



# Florida Department of TRANSPORTATION

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## Geosynthetic Products Reviewed by the State Materials Office

February 18, 2025

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## Updates

This section summarizes the updates in this document from the last posted version.

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## Introduction

The Job Guide Schedule (JGS) lists the Geosynthetic Materials requirements under MAC Spec 985.

There are two types of samples for geosynthetic products. For some types, a physical sample and certification statement are required ([Earthwork Lab/Field Testing Summary](#)). For other types, an APL tracking sample is needed ([APL Tracking Sample Life Cycle Instructions](#)). MAC Spec 985 has the following category / types:

### **Category / Types with a Physical Sample and Certification Document**

#### D-1:

- Revetment (Special)
- Rock, Rubble without bedding stone
- Ditch Pavement (Rubble Riprap) without bedding stone
- Other

#### D-2:

- Revetment (Standard)
- Articulating Block
- Gabions
- Rock, Rubble, and Broken Concrete with bedding stone
- Ditch Pavement (Rubble Riprap) with bedding stone
- Joint Cover for MSE Wall with Coarse Aggregate Backfill
- Joint Cover for MSE Wall Supporting Spread Footing Foundations
- Other

#### D-3:

- Underdrain
- French Drain
- Sheet Piling Filter
- Filter Fabric Jacket (Culvert)
- Box Culvert Joints
- Concrete Pavement Subdrainage
- Joint Cover for MSE Wall with Sand or Limerock Backfill
- Other

#### D-4:

- Slope Pavement
- Ditch Pavement (Sand-Cement Riprap or Concrete)
- Coarse Aggregate Wrap
- Other

#### D-5:

- Separation Geotextile
- Cast-In-Place Retaining Wall
- Other

### Category / Types with a physical sample (cont.)

R-1:  
Geosynthetic Reinforced Soil (GRS-IBS)

R-2:  
Reinforcement of Foundations over Soft Soils

R-3:  
Reinforced Soil Slopes

R-4:  
Reinforced Embankment

R-5:  
Construction Expedient

### Category / Types no Physical Sample Requiring an APL Tracking sample

#### APL & BABA Tracking

- E-3 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 1)
- E-4 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 2)
- E-5 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 3)

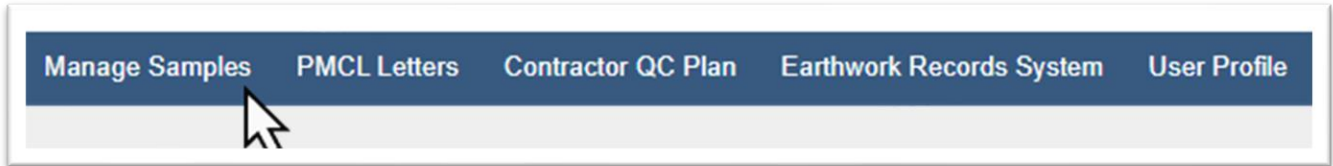
**NOTE:** Do not log an APL Tracking sample unless the material is left in place permanently. Most erosion control items are considered temporary and APL Tracking samples are not required for temporary items. It is only when the erosion control product is left in place permanently that an APL Tracking sample is required.

For products requiring a physical sample, only one physical sample submittal is needed for each product when the product is used in multiple applications (refer to item 12 under Section A. Creating the Sample for additional information).

## Chapter 1 – Creating a Sample with Physical Sample and Certification Document

### A. Creating the Sample

You must be in your company roles to log a sample into MAC.

