

## Designer Guidance on Unit Weight for Rock Embankment Quantity Calculation – 2/11/25

### Previous Practice

The 2021 GDOT Standard Specifications Construction of Transportation Systems includes Section 208–Embankments.

- This Specification specifies CY as the Unit of Measure for Payment.

### Current Practice

Supplemental Specification Section 208-Embankments is included in GDOT Letting Contract Proposals with first use in the January 17, 2025 Letting. Applicable sections relating to Rock Embankment are shown on the next two pages below:

- This Supplemental Specification specifies TN as the Unit of Measure for Payment.
- **GDOT Office of Engineering Services recommends for consistency Designers use 120 lbs./ft<sup>3</sup> as the unit weight when they calculate the Pay Item quantity of Rock Embankment from the volume of Rock Embankment needed based on the Project's Construction Plans.**
- **The Pay Item to use which complies with this Supplemental Specification is:**
  - **208-0500 TN ROCK EMBANKMENT**
- Please note that the current SPEC Year 2021 GDOT Pay Item Index has the following:

208-0500	TN	*** Requires Special Provision ***	ROCK EMBANKMENT
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Supplemental Specification Section 208 dated 8/26/2024 overrides the requirement for a Special Provision to use the TN Unit of Measure.

- Also note that the current SPEC Year 2021 GDOT Pay Item Index has the **following Pay Item shown below which should not be used**. This Pay Item with cubic yard unit of measure must remain in the Index for projects that were let to construction prior to the first use of the Supplemental Specification Section 208 dated 8/26/2024. Since it is in the Pay Item Index it will also unfortunately be available for use in AASHTOWare Project Estimation. It will likely remain in the Index which can confuse Designers on which Pay Item to use until the next version of the GDOT Standard Specifications Construction of Transportation Systems is developed and released.

208-0500	CY		ROCK EMBANKMENT
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**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**SUPPLEMENTAL SPECIFICATION**

**Section 208—Embankments**

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**208.1 General Description**

This work includes placing embankments, backfilling structures, and constructing earth berms and surcharges with suitable material excavated under Section 204, Section 205, Section 206, and Section 207.

Complete the work according to the lines, grades, and typical cross-sections shown on the plans or established by the Engineer.

The work also includes preparing areas by backfilling stump holes and correcting surface irregularities where the embankment is to be constructed. This includes forming, compacting, and maintaining the embankment and placing and compacting approved material where unsuitable material has been removed.

Payment for this work is included in other appropriate Pay Items unless a specific Pay Item is set up in the Contract.

Apply all provisions of Section 161 to the work in this Section.

Perform Shoulder Construction according to Section 216.

Rock Embankment is typically included in GDOT Letting Contracts as a specific Pay Item

**208.1.01 Definitions**

General Provisions 101 through 150.

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**Section 208.2 Materials** includes the following for Rock Embankment:

**B. Rock Embankment**

Ensure that rock embankment placed as indicated on the Plans meets the requirements of Section 811 unless specified otherwise in the plans or in the Special Provisions.

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**Section 208.3.05 Construction** includes the following for Rock Embankment:

**D. Rock Embankment**

This work includes furnishing materials either from the roadway excavation or other sources and hauling and the placing of rock embankment. Use materials that meet the requirements of Subsection 208.2.B, as shown on the plans or directed by the Engineer.

1. Place the rock in uniform layers not over 3 ft. (1 m) thick. Distribute rock over the embankment to avoid pockets.
2. Fill voids with rock fines. Do not use rock larger than 6 in. (150 mm) for any diameter within 3 ft. (1 m) of the finished grade of the embankment, or within 2 ft. (600 mm) of any structure.
3. Do not place rock at bridge end bents within 10 ft. (3 m) of pile locations. Construct rock embankment and adjoining earth embankment concurrently. Ensure that neither is larger than 4 ft. (1.2 m) higher than the other at any time.

**Section 208.4.B Measurement** includes the following for Rock Embankment:

Where specified for payment by the ton (megagram), rock embankment is measured in tons (megagrams), placed and accepted. When hauling material to the roadway, the actual weight of each loaded vehicle is determined with an approved motor truck scale

**Section 208.5 Payment** includes the following for Rock Embankment:

**208.5 Payment**

Except as provided for herein, the Department will not make separate payment for placing embankments, backfilling structures, and constructing earth berms, including surcharges.

Payment will be included at the Contract Unit Price for the items covered by Section 204, Section 205, and Section 206. Prices are full compensation for the work covered by this Section.

The Unit Prices bid per cubic yard (meter) for in-place and per ton (megagram) for rock embankments (when included as Contract bid Items) are full compensation for furnishing suitable material, hauling, placing, compacting, finishing, and dressing according to these Specifications or as directed by the Engineer.

Payment will be made under:

Item No. 208	In-place embankment	Per cubic yard (meter)
Item No. 208	Rock embankment	Per ton (megagram)