

RSW CONSTRUCTION METHODOLOGY WITH GABION

EXCAVATION AND FOUNDATION PREPARATION:

- Excavate the site to the alignments, widths and grades as shown in the approved construction drawings. In the reinforced soil zone, the ground should be excavated to the grade of top of leveling pad. Prior to the erection of gabion wall if any unsuitable soils present, should be removed and replaced by good quality soil compacted with smooth wheel vibratory roller by specified compacted fill as directed by the Engineer-in-charge. All pits and depressions shall be backfilled with fill free of deleterious, organic matter, and compacted as directed by the Engineer.

LEVELING PAD:

- A leveling pad with compacted earth / sand fill shall be provided. It has to ensure that there shall not be any settlement of the sub grade after placement of super imposed load of Gabion boxes.

PLACEMENT OF FIRST COURSE OF GABION UNIT:

- Assembled boxes, or groups of boxes, shall be positioned in the structure. The side or end, from which work is to proceed, shall be secured either to the completed work, or by rods or stakes driven into the ground at the corner. These stakes must be secure and reach at least to the top of the gabion box.
- Further gabion boxes shall be positioned in the structure as required each being securely laced to the preceding one along all common corners and diaphragms. Gabion fill shall be a hard durable & non frost susceptible (rock or stone type) having a minimum dimensions of 200mm

PLACEMENT OF REINFORCEMENT:

- Geogrid as per the design and drawing shall be laid with the Gabion box. Gabion box shall be with the 2 meter of tail end for the anchorage of box.

PLACEMENT OF FILL ABOVE REINFORCEMENT:

- Backfill placement shall follow closely the erection of each lift of fascia gabion units. At each reinforcing level, backfill should be roughly leveled before placing the soil reinforcement. The reinforcement shall be placed normal to the face of the wall or as shown on the drawings. The program for filling shall be such that no construction plant runs directly on the reinforcement.
- All construction plant having a mass exceeding 1000kg shall be kept at least 1.5m from the inner face of the wall. In this area (up to 1.5m from the inner face of the wall) the compaction shall be done with a vibratory plate compactor of maximum weight 1000kg.
- Compaction by any other method shall only be permitted with the prior approval of the Engineer-in-charge. During construction the retained material beyond the reinforcement shall be maintained at the same level as reinforced fill.

- The compacted layer shall not be more than 200mm, to achieve the compaction of 95 percent of maximum laboratory density when measured as per IS: 2720 (Part 8).

PLACEMENT OF SUBSEQUENT COURSES OF GABION UNITS:

- Subsequent Gabion boxes must be placed at a distance of 200mm from the preceding gabion unit to maintain the proper inclination of slope and stability. Assembled boxes are to be filled with boulders to achieve desired density and also ensured the anchorage of Gabion box with 2 meter of tail end.
- All the sequences for laying of reinforcement, compaction and providing gabion box next courses are repeated to achieve desired height of the wall as per the drawing.

COPING UNIT:

- On the topmost Gabion unit, provide concrete lining of at least 150mm for protection of Gabion wall. It is difficult to provide RCC crash barrier and friction slab over the Gabion unit as the width of each unit is minimum of 1 meter. Generally it is recommended to use of W-beam crash barrier, minimum 1.5 to 2 meter inside, from the edge of the wall.

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