EVERGREEN®

EVERGREEN WALLS, INC.

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Evergreen GEO - SPECIFICATIONS

Precast Evergreen GEO Wall on Concrete Foundation

- Final grade along the top of and at bottom of the wall must be min. 0.5% away from wall or else provide drainage channel.

- Add min. of 5 in., 0.13m of top soil, seed and hay mulch for erosion control.

- F**ill material within precast units** to be ordinary borrow, provided friction angle is min. 35 degrees and
  - Compaction is min. 90%, max 95% density at max. ±2% off optimum water content.
  - Do not over compact to prevent damage to units.
  - Fill material shall have max 10 to 15% fines passing sieve #200, 0.74mm.

- Fill front pockets with min. 10", 0.25m plantable top soil,
  - keep min. 1 in., 25mm of freeboard,
  - fill and grade as wall erection goes up,
  - seed for erosion protection

- Excavate in firm soil as steep as feasible for erection and back filling within a few days, min. gap to excavation line 18 in. for trench compactor.

- Fill and backfill shall follow the erection of each course of elements with a minimum berm of 10 ft., 3.0m width. max. slope is 2:1 if fill goes up faster than wall or if wall goes up faster tan backfill

- **Backfill behind wall**: remove debris and topsoil before backfilling. Backfill partially for drainage with free draining material min. 12 in., 0.30m or open graded rock fill.

- **General Backfill requirements**:
  - Fill in lifts of max 12 in., 0.30m
  - At water content max. ±1-2% off optimum.
  - Compaction is min. 90%, max. 95% density within 3 ft., 1.0m of wall - do not use heavy equipment in this zone.
  - Compaction is min. 95%, max. 100% further away from back of wall. Do NOT over-compact!

  Soil properties depend on individual project design, typically:
  - Friction angle min. phi' = 22° - 32° - 38°, c' = 0, gamma moist = 115 - 125 - 135 pcf, 18.4 – 20.0 – 21.6 MN/m^3

- Use continuous foundation drain min. 4", 0.10m pipe PVC (schedule 80) or approved equal with longitudinal grade min. 0.5% and add min. 1 ft.. 0.30m of free draining rock covered with no woven geotextile.

- Add finger drains of min. 1 x 1 ft., 0.30 x 0.30m to intercept any seepage water, add more drains at wet spots.

- First unit shall be adjusted using engineers level, small hardwood wedges, and fast set mortar, first unit erected on mortar beds.

- Add stirrup min. two # 5, 16mm bars covered with concrete wedge in front of lowest unit to increase safety against sliding.

- Provide concrete foundation 3000 psi, 21MPa concrete and grade 60, 413 MPa reinforcing bars, to provide a well bearing base.

- Provide min. 12 in., 0.30m of free draining material to prevent water backup.

- First units erected on mortar bed.

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Evergreen GEO - GENERAL NOTES

- The Evergreen - GEO unit lengths are 8 ft., 2.50m from center to center of the legs and 2.5 ft., 0.75m lift.

- One unit covers 2.5 x 2 x 8 = 40 sf, 2.5 x 0.75 = 1.875 m^2 of wall face.

- Start erection at place of lowest elevation of foundations.

- Foundation tolerance: zero plus, -1/2" to zero, -0.01 is desirable, yet -1", 25mm or even -1"-1/2, -40mm would be acceptable if 'minus', to be corrected by adding mortar.

- Erect the Evergreen GEO wall units, making sure they are perfectly horizontal and NOT rocking on uneven supports.
  - Line them up to each other. Use small, 1/2", 12mm wide hardwood wedges and fast set mortar
  - Use an engineer's level and a wooden triangle of 1' by 4', 0.30 by 1.2m sides, 1/2", 12mm thick.
  - The proper adjustment of the lowest unit is 1/8", 3mm, tolerance.
  - This means the upper units do not normally mean additional adjustments, they just stack easily.

- Note that the fill within the extension beams and or within any geogrid must fairly good fill (phi'= min. 32°) to mobilize friction within the fill to transfer loads form one layer to the next. Should such good fill not be available, use shear blocks to connect cross beams between levels.

- Use additional legs for bends wherever the wall is in a turn to bring the loads down to the foundation, except for the top two layers.

- Use legs and end leg left and end leg right wherever the wall steps down.

- Use top beam units across the top of the wall for ensuring good fill compaction on the top of the wall.

- Foundation excavation must reach well bearing soil or rock. Excavate deeper as needed and as approved by the engineer as noted in specs.

- Any soft, wet or organic or otherwise unsuitable material encountered in the footing area shall be removed and replaced a minimum 2 ft., 0.60m away and replaced with gravel placed and compacted in 1 ft., 0.30m lifts.

- Minimum requirement for foundation material beneath foundation depends on individual project design, typically:
  - Friction angle phi' = min. 34°
  - Cohesion c' = 0
  - Gamma γ = min. 125 pcf, min. 20 kN/m^3.

The contractor shall consult and follow the Specifications, Notes, and Erection Instructions for 'Evergreen GEO' as provided by the manufacturer.

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