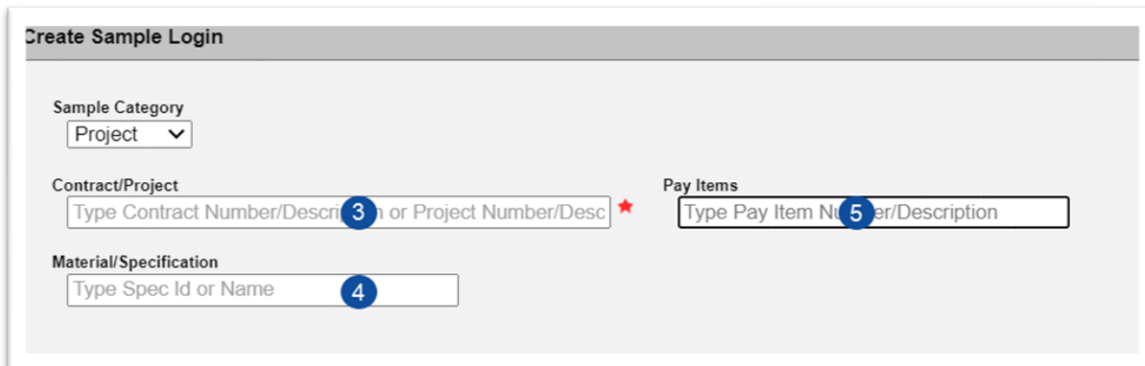


1. Select the Manage Samples menu option.



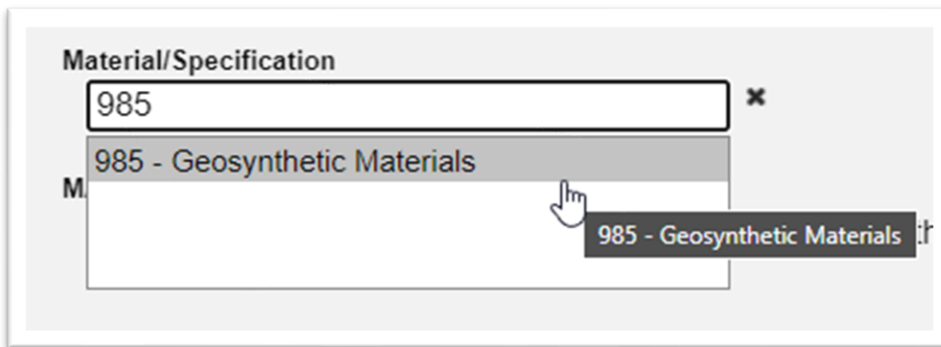
2. Select the Create Sample Login option.

The Create Sample Login dialog box will appear. It defaults to the sample category of Project. Leave it as the Project option.

A screenshot of a 'Create Sample Login' dialog box. It contains three input fields: 'Sample Category' with a dropdown menu set to 'Project'; 'Contract/Project' with a text box containing 'Type Contract Number/Description or Project Number/Description' and a red asterisk; and 'Pay Items' with a text box containing 'Type Pay Item Number/Description'. There are also blue circled numbers 3 and 5 next to the Contract/Project and Pay Items fields respectively. A third field, 'Material/Specification' with a text box containing 'Type Spec Id or Name' and a blue circled number 4, is located below the other two.

3. **Contract/Project** – begin typing in the project or contract ID. MAC will search on either. MAC will return a list of entries that match the search criteria. Select the appropriate entry from the returned list.

4. **Material/Specification** – enter 985 in the Material/Specification list and select it from the returned list.

A screenshot of a dropdown menu for 'Material/Specification'. The input field above the menu contains the number '985'. The dropdown list is open, showing a single option: '985 - Geosynthetic Materials'. A mouse cursor is pointing at this option, and a tooltip with the same text is visible next to it.

5. **Pay Items** – this field is optional and multi-select. Click on the dropdown list to select a pay item or pay items, if desired. Do **NOT** select the pay item if the contract is Lump Sum or Design Build.

Once you have selected a Material/Specification, a link to Continue to the Sample Information Screen will appear on the dialog box.

The screenshot shows a window titled "Create Sample Login". It contains the following fields and information:

- Sample Category:** A dropdown menu with "Project" selected.
- Contract/Project:** A text field containing "E7R27 / 254677-1-52-34: TRAFFIC OPERATIONS DESIGN".
- Pay Items:** A section stating "No Pay Items found related to all selected projects/materials".
- Material/Specification:** A text field with the placeholder "Type Material Id or Name".
- MAC Spec:** A text field containing "985 - Geosynthetic Materials, Supplemental Specification, 01/2019, v3.2".
- Action:** A blue button at the bottom labeled "Continue to Sample Information Screen".

6. Click on the Continue to Sample Information Screen link to access more login fields.

The screenshot shows a "Sample Info" form with the following fields and annotations:

- Method of Acceptance:** "Sampling And Testing"
- Sample Level:** "VT"
- Category:** A dropdown menu with "D-2 / Articulating Block" selected. A blue circle with the number 7 is next to the dropdown.
- Manufacturer:** A text field with a blue circle with the number 8 and a red star icon.
- APL Product:** A text field with the placeholder "Start typing product name to get list of APL" and a red star icon. A blue circle with the number 9 is next to the field.
- Date Sample Taken:** A date picker field with a blue circle with the number 10 and a red star icon.
- Material Description:** A text field with a blue circle with the number 11 and a red star icon.
- Intended Use:** A large text area with a blue circle with the number 12 and a red star icon.
- Soil Description:** A large text area with a blue circle with the number 13 and a red star icon.

