

ITEM 10554.961010 M - MECHANICALLY STABILIZED EARTH SYSTEM WITH FORM LINER

DESCRIPTION:

The Contractor shall construct a mechanically stabilized earth system as described in Section 554-1 of the Standard Specifications except that the Contractor shall incorporate a form liner into the design. The form liner shall be as detailed in the contract plans. The final color shall be as specified in the contract plans and shall be applied by using a concrete penetrating stain.

MATERIALS:

Subsection 554-2 shall apply, with the following modifications.

Concrete Penetrating Stain - The concrete penetrating stain shall be a single component, water-based, thermoplastic acrylic emulsion which carries its color and water repellent protection into the concrete. The stain shall be delivered in original, sealed five gallon plastic pails or open head 55 gallon drums, clearly labeled with the manufacturer's name and batch number of the material. The color shall be as indicated on the plans.

The penetrating stain shall conform to the following performance requirements.

| <u>Physical properties</u> | | |
|---------------------------------------------------------------------------|------------------------|------------------------------|
| <u>Condition</u> | <u>Results</u> | <u>Test Method</u> |
| Dry-through Time | 25 minutes max. | ASTM D1640 |
| Dry-to-Recoat Time | 1 hour max. | ASTM D1640 |
| Oil, Wax and Silicone Content | None | ----- |
| Adhesion to concrete Elcometer Test (Average of 5 tests) Gloss Flat | 200 psi min. | ASTM D4541 |
| Weather-O-Meter Test (500 hrs) | No Visible Degration | ASTM G23 Atlas Carbon Arc |
| Solids by Weight | 57% (plus or minus 2%) | ----- |
| Viscosity | 70 - 75 KU | ASTM D562 |

The penetrating stain shall comply with New York State laws regulating the use of volatile organic compounds and solvents.

Surface Preparation - After the concrete surface has been fully cured, it shall be cleaned of dust and soil by water blasting or other method approved by the Engineer. Prior to cleaning the concrete surface, the Contractor shall remove loose scale and/or laitance from the concrete surface by wire brushing or other method approved by the Engineer.

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Equipment - The stain shall be applied to the concrete surface using airless spray equipment. Roller or brush application will not be permitted.

Application - The concrete surface shall be completely dry before application begins. The stain shall be applied in at least two separate coats according to the limitations and provisions of the manufacturer's technical data sheets and product application instructions.

Anti-Graffiti Coating - Exposed concrete surfaces shall receive an anti-graffiti coating. The anti-graffiti coating shall be a two-component, oil-free, non-yellowing, aliphatic, polyester polyurethane coating. The material shall be approved by the Engineer prior to application.

CONSTRUCTION DETAILS:

Subsection 554-3 shall apply, with the following modifications:

The Contractor shall incorporate a form liner into the work. The form liner shall be as detailed in the contract plans.

The Contractor shall submit pattern, color and texture samples to the Engineer for approval at least 60 days before the start of the manufacturing of the panel units. The Engineer shall review the samples and either approve or reject the samples. If rejected, the Contractor shall provide new samples based on comments from the Engineer. This review process shall be repeated until the samples are approved.

The approved samples shall be retained by the Engineer and used as a basis for inspecting the actual panel units to be used in the construction of the wall. The panel units shall be inspected by the Engineer prior to installation. The Contractor shall schedule his work operations to facilitate the Engineer's inspection of the panel units. The panel units shall match the approved samples or be rejected. The Engineer shall be the sole judge as to whether the panel units match the approved samples. Rejected panel units shall be removed from the site by the Contractor at no cost to the State.

METHOD OF MEASUREMENT:

Subsection 554-4 shall apply. Pay limits are shown in the contract plans.

BASIS OF PAYMENT:

Subsection 554-5 shall apply.