REVISION OF SECTION 614

IMPACT ATTENUATOR (QUADGUARD) (WIDE)

Section 614 of the Standard Specifications is hereby revised for this project to include the following:

**DESCRIPTION**

This work consists of furnishing and installing wide hazard impact attenuators. This work shall be done in accordance with these specifications and in conformity with the lines and details shown on the plans or established.

**MATERIALS**

The impact attenuator shall be the following:

QUADGUARD Wide System as manufactured by Energy Absorption Systems, Inc., One East Wacker Drive, Chicago, IL 60601

The design speed of this portion of the roadway is ♦ miles per hour.

The impact attenuator shall meet the following design parameters:

NCHRP Report 350 Test Level: TL ♪

Hazard Width: ▲

Bi‑directional: ♥

Location: ♣

Object to be shielded: ♠

**CONSTRUCTION REQUIREMENTS**

The site shall be prepared to receive the impact attenuator by filling, excavating, smoothing, constructing the concrete foundation pad, installing approved transition and anchoring, and all other work necessary for the proper installation of the attenuator. The foundation pad shall be 6 inch thick reinforced concrete or 8 inch thick non-reinforced concrete. Other foundations may be used, if recommended by the impact attenuator manufacturer, and approved by the Engineer. The impact attenuator shall be fabricated and installed in accordance with the manufacturer's recommendations. The Contractor shall provide a copy of the manufacturer’s installation instructions and parts list to the Engineer prior to installation of the device.

Each installation shall be supervised and certified as correct upon completion by a representative of the device manufacturer or by an employee of the Contractor who is a certified installer. The Contractor shall submit all appropriate documentation to validate that the certified installer has completed device training and has been registered with the manufacturer as a certified installer.

REVISION OF SECTION 614

IMPACT ATTENUATOR (QUADGUARD) (WIDE)

**METHOD OF MEASUREMENT**

Impact attenuators will be measured by the actual number of attenuators that are installed and accepted.

**BASIS OF PAYMENT**

The accepted quantities will be paid for at the contract unit price for the pay item listed below.

Payment will be made under:

**Pay Items Pay Unit**

Impact Attenuator (QuadGuard) (Wide) Each

Payment will be full compensation for all work and materials required to furnish, install, and certify the impact attenuator. Site preparation, pavement pad and all necessary hardware including anchors and transitions will not be measured and paid for separately, but shall be included in the work.

All costs associated with either having a manufacturer's representative on-site, or training and certifying an employee of the Contractor as a certified installer, will not be measured and paid for separately, but shall be included in the work.

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**INSTRUCTIONS TO DESIGNERS** (Delete instructions and symbols from final draft.):

Use this special provision for wide attenuators to be used for hazards five feet or wider.

♦ Insert the design speed.

♪ Insert TL-2 or TL-3. TL-2 is used for design speeds up to 45 miles per hour. TL-3 is used for speeds greater than 45 miles per hour.

▲ Insert the hazard width. QuadGuard attenuators are available for wide hazard widths of 69”, 90” and 120”. The size is selected based on fit to the hazard width. A transition may need to be provided by the manufacturer.

♥ Indicate "yes" or "no". Use of an approved transition from shielded obstacle to QUADGUARD Wide required for bidirectional use.

♣ Indicate where the attenuator will be installed such as "Median", "Gore", "Roadside", or "Construction Zone".

♠ Identify the object to be shielded, such as "Guardrail Type 3", Guardrail Type 7", "Bridge Rail", or other object.