



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR


J. ERIC BOYETTE
SECRETARY

DATE: February 3, 2023

TO: Ron Davenport, P.E.
State Contract Officer

Tatia White, P.E.
State Roadway Design Engineer

Todd Whittington, P.E.
State Materials Engineer

FROM: John Pilipchuk, L.G., P.E. 
State Geotechnical Engineer

SUBJECT: Aggregate Subgrade Revisions

The Geotechnical Engineering Unit (GEU) has completed the revisions to the Aggregate Subgrade and associated documents. Listed below are the items that are new or revised:

- SP5 R08, *Aggregate Subgrade* Provision (revised – replaces Section 505 in the 2018 Standard Specifications)
- SP5 R09A, *Geotextile for Subgrade Stabilization* Provision (new – formerly a GEU provision renamed as “Geotextile for Pavement Stabilization” and used in conjunction with SP5 R08)
- SP5 R09B, *Geotextile for Subgrade Stabilization* Provision (new – formerly a GEU provision renamed as “Geotextile for Pavement Stabilization” and used independently without SP5 R08)
- SP5 R17, *Aggregate Subgrade in Lieu of Chemical Stabilization* Provision (revised – renamed from “Class IV Subgrade Stabilization in lieu of Chemical Stabilization”)
- SP10 R56, *Geosynthetics* Provision (new – revises Section 1056 in the 2018 Standard Specifications)
- Geotechnical Summary Tables (revised)
- GEU Standard Provisions List and Standard Roadway Pay Items & Earthwork Quantity Adjustments List (revised)
- GEU Summary of Quantities Worksheet (revised)

These items are effective beginning with the March 2023 letting. In addition, the Roadway Design Unit (RDU) is updating the typicals, plan views and terminology for these items in the Roadway

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Workspace (cell libraries) and Roadway Design Manual. The RDU will make an announcement when these changes are completed and available.

The primary changes made are summarized below:

- “Subbase” renamed “subsoil” for clarification in the Aggregate Subgrade and Aggregate Subgrade in Lieu of Chemical Stabilization provisions
- “Geotextile for Soil Stabilization, Type 4” replaced with “Geotextile for Subgrade Stabilization, Type 5” in the Aggregate Subgrade provision
- Geotextile direction turned to be parallel to the survey line for the Aggregate Subgrade and Geotextile for Subgrade Stabilization provisions
- “Geotextile for Pavement Stabilization” renamed “Geotextile for Subgrade Stabilization” to be consistent with changes to Section 1056
- Type 5 geotextile requirements changed in the Geosynthetics provision to be in accordance with recent AASHTO changes for Class 4a geotextiles and utilize the new NTPEP Subgrade Stabilization Geosynthetics (SSGEO) program

For projects that the GEU has previously finished, GEU pavement design and roadway recommendations will be revised. The roadway plans will also need to be revised to implement these changes. If there are any questions, please contact Scott Hidden, P.E. of the Geotechnical Engineering Unit at (919) 707-6856.

cc: Wiley Jones, P.E., State Construction Engineer
Clark Morrison, P.E., State Pavement Design Engineer
Neil Roberson, L.G., Regional Geological Engineer
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Eric Williams, P.E., Western Regional Geotechnical Manager
Matt Alexander, P.E., Geotechnical Contract and Statewide Services Manager



STATE OF NORTH CAROLINA
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ROY COOPER
GOVERNOR


J.R. "JOEY" HOPKINS
SECRETARY

DATE: November 1, 2024

TO: Tatia L. White, PE, PLS, CPM
State Roadway Design Engineer

Ron E. Davenport, PE
State Contract Officer

Katrina Feltes, PE
Project Management Unit Manager

FROM: Matthew J. Alexander, PE
State Geotechnical Engineer  DocuSigned by:
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SUBJECT: Aggregate Subgrade Geotextile Pay Item Change

Prior to this memorandum, Geotextile for Soil Stabilization has been used to reinforce and separate undercut and shallow undercut areas recommended to remediate unsuitable soils. This memorandum specifically addresses the implementation of geotechnical recommendations for Aggregate Subgrades. Aggregate Subgrades are covered in Section 505 of the 2024 Standard Specifications.

If the Geotechnical Roadway Recommendations or Geotechnical Recommendations for Pavement and Subgrade Report includes Aggregate Subgrade without a quantity of Geotextile for Subgrade Stabilization, one of the following applies:

- For geotechnical recommendations with Aggregate Subgrade recommended only as a contract contingency, the recommendations **do not** need to be revised. The roadway design engineer should update the following:
 - Change the pay item for Geotextile for Soil Stabilization recommended for the contingency Aggregate Subgrade to Geotextile for Subgrade Stabilization (pay item 1112000000-E) to be measured and paid in accordance with Section 505-4 of the 2024 Standard Specifications.
 - Reduce the quantities for Geotextile for Soil stabilization based on the pay item change.
 - Update the Aggregate Subgrade Table in the Geotechnical Summary Tables (3G-1) sheet as follows:

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- Replace column heading “Geotextile for Soil Stabilization SY” with “Geotextile for Subgrade Stabilization SY”
- Replace table footnote with “**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.”
- For projects with Aggregate Subgrade recommended at specific locations in the geotechnical recommendations report and the Geotechnical Summary Tables (3G-1) sheet, the geotechnical engineer **shall** revise the recommendations and provide an updated Geotechnical Summary Tables (3G-1) sheet. Before the Final Turn In package is submitted to Contract Standards for review, the roadway design engineer **shall** verify the pay items and quantities are adjusted to reflect the revised geotechnical recommendations.

If the geotextile quantity associated with the Aggregate Subgrade is not apparent from the written geotechnical recommendations and summary of quantities, contact the Geotechnical Engineering Unit using the appropriate regional email based on the location of the project:

Divisions 1 – 6: Geo_Pre-let_Div1-6@ncdot.gov
Divisions 7, 8: Geo_Pre-let_Div7-8@ncdot.gov
Divisions 9 -14: Geo_Pre-let_Div9-14@ncdot.gov

If there are any questions, please contact Scott Hidden, PE of the Geotechnical Engineering Unit at (919) 707-6856.

cc: Tom Santee, PE, Eastern Regional Geotechnical Manager
Eric Williams, PE, Western Regional Geotechnical Manager
Scott Hidden, PE, Geotechnical Support Services Supervisor
Jeff Barfield, LG, Geopavement Supervisor
Nicole Hackler, PE, State Plans and Standards Engineer
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