7. **Category** – select the Category or Category and Type matching the geosynthetic product being used.

8. **Manufacturer** – type the name of the manufacturer of the geosynthetic product being used.

9. **APL Product** – begin typing the name of the geosynthetic product being used. MAC will return a list of entries that match the search criteria from the list of approved APL products. *Be sure to select the APL number for the product that matches the category chosen.*

Sample Info

Method of Acceptance	Sample Level	Category
Sampling And Testing	VT	D-2 / Articulating Block

Manufacturer

APL Product

- Geosynthetics [985-006-001 - Drainage Geotextiles, D-1]
- Geosynthetics [985-007-001 - Drainage Geotextiles, D-2]
- Geosynthetics [985-008-001 - Drainage Geotextiles, D-3]

10. **Date Sample Taken** – enter the date the geosynthetic material was sampled from the job.

11. **Material Description** – type a short description of the geosynthetic material being used.

12. **Intended Use** – enter a detailed description of what the geosynthetic material is being used for. If the product is being used for more than one application include a description of all uses.

**NOTE:** If the same material is being used for various applications under *the same category* (e.g. D-3 geotextile used for a French Drain and for Filter Fabric Jacket (Culvert) wrapping) only one MAC sample is required with all uses described under Intended Use. If the same material is used for a different application under *a separate category* (e.g. a geotextile used for a D-2 / Ditch Pavement and for a D-3 / Sheet Piling Filter), *separate* MAC samples are required so the APL number matches the category and intended use description. Tip: The *Create New Sample Login from this Sample* button in MAC can be used to expedite this process.

13 **Soil Description** – for D-1, D-2, and D-3 applications, list the class type (a, b, c, d, e, or f) based on the in-situ soil type the geosynthetic material is being used with (refer to FDOT's [Standard Specifications for Road and Bridge Construction](#), Section 985, Table 985-2).



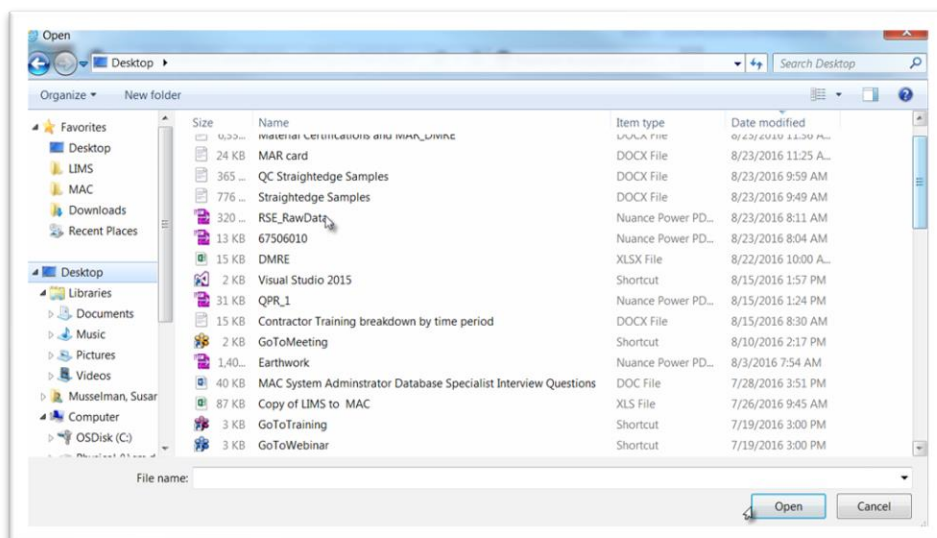
The Testing Lab Id defaults to the State Materials Office (SMO) lab id (DSM001).

The screenshot shows a web form titled "Testing Lab" with the following sections and fields:

- Testing Lab:** DSM001 - State Materials Office
- Location Info:** "Sampled From" text box (14)
- Contact Info:** "Contact Name" (15), "Cell Phone #" (16), "Office Phone #" (16), and "Email" (17) text boxes, each with a red asterisk indicating a required field.
- Comment:** "Comment" text area (18)
- Document:** "Choose File" button (19) with "No file chosen" text, and "Description" text area (20)
- Buttons:** "Save" (21) and "Save and Submit" buttons at the bottom.

