Index 548-030 MSE Retaining Wall Systems - Temporary

Design Criteria

AASHTO LRFD Bridge Design Specifications; ***Structures Design Guidelines (SDG)***; ***Structures Detailing Manual (SDM)*** AASHTO-AGC-ARTBA Task Force 27 (Ground Modification Techniques), ***Insitu Soil Improvement Techniques***, January 1990.

Design Assumptions and Limitations

See the "Design Criteria" note on the Standard.

Plan Content Requirements

In the Structures or Roadway Plans:

Prepare Control Plans in accordance with the requirements of FDM 262, and ***SDM Chapter 19*** include them in the plans.

Complete the following Data Tables using the following instructions and include the Data Tables on the retaining wall supplemental detail sheets. See Introduction I.3 for more information regarding use of Data Tables.

1. Complete the Notes and add/modify/delete as necessary.
2. Complete the "Geotechnical Information" table based on project soil conditions. See ***SDG*** Chapter 3 for required design based internal friction angle and unit weight of Reinforced Soil and Random Backfill.
3. Complete the "Retaining Wall Variables" and "Soil Reinforcement Lengths for External Stability" tables based on project requirements. The Wall Heights in the "Soil Reinforcement Lengths for External Stability" table refer to the height above the foundation soil, measured to the top of the wall. See ***SDG*** Chapter 3 Figures for details.
4. Include the pay item for Polyethylene Sheeting on Concrete Piles per ***Specifications*** Section 459 (to minimize downdrag) for all piles and drilled shafts that are located within the wall limits.

TEMPORARY MSE RETAINING WALL SYSTEM DATA TABLES

GEOTECHNICAL INFORMATION							Table Date 1-01-11
		Reinforced Soil & Random Backfill	Loose Fine Sand	Firm Fine Sand	Loose Clayey Fine Sand	Firm Clayey Fine Sand
Depth Below Existing Ground Line (ft.)	Wall No. 1	—				
	Wall No. 2	—				
Effective Unit Weight (pcf)						
Cohesion (psf)		0				
Internal Friction Angle						

NOTE:
If the unit weight and/or internal friction angle of the fill proposed by the Contractor differs from that shown above, the Project Engineer will contact both the District Geotechnical Engineer and the Wall Designer for a possible redesign.

RETAINING WALL VARIABLES				Table Date 7-01-13
Wall No.	Wall Settlement			Air Contaminants Classification
	Long Term Settlement (in.)	Short Term Settlement (in.)	Differential Settlement (%) (ft./100ft.)	
1				
2				

NOTE:
Design walls for the settlements noted in the table.
Long term settlement is measured from the beginning of wall construction.

SOIL REINFORCEMENT LENGTHS FOR EXTERNAL STABILITY												Table Date 1-01-11
Wall No. 1	Wall Height (ft.)											
	Reinforcement Length (ft.)											
	Factored Bearing Resistance (psf)											
Wall No. 2	Wall Height (ft.)											
	Reinforcement Length (ft.)											
	Factored Bearing Resistance (psf)											

NOTES:
1. The reinforcement strap lengths shown above are the minimum lengths required for external stability. The reinforcement lengths used in the construction of the retaining walls will be the longer of that required for external or internal stability (determined by proprietary wall companies).
2. The Factored Bearing Resistances shown above are the critical (lowest) values from all the load cases analyzed using LRFD methodology.

NOTES [Notes Date 07-01-14]:

1. See the Approved Products List for approved Wall Systems (FDOT Wall Type 3).
2. See Standard Plans Index 548-030 for General Notes and Details.

Payment

Item number	Item Description	Unit Measure
548-13	Retaining Wall System, Temporary, Excluding Barrier	SF
459-71	Polyethylene Sheeting on Concrete Piling	SY