proposed Pumping Stations including the substation and electrical facilities '</p> <p>by</p> <p>'Operation and Maintenance of the two proposed Pumping Stations including the substation and electrical facilities, two underground reservoirs and 6 nos Elevated service water reservoirs'</p>



	Section 6 Technical Specifications : Operation and Maintenance Requirements - Staffing Requirements for Operation and Maintenance of Pumping Stations and allied reservoirs/reservoirs: sub clause no 1.3.1	Replace for the Position ' PS Operator- 1no in each shift' by 'PS Operator for Pumping stations and reservoirs (UGR and ESRs)- 2 nos in each shift'
	Section 6 Technical Specifications : Operation and Maintenance Requirements - Staffing Requirements for Operation and Maintenance of Pumping Stations and allied reservoirs/reservoirs: sub clause no 1.3.1	Replace for the Position ' Helper- 1 no in each shift' by 'Helper for Pumping stations and reservoirs (UGR and ESRs)- 5 nos in each shift'
	Section 6 Technical Specifications : Operation and Maintenance Requirements Subclause 1.4 Maintenance Activities	Replace 'Pumping stations' in line 3 & line 4 by 'Pumping stations including the substation and electrical facilities, two underground reservoirs and 6 nos Elevated service water reservoirs'
	Section 6 Technical Specifications : Operation and Maintenance Requirements Subclause 1.4 Maintenance Activities (b)	Replace 'The contractor shall plan and arrange all spares and all consumables including grease, lubricating oil, cleaning agents, etc.' by 'The contractor shall plan and arrange all spares and all consumables including grease, lubricating oil, cleaning agents, etc. including supply and application(complying all safety regulations) of sodium/calcium hypochlorite to get residual chlorine at 0.5 mg/lit necessary for disinfection'
	Sub clause 2.1.2 of Preamble to BOQ Volume 2 of Bid Document	Delete this subclause.