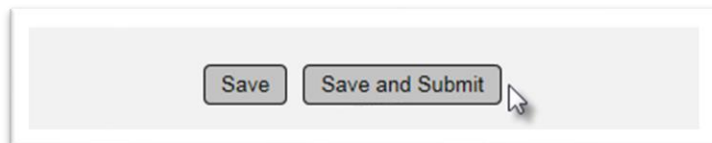
14. **Sampled From** – enter location where the physical sample was obtained.
15. **Contact Name** – enter a contact name. This is someone who can answer specific questions about the certification document and the physical sample.
16. **Cell Phone # or Office Phone Number** – enter either contact phone number in one of these fields. Only one is required. When one is entered the red asterisk will disappear by the other field.
17. **Email** – enter an email address for the contact person in the field.
18. **Comments** – enter any comments about the sample.
19. **Choose File** – select this option to upload the certification document to the sample. This document can be (1) manufacturer’s unaltered original certification letter that includes contractor’s and project information and material properties, (2) date stamped photos of the labels on the rolls at the jobsite that clearly show the product name, LOT number, and roll number, (3) delivery ticket/invoice that clearly shows the product and the contractor’s company/address.

An Open dialog box will appear.



- a. Navigate to the location where the document is stored.
  - b. Click on the document to select it.
  - c. Click on the Open option to upload the document to the sample.
- The document will appear as attached to the sample.

20. Enter any comments about the document in the Description field.



## 21. Save & Submit –

- a. **Save** – select Save if you are not ready to submit the sample but want to save the data you have entered so far.
- b. **Save and Submit** – select Save & Submit if you are ready for the SMO to review the sample.

## B. SMO Sample Processing

When the SMO receives the physical sample, we will review it for several different items:

1. Is the product the correct product?
2. Is the product correct for the specific application?
3. Are there any issues with the certification document?

During the review SMO may identify an issue with the data entered in MAC. In most cases, if there are sample data entry issues, the sample may be returned for corrections. This may include the category / type. Most of the time this is not allowed even when the system allows a user to do so. MAC Spec 985 is a rare exception where changing the category / type does not impact the list of required tests. If you are directed by SMO to revise the category / type to match the correct product and/or application, this is permitted for MAC Spec 985 samples.

## Chapter 2 – Creating an APL Tracking Sample

Creating an APL Tracking Sample is described in detail in the [APL Tracking Sample Life Cycle Instructions](#). The permanent erosion control materials' APL Tracking sample is as follows:

The screenshot shows a web form titled "Create Test Sample". At the top, it displays "MAC Spec" and "985 - Geosynthetic Materials, Supplemental Specification, 01/2019, v3.3 [Draft]". Below this is a "Sample Info" section with several fields: "Method of Acceptance" (Sampling And Testing), "Sample Level" (VT), and "Category" (APL & BABA Tracking / E-3 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 1)). There is also an "APL Product" field with a dropdown menu showing "36" and "ent" with an asterisk. The "Date Sample Taken" field is set to "10/17/2024". The "Quantity Installed" field is "250" and the "Unit of Measure" field is "Linear Feet" with an asterisk. At the bottom, there is an "Intended Use" text area with the placeholder text "Describe the use of the permanent installation." and a character count of "47 of 2000".

1. **Category** – select the appropriate APL & BABA Tracking category / type for the product being permanently installed.
2. **APL Product** – enter the APL number or product description and select the appropriate entry from the returned list.

**NOTE:** Make sure the appropriate number is selected. Some products have more than one APL number because they are approved for multiple applications. Project personnel must ensure that the correct APL product is being used for the specific application.

**NOTE:** A product may not be acceptable even though you are able to find the APL Product in this field. Per the APL Tracking Sample instructions, you must review the specific product in the PATH application to ensure there are no conditions or limitations that make it ineligible to be used on your project.

3. **Date Sample Taken** – enter the date the product was installed.
4. **Quantity Installed** – enter the total amount of the product that was (or will be) placed on the project.
5. **Unit of Measure** – enter the measure for the quantity placed and select it from the returned list; for example linear feet or square yards.
6. **Intended Use** – enter a description of the use of the product installed permanently.