This drawing is for reference only. Geosynthetic reinforced soil (GRS) is a retaining wall methodology that utilizes closely-spaced reinforcement in high-quality backfill to create inherently internally-stable composite structures. This detail demonstrates the concept for use with variable-height Rosetta Outcropping blocks, and is based on the guidance provided by the FHWA’s Design and Construction Guidelines for Geosynthetic Reinforced Soil Abutments and Integrated Bridge Systems (FHWA-HRT-17-080, June 2018).

Notes:
1) Use well-graded backfill containing 100% crushed, hard, durable particles of natural stone or gravel with a maximum aggregate size of 0.5 to 2 inches and less than 12 percent passing the No. 200 sieve. Coefficient of uniformity should be between 1 and 3, and coefficient of curvature less than or equal to 6. Friction angle should be at least 38 degrees. Dense-graded road base material of many transportation agencies will meet these requirements.
2) Open-graded backfill should be clean, hard, durable, crushed, angular particles of natural stone or gravel with a maximum particle size of 2 inches and a minimum particle size of 0.5 inches. No more than 5% should pass the No. 50 sieve. The friction angle should be at least 38 degrees. AASHTO No. 89 to No. 5 aggregates meet these requirements.
3) Open-graded backfill is recommended when the wall is located in a flood zone, or for other situations in which water is a concern.
4) Geosynthetic reinforcement for GRS walls has traditionally been woven polypropylene with a minimum average roll value (MARV) strength of at least 4,800 lbs/ft². Confirm strength following FHWA-HRT-17-080, Chapter 4.
5) Reinforced soil foundation can consist of well-graded or open-graded backfill (defined above), wrapped with woven geotextile. Place geosynthetic reinforcing layers within foundation at vertical intervals of no more than 9 inches.