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20. OUTLETS

20.1 SCOPE

The Scope covers all works required in connection with the construction, repairs, adjustments, dismantling, earthwork, etc. of an outlet as per approved Drawings and Specifications and may include such other works in connection therewith as may be specified or as directed by the Engineer-in-Charge.

The scope shall also include furnishing all labour, materials, plants, equipments, instruments, accessories and services necessary to complete the works such as excavation, concreting, brickwork etc. in a workman-like manner. The scope shall also include the outlet according to its sanctioned size as per approved Drawings and Alteration Form of the outlet.

20.2 CONSTRUCTION OF OUTLETS (OTHER THAN PIPE)

20.2.1 MATERIALS

i) Cement

Portland cement shall conform to ASTM C-150 Type-1 or B.S.S-12 and shall meet the requirements and stipulations, specified for Portland Cement in Section 5 – Plain & Reinforced Concrete.

ii) Sand

Sand shall conform to Specifications, requirements and stipulations specified for Sand in Section 5 – Plain & Reinforced Concrete.

iii) Aggregate

Course Aggregate shall conform to the specifications already given in Section 5 – Plain & Reinforced Concrete.

iv) Bricks

First class bricks sand moulded shall be used, which shall conform to the specifications for Brickwork under Section 11.

v) Water

Water shall conform to the Specifications for Water, Section 5 – Plain & Reinforced Concrete.

20.3 EXCAVATION

Excavation of the bank for the construction of an outlet shall be in accordance with Section 3 – Earthwork and made as per dimensions suitable to the size of the outlet structure with proper side slope and the depth given in the approved Drawing and earth thus obtained shall be thrown 2 cft. (6 meters) away from the edge of the cutting. Bottom of the excavated portion of bank shall be leveled and well compacted before laying of foundation concrete. If the length, width, depth, grade, levels and side slopes are not indicated on the Drawing, they shall be carried out to the profile agreed by the Engineer-in-Charge in writing. After the completion of work the excavated portions on both sides of the outlet shall be refilled, rammed and / or puddled as per specifications or as directed by the Engineer-in-Charge.

20.4 PLACING CONCRETE

The production and placing of concrete as specified shall be done according to approved mix and dimensions given on the drawing as per specifications in Section 5 – Plain & Reinforced Concrete. As the concrete is being placed, it should be compacted thoroughly and uniformly

by means of hand tools or finishing machines to secure a dense structure and smooth surface. Immediately before placing concrete all surfaces upon or against which it is to be placed shall be free from standing water, mud, debris or loose material. The surfaces of absorptive materials against or upon which concrete is to be placed shall be moistened thoroughly so that moisture is not drawn from the freshly placed concrete.

Slabs to be laid on the water course culverts, liable to be damaged by dropping from a height, shall be lowered down to the ground by means of a rope or another approved appliance or as directed by the Engineer-in-Charge. If any slab is damaged or broken on account of the negligence of the Contractor he shall have to replace it at his own cost.

20.5 BRICKWORK

Brickwork for an outlet shall be executed according to the specifications given in Section 11 – Brickwork in addition to fixing cast-iron or brick block of APM Outlet or open flume outlet including dressing of bricks, which shall be treated as a separate item of work for payment purpose.

20.6 DISMANTLING AND ADJUSTING OF EXISTING OUTLETS

20.6.1 SCOPE

Dismantling of different types of existing outlets for including Kennedy Gauge outlet, Orifice, Adjustable Proportional Module, Open Flume, Tail Cluster Bifurcation, Tail Cluster Trifurcating, Tail Cluster Quadrification for the under-mentioned purposes as per approved Alteration Form or as directed by the Engineer-in-Charge in writing shall be done in accordance with Section 4 – Dismantling (Demolition) and would involve.

- i) Dismantling Outlet old type such as KGO Orifice and replacing by APM or of types commensurate with the designed discharge size and change in site.
- ii) Adjusting size, changing of site or type of the outlets of various types mentioned above.
- iii) Improving the working conditions of the non-modular outlets by changing their type and if need be their site also.
- iv) Dismantlingside wall for taking out bricks block of APM and fixing Iron block in place of brick block and rebuilding dismantled walls.
- v) Dismantling side walls of an open Flume outlet for adjusting its width(B), fixing roof block and rebuilding the side walls.
- vi) Adjustingsize(Y) of an APM outlet and rebuilding its side walls.
- vii) Removing the old iron block of an APM outlet and re-fixing the iron block after adjusting its 'B' and 'Y' and rebuilding the side walls.

20.7 PIPE OUTLETS

20.7.1 SCOPE

The scope covers all works required in connection with the fixing of pipe outlets including earthwork excavation, concreting, fixing Cast Iron, Steel or RCChume Pipes, brick work in face and walls, earthwork refilling and puddling etc. all items of work i.e. excavation, laying of pipes, concreting, brick work. The refilling, ramming and puddling of earthwork shall be carried out as per specifications given in the Section 3 - Earthwork of specifications and as directed by the Engineer-in-Charge.

20.8 CONSTRUCTING OR ADJUSTING OUTLETS IN RUNNING WATER

20.8.1 SCOPE

When work for a new or existing outlet is to be executed in running water, an earthen ring bund in a semi-circle form shall be constructed in the channel to provide a working space for the safe execution of work. Water side of this bund shall be protected by killa bushing so as to check side erosion by the running water and thus eliminate the possibility of any damage to the bund. After satisfactory completion of work this bund shall be removed to the satisfaction of the Engineer-in-Charge. The modus operandi for dismantling and adjusting the existing outlet is given in Specification No. 20.6 above.

20.9 MISCELLANEOUS

20.9.1 SCOPE

In case of non-availability of water during construction of New Channels or in long closures, special arrangements for supply of water for construction and curing etc shall be made by the Contractor for which separate allowance shall be paid to the Contractor for each Outlet at the rate tendered by the Contractor corresponding to the applicable CSR item.

20.10 MEASUREMENT AND PAYMENT

20.10.1 COMPOSITE RATE

The measurement and payment for the items of the work of Brickwork hereof shall be made corresponding to the applicable CSR items as provided in Contract Agreement and shall constitute full compensation, for procurement, transportation, performance in all respects and completion of work as specified including the site clearance as approved by the Engineer-in-Charge.

20.10.2 LABOUR RATE

The measurement and payment for the items of the work of Brickwork hereof shall be made corresponding to applicable CSR item as provided in Contract Agreement and shall constitute full compensation for procurement transportation, performance in all respects and completion of work as specified including site clearance, as approved by the Engineer-in-Charge except the cost of materials to be provided by Department at designated location as defined in the Contract Agreement.

20.10.3 QUANTIFICATION

The unit of measurement shall be measured as mentioned below in accordance with corresponding CSR items.

1. Following item shall be measured as each Job:
Item No.: 20-1
2. For linear items, the quantity of work shall be measured linearly along centre line of structure. The unit of measurement shall be running meter or running foot. Following items of CSR are measured according to this criteria;
Item No.: 20-11, 20-14 to 20-16
3. The following items shall be measured as Each
Item No.: 20-2 to 20-10, 20-12