



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Lesly Tribelhorn, P.E.
Highways Engineer

From: William M. Squires, P.E.
Area Engineer – Missoula Road Design

Date: May 25, 2016

Subject: IM 90-2(104)94
Missoula E & W (Van Buren Interchange)
UPN 4855001

This interchange improvement project work will include roundabout construction, grading, drainage, gravel, plant mix surfacing, guardrail, irrigation, and other miscellaneous items. One of the context sensitive design elements is the construction of noise barrier walls along the north side of the westbound off-ramp and the westbound on-ramp, along with an overlapping segment of noise wall nominally parallel to the westbound shoulder of the I-90 mainline that includes a structure-mounted barrier over Van Buren Street.

The Montana Department of Transportation certifies that in accordance with the requirements of 23 CFR 635.411, the use of the *ACRYLITE Soundstop TL-4 Noise Barrier System*, as manufactured by Evonik Cyro L.L.C. is the preferred product for the section of the noise wall that will be attached to the barrier rail adjacent to the westbound lane of the I-90 structure over Van Buren Street.

Justification

MDT's Bridge Bureau staff determined that the bridge-mounted section of the noise wall must have relatively light-weight panels that do not exceed the dead load limits of the existing structure. During the extensive public involvement process, there was a desire expressed that the section of the noise wall mounted on the bridge be transparent.

Bergmann Associates, an engineering firm in Rochester, New York, was retained to design the noise walls and oversee the construction thereof. They have had extensive experience with the *ACRYLITE Soundstop TL-4 Noise Barrier System* on several large highway projects. Bergmann can attest that it meets the requirements for light-weight, transparency, crash-worthiness, durability, and ease of maintenance. The transparent noise wall panels are attached to the top of the new concrete barrier rail on the bