SECTION 313600 - GABIONS

This section specifies wire-mesh, stone-filled gabions and mattresses for earth retention or channel lining.

1. GENERAL
   * + 1. RELATED DOCUMENTS
          1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
       2. SUMMARY
          1. Section Includes: Gabions, mattresses, and filters.
       3. DEFINITIONS
          1. Gabion: A wire-fabric container of custom size, partitioned into cells and typically filled with stone on Site. A gabion is used as a permeable earth retention structure, and may be interconnected with other units according to Project requirements.
          2. Mattress: A gabion that is small in height in relation to its lateral dimension; typically used as a channel lining.
       4. REFERENCE STANDARDS
          1. ASTM International:

ASTM A856 - Standard Specification for Zinc-Coated Aluminum-Mischmetal Alloy-Coated Carbon Steel Wire.

ASTM A974 - Standard Specification for Welded Wire Fabric Gabions and Gabion Mattresses (Metallic Coated or Polyvinyl Chloride (PVC) Coated).

ASTM A975 - Standard Specification for Double-Twisted Hexagonal Mesh Gabions and Revet Mattresses (Metallic-Coated Steel Wire or Metallic-Coated Steel Wire with Poly-Vinyl Chloride (PVC) Coating).

* + - * 1. New York State Department of Transportation (NYS DOT)

DOT 620 - Bank and Channel Protection

DOT 712-15 - Gabions

* + - 1. SUBMITTALS

Delete reference to section 013300 – Submittals if not included in project specifications.

* + - * 1. Submittals for this Section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
        2. Manufacturer’s installation instructions shall be provided along with product data.
        3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
        4. Product Data:

Submit manufacturer information for gabion.

Submit gradation and types for stone fill.

Submit manufacturer’s installation and storage instructions.

Include separate paragraphs for additional certifications.

* + - 1. QUALITY ASSURANCE

Include this article to specify compliance with overall reference standards affecting products and installation included in this section.

* + - * 1. Furnish each aggregate material from single source throughout Work of this Section.
        2. Perform Work according to **[NYSDOT]** standards.
        3. Manufacturer: Company specializing in manufacturing products specified in this Section with [**three years**] minimum experience.
        4. Installer: Company specializing in performing Work of this Section with [**three** **years**] minimum experience [**and approved by manufacturer**].

Include following paragraph only when cost of acquiring specified standards is justified

* + - * 1. Maintain <**Insert number of copies**> [**copy**] [**copies**] of each standard affecting Work of this Section on Site.
      1. QUALIFICATIONS

Coordinate following paragraphs with requirements specified in submittals article.

* + - * 1. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum [**three** **years**] experience.
        2. Installer: Company specializing in performing Work of this Section with minimum [t**hree** **years]** experience.
      1. DELIVERY, STORAGE, AND HANDLING
         1. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
         2. Store materials according to manufacturer instructions.
         3. Handling: Minimize reduction in sizes during handling of stone filler.
         4. Protection:

Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.

Provide additional protection according to manufacturer instructions.

* + - 1. AMBIENT CONDITIONS

Delete reference to section 015000 – Construction Facilities and Temporary Controls if not included in project specifications

* + - * 1. Section 015000 - Construction Facilities and Temporary Controls: Requirements for ambient condition control facilities for product storage and installation.
        2. Minimum Conditions: Do not install PVC-coated materials when ambient temperature is at or below [**20 degrees F**] <**Insert temperature**>.

1. PRODUCTS
   * + 1. [**GABIONS**] [**AND**] [**MATTRESSES**]
          1. Furnish materials in conformance with [**NYSDOT Section 712-15 Gabions**].
       2. STONE FILL
          1. Provide stone filling in conformance with NYSDOT Standard Specification Section 712-15.
       3. ACCESSORIES
          1. Ring Fastener Material: [**Galvanized steel**] [**Stainless steel**] [**Zinc-coated aluminum-misch metal, alloy coated; ASTM A856**].
2. EXECUTION
   * + 1. INSTALLATION

Be sure construction details are indicated on drawings

* + - * 1. Place [**gabions**] [**and**] [**mattresses**] as indicated on Drawings.
        2. Do not place [**gabions**] [**or**] [**mattresses**] over frozen or spongy subgrade surfaces.
        3. Assemble each [**gabion**] [**and**] [**mattress**] unit by binding all vertical edges with wire ties space 6 inches O.C., or with a continuous piece of connecting wire stitched around the vertical edges with coils approximately every 4 inches.
        4. Set [**gabions**] [**and**] [**mattresses**] to line and grade in conformance with the indicated details. Stagger all vertical joints.
        5. Place units in tension prior to filling with stone to achieve alignment and compaction. Wire all adjacent courses together in the same manner as described for assembly.
        6. Fill units by careful hand placement of stones along all visible faces to assure alignment. Avoid bulges and voids.
        7. Close lid and secure with wire ties.

END OF SECTION 313600