

ITEM 619.1725 — 25 — TEMPORARY ROCK CATCHMENT BARRIER — 10 ft HIGH WITH WEEPS

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1. DESCRIPTION:

- 1.01 The Contractor shall furnish, install, move, ~~and~~ maintain, and remove temporary rock catchment barrier as shown on the plans or as ordered by the Engineer.

2. MATERIALS:

The temporary rock catchment barrier shall be composed of weep drains, geotextile material, pre-cast concrete units, steel chain link fencing fabric, and wire rope netting.

- 2.01 **Pre-cast Concrete Units:** The pre-cast concrete units shall consist of three components: temporary concrete barrier, precast concrete column support anchor blocks, and pre-cast concrete beam.

- A. Temporary concrete barriers shall be fabricated and installed in accordance with Section 619 of the NYSDOT Standard Specifications, and shall conform to the dimensions, joint connections, material details, and anchoring details shown on the latest revision of Standard Sheets ~~619-301~~ - Temporary Concrete Barrier. The barrier sections shall be precast concrete units. The Manufacturer shall certify that the temporary concrete barrier units conform to the details shown on the Standard Sheet or approved drawing.

- B. Precast concrete column support anchor blocks shall conform to the dimensions and joint connections, shown in the Contract Plans. Additional joint connection details and material details shall be as shown on the latest revision of Standard Sheets ~~619-301~~, - Temporary Concrete Barrier, and as specified in Section 619 of the NYSDOT Standard Specifications.

Each column support unit shall have cast-in-place a [REDACTED] to be used for support of the wire rope rock fence. Tube steel shall be [REDACTED] and shall conform to the dimensions and details shown in the Contract Plans.

- C. Precast concrete beams shall conform to the dimensions shown in the Contract plans. Material details shall be as shown on the latest revision of Standard Sheets ~~619-301~~, - Temporary Concrete Barrier.

- D. The Engineer will inspect the pre-cast concrete units upon delivery to the project site for conformance to specifications. Any units having damage and/or defects in the concrete and/or joint connections will be rejected by the Engineer when in his judgment the performance of the barrier system will be affected.

- 2.02 **Wire Rope Netting:** The netting shall be as manufactured by Geobrugg North America, LLC, or approved equal.

- A. The wire rope net shall be fabricated in accordance with the following specification: The mesh size of the net shall be [REDACTED] square with a mesh rope diameter of [REDACTED], [REDACTED] construction with a minimum breaking strength [REDACTED]. The perimeter rope of the net shall have a [REDACTED] construction with a minimum breaking strength of [REDACTED]. The Net shall be diagonally woven.

- B. All nets shall be braided with high strength, hot dipped, galvanized steel clips, pressed on so that they are non-moveable. The cross clips, after installation, shall be capable of withstanding a sliding force up to [REDACTED] applied along the mesh rope and a separation force up to [REDACTED] applied to the clip.

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2. MATERIALS: (cont'd)

2.02 Wire Rope Netting: (cont'd)

- C. Two (2) aluminum stop sleeves shall be used at all locations where two individual wire ropes are joined together.
- D. All net wire shall be composed of steel wires which have been individually galvanized prior to being woven into the designated wire rope configuration.
- E. The net shall be diagonally woven in order to assure maximum strength of the net system.
- F. Nets with damage that could endanger the integrity of the system as determined by the Engineer shall be rejected by the Engineer, and promptly removed from the project.
- G. The wire rope net shall be looped around the border and secured at each point with a heavy duty aluminum stop sleeve.

2.03 Chain Link Fencing Fabric: Nets shall be covered with galvanized steel chain link mesh fencing fabric to prevent particles smaller than [REDACTED] in diameter from penetrating the barrier.

- A. Chain link fencing fabric and attaching wire shall conform to Section 710-02 of the Standard Specifications.

2.04 Dust Control/ Visual Screen: The wire rope netting and chain link fabric shall be covered with a visual/ dust control barrier. Provide geotextile drainage meeting the requirements of Section 207.

The dust control/visual screen shall be attached to the wire rope net and chain link fence with rebar tie wire or by other means acceptable to the Engineer. Semi circle vent flaps shall be cut into the geotextile material to relieve pressure from passing vehicles and the wind.

The Contractor shall maintain the geotextile material for the duration of the project or until the Temporary Rock Catchment Barrier is no longer required. Ripped or damaged sections of Dust control/visual screen shall be repaired or replaced by the Contractor at no additional cost the Authority.

2.05 Net Support Columns:

- A. The columns shall be fabricated from [REDACTED] wide flange members meeting [REDACTED] for preformed shapes.
- B. All columns and related hardware shall be galvanized in accordance with [REDACTED] after all drilling, welding and cutting. The fabricator shall grind smooth all burrs and rough surfaces prior to galvanizing.

2.06 Miscellaneous Material: All miscellaneous hardware such as shackles, thimbles, bolts, etc. shall be galvanized in accordance with [REDACTED]

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2. MATERIALS: (cont'd)

- 2.07 **Net Support Ropes:** The net support rope shall have a diameter of [REDACTED] and shall be [REDACTED] construction with a minimum breaking strength of [REDACTED]. The net support rope shall be galvanized. The looped ends may be pre-fitted with compression clamp ends or field constructed using the examples in details [REDACTED].
- 2.08 **Anchor Block Ropes:** The anchor block rope shall have a diameter of [REDACTED] and shall be [REDACTED] construction with a minimum breaking strength of [REDACTED]. The anchor block rope shall be galvanized. The looped ends may be pre-fitted with compression clamp ends or field constructed using the examples in [REDACTED]. The turnbuckle shall be a [REDACTED] eye to eye drop forged galvanized. The shackles shall be [REDACTED] shackles.
- 2.09 **Geotextile Drainage:** Provide geotextile drainage meeting the requirements of Section 207 drainage at the locations showed on the plans.

2. MATERIALS: (cont'd)

- 2.10 **Barrier Weep Drains:** Barrier weep drains shall be 4 inches schedule [REDACTED] sawn in half and placed perpendicular to and against the barrier weep holes.

3. CONSTRUCTION DETAILS:

The Contractor shall furnish, erect, move, maintain, and remove, temporary rock catchment barrier where and as indicated on the plans, on the standard sheets, or as directed by the Engineer.

3.01 Pre-cast Concrete Barrier Units:

Each run, or bay, of temporary concrete barrier units shall be fastened together to form a continuous chain. After placement each successive unit shall be moved longitudinally to remove the slack in the joint between the units. The units at each end of a run or bay shall be anchored as shown on the Standard Sheet. An extra block without a support column shall be placed as per the plans on each end of the total runs or bays, to be used as an anchor block for the top support rope. In order to reduce movement of the barrier on structures, areas where limited deflection is desired, or where directed by the Engineer, one of the methods shown on the Standard Sheet shall be used. Where shown on the plans or directed by the Engineer, the ends of the barrier run shall be fitted with a tapered end section, flared back, or fitted with an impact attenuation device.

The Contractor shall install and maintain a linear delineation system on the temporary rock catchment barrier. The type of delineation system used shall be as shown on the plans.

The concrete barrier sections shall form a smooth and continuous barrier when joined together. Any sections damaged or misaligned while in service shall be corrected or replaced to the satisfaction of the Engineer.

Where indicated on the plans the temporary concrete barriers shall have [REDACTED] conduit sawn in half and placed into (against) the barrier weep holes. The conduit shall be covered with a piece of geotextile drainage material, or as shown on the contract plans. Geotextile Drainage material shall also be placed against barrier.

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- 3.02 **Wire Rope Rock Fence:** Wire Rope Rock fence shall be installed along the concrete barrier units after the concrete barrier units have been installed in a manner acceptable to the Engineer.

3. CONSTRUCTION DETAILS: (cont'd)

- 3.03 **Net Support Columns:** The [REDACTED] shall be installed in the [REDACTED] structural steel tubes cast in the precast concrete column support units.
- 3.04 **Net Supporting and Retaining Ropes:** Supporting and retaining ropes shall be installed, as shown in the Contract Plans.
- 3.05 **Geotextile Separation Material:** A minimum of [REDACTED] wide geotextile separation material shall be placed a minimum of [REDACTED] high on and against the full barrier and a minimum of [REDACTED] wide on top of the pavement, for the length of the barrier on the side away from traffic or as shown on the plans. This geotextile separation material is required to help keep the sand cushion from bleeding out under the barrier and on to the roadway. In addition, a minimum [REDACTED] wide layer of geotextile separation material shall be placed over any weep drains.

3. CONSTRUCTION DETAILS: (cont'd)

3.05 Geotextile Separation Material: (cont'd)

A cushion of sand 18 inches thick shall be placed over the, weep drains, if present, geotextile separation layer, and pavement. Care shall be taken by the Contractor to prevent any damage to the weep drains. Weep drains that have been damaged by the Contractors operations shall be replaced at no additional cost to the Authority.

- 3.06 **Maintenance:** The Temporary Rock Catchment Barrier must be maintained in proper working order. The Catchment system should be checked for any signs of damage, including but not limited to, broken wires, excessive wear, excessive corrosion, or other damage to any wire ropes, nets, posts, and concrete barriers. Any damage that in the opinion of the Engineer impairs the strength or function of the rock catchment barrier system shall be repaired promptly. The upper support rope shall be checked for excessive sag, if it exceeds the maximum allowed, the Contractor shall correct promptly. Any material resting up against the fence shall be removed promptly. Maintain the proper placement and alignment of the pre-cast concrete barriers and replace any damaged barriers A.O.B.E. The Temporary Rock Catchment Barrier shall be inspected after each blast and each work day or A.O.B.E.

4. METHOD OF MEASUREMENT:

- 4.01 The quantity to be paid for the temporary rock catchment barrier will be the number of linear ~~meter~~feet of barrier measured along the centerline of the uppermost concrete barrier surface properly furnished and installed in accordance with the plans and specifications and directions of the Engineer.

5. BASIS OF PAYMENT:

- 5.01 The unit bid price per linear ~~meter~~foot of barrier shall include all material, equipment and labor necessary to erect, maintain and remove the required barrier, including any wire rope netting, chain link fencing, dust control/ visual barrier, wire rope, shackles, fittings, pre-cast concrete support anchor blocks, pre-cast weep drains, geotextile, any required connection devices, and treatments, and any

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devices for pinning and connecting temporary pre-cast concrete barrier units.

5.02 Payment of the linear delineation system shall be paid under its respective item.

5.03 After placement, payment will be made for ninety (90) percent of the quantity of barrier furnished and erected in accordance with the contract requirements. The remaining ten (10) percent will be paid upon removal.