## Section 255. — MECHANICALLY-STABILIZED EARTH WALLS

09/17/18– FP-14

WFL Specification 09/17/18 2550010

Include the following when work is required under this Section.

Note:

Include SCR 704.08 when work is done under this Section.

Material

### 255.02

Add the following to the material list:

Backfill Material 704.03(a)

Gabions 253

Construction Requirements

### 255.03 General.

Amend as follows:

WFL Specification 09/17/18 2550020

Use on projects with MSE walls designed by the Government.

Coordinate with Geotech and edit as required.

In addition, when MSE walls are designed by the government add a SCR to delete Subsection 104.03(b)(2)(l).

Delete the first paragraph and substitute the following:

Verify limits of the wall installation. Do not perform ground disturbing activities at a wall site until the wall installation limits at that site has been verified.

WFL Specification 09/17/18 2550030

Include the following when work is required under this Section.

Add the following:

Excavate wall foundations to within 4 inches (100 millimeters) horizontally and vertically from the staked location.

Install reinforcement material to within 2 inches (50 millimeters) vertically from the staked location.

Do not operate equipment directly on reinforcements. Place a minimum 6-inch layer of noncompacted backfill material on reinforcements before operating equipment over reinforcements. Install and maintain taut and unwrinkled reinforcement layers that are in full contact with underlying surfaces.

Perform work without damaging or deforming MSE wall elements. Before constructing subsequent layers, correct deficiencies on previously constructed layers as directed by the CO.

Install wall drainage systems according to Section 605.

WFL Specification 09/17/18 2550040

Use on projects with MSE walls designed by the Government. Coordinate with Geotech and edit as required.

### 255.04 Wall Erection

Delete the first paragraph and substitute the following:

Erect the wall according to the plans. Construct MSE walls to the tolerances shown in Table 255‑1.

WFL Specification 09/17/18 2550050

Include the following when work is required under this Section.

### 255.05 Backfilling.

Delete the text of this Subsection and substitute the following:

Backfill the stabilized volume, with the specified material, according to Subsection 209.09. Place select granular backfill material from the back of wall facing fill for a width equal to the length of reinforcing elements plus the additional width shown in the plans. Compact each layer according to Subsection 209.10, except use an acceptable lightweight mechanical or vibratory compactor within 36 inches (900 millimeters) of the wall face.

Where the stabilized volume supports spread footings for bridges or other structural loads, compact the top 5 feet (1.5 meters) to at least 100 percent of the maximum density.

Backfill and compact behind the stabilized volume, with the specified material according to Subsections 209.09 and 209.10. At the end of each workday, slope the last unfinished lift of backfill away from the wall face, and prevent adjacent surface area runoff from impacting the wall construction limits.

WFL Specification 09/17/18 2550060

Include the following on projects with:

Wire-faced MSE wall, or;

Gabion-faced MSE wall

Note: If the project has gabion-faced MSE wall, then include SCR 253.06.

Use gabion rock larger than the welded wire opening dimension within 18 inches (450 millimeters) of the wall face. Consolidate gabion rock by rodding or other approved means to produce a uniform, tight gabion rock mass.

WFL Specification 09/17/18 2550070

Include the following when work is required under this Section.

### 255.06 Acceptance.

Amend as follows:

Delete the fifth paragraph and substitute the following:

Structure excavation, backfill material, and unclassified borrow will be evaluated under Section 209.

Add the following:

Select granular backfill will be evaluated under Subsections 106.02 and 106.04.

Wall drainage system will be evaluated under Section 605.

WFL Specification 09/17/18 2550080

Include the following when work is required under this Section.

Measurement

### 255.07

Delete the second paragraph and substitute the following:

When measuring mechanically-stabilized earth walls by the square foot (square meter), measure the front face of wall excluding footings and leveling courses.

Delete Table 255-2 and substitute the following:

Table 255-2

Sampling, Testing, and Acceptance Requirements

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Remarks |  | Not required when using Government- provided source | “ | " | " | " | " | " | " | " |
| Reporting Time |  | Before using in work | “ | " | " | " | " | " | " | " |
| Split Sample |  | Yes | “ | " | " | " | " | " | " | " |
| Point of Sampling |  | Source of material | “ | " | " | " | " | " | " | " |
| Sampling Frequency |  | 1 per soil type | “ | " | " | " | " | " | " | " |
| Test Methods Specifications | **Source** | AASHTO T 27 & T 11 | AASHTO T 96 | AASHTO T 236 and Subsection 704.08(a)(2) | AASHTO T 104 | AASHTO R 58, T 89, & T 90 | AASHTO T 288 | AASHTO T 289 | AASHTO T 290 | AASHTO T 291 |
| Category |  | − | − | − | − | − | − | − |  | − |
| Characteristic |  | Gradation | LA abrasion | Angle of internal friction | Soundness using sodium sulfate | Plasticity index | Resistivity(1) | pH(1)(2) | Sulfate content(1)(3) | Chloride content(1)(3) |
| Type of Acceptance (Subsection) |  | Measured and tested for conformance (106.04 & 105) |  |  |  |  |  |  |  |  |
| Material or Product (Subsection) |  | Select granular backfill -704.08 |  |  |  |  |  |  |  |  |

Table 255-2 (continued)

Sampling, Testing, and Acceptance Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Remarks |  | − | − | (1) Required for MSE walls with metallic reinforcements.  (2) Required for MSE walls with geosynthetic reinforcements.  (3) Tests for sulfate and chloride content are not required when resistivity is greater than 5000 ohm centimeters.  (4) Minimum of 5 points per proctor. |
| Reporting Time |  | Before using in work | Before placing next layer |
| Split Sample |  | Yes | No |
| Point of Sampling |  | Source of material | In-place |
| Sampling Frequency |  | 1 per soil type | 2 per lift |
| Test Methods Specifications | **Production** | AASHTO T 99, Method C(4) | AASHTO T 310 or other approved procedures |
| Category |  | − | − |
| Characteristic |  | Moisture- density | Density |
| Type of Acceptance (Subsection) |  | Measured and tested for conformance (106.04) | |
| Material or Product (Subsection) |  | Select granular backfill (704.08) | |