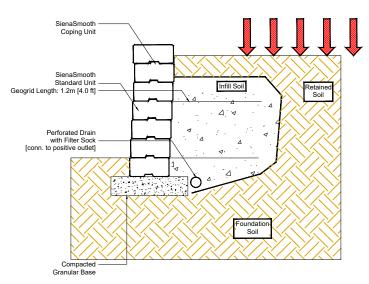
# SIENA SMOOTH®

## RETAINING WALL GEOGRID SECTION

1260mm (4.13ft) Site: Surcharge - Clays Infill: Granular



#### Design Specific Geometric Information

| Retaining Wall<br>System                       | SienaSmooth w/ Geogrid                          | Geogrid Type and Manufacturer           | See Notes          |  |
|--|---|---|--------------------|--|
| Maximum Height mm (in)                         | 1260 (49)                                       | Minimum<br>Geogrid LTDS<br>kN/m (lb/ft) | See Notes          |  |
| Maximum Slope<br>Above Wall                    | Horizontal                                      | Maximum Slope<br>Below Wall             | None               |  |
| Max. Surcharge<br>Above Wall<br>kPa (lb/sq.ft) | 12 kPa (250 lb/sq.ft)<br>(Traffic) Offset 2.0ft | Depth of<br>Embedment<br>mm (in)        | 180 (7)            |  |
| Batter<br>of Wall                              | 3 °   | Compacted<br>Base Dimension<br>mm (in)  | 735 x 180 (29 x 7) |  |

### Design Specific Soil Information

|  | Soil Region   |  |   |  |   |  |  |
|--|---|--|---|--|---|--|--|
|  | Infill  | Retained   | Foundation  | Base   | Drainage  |  |  |
| Description<br>(by USCS)                   | GW<br>Well graded, free<br>draining Granular                  | CL<br>Inorganic Clays<br>Low Plasticity                      | CL<br>Inorganic Clays<br>Low Plasticity                   | GW<br>Well graded, free<br>draining Granular                   | see infill  |  |  |
| Effective<br>Internal Friction<br>Angle    | 35°   | 28°  | 28 °  | 39°  | NR  |  |  |
| Moist Unit<br>Weight<br>kN/cu.m (lb/cu.ft) | 22 (140)  | 20 (127)   | 20 (127)  | 22 (140)   | NR  |  |  |
| Effective<br>Cohesion<br>kPa (lb/sq.ft)    | NR  | NR   | NR  | NR   | NR  |  |  |
| Soil<br>Notes                              | Placed in 150mm<br>(6") lifts and<br>compacted to 95%<br>SPD. | Undisturbed<br>dense soil or<br>well compacted<br>Eng. fill. | Allowable bearing<br>cap.must exceed<br>50kPa (1050 psf). | Crushed Gravel<br>(free draining)<br>compacted to 98 %<br>SPD. | Gravel infill must<br>be well graded,<br>angular, free drain<br>w/max. 8% fines |  |  |

NR - Not Required

#### Notes:

- 1. This design meets or exceeds the minimum factors of safety required by Risi Stone Systems based on the design parameters listed above. The analysis was performed as outlined in the National Concrete Masonry Association Design Manual for Segmental Retaining Walls, Third Edition. This is a typical, non site-specific Design.
- 2. No analysis of global stability, total or differential settlement, or seismic effects has been performed.
- 3. This design is only provided to illustrate the general arrangement of the SRW structure for preliminary costing and feasibility purposes only. This drawing is not for construction. A qualified Engineer must be retained to provide the Final Design prior to construction.
- 4. Structures such as handrails, guardrails, fences, terraces, and site conditions such as water applications, drainage and soil conditions, additional live and dead loads, etc., have significant effects on the wall design and have not been taken into account in this typical section. When accounted for in the Final Design, other conditions and elements may result in additional design measures (geogrid, drainage, etc) and cost.
- 5. For geogrid reinforced structures, a minimum Long Term Allowable Design Strength of 14 kN/m was assumed.

Contact your manufacturer or Risi Stone Systems for a list of approved geogrid reinforcements.



Engineering design by RisiStone Inc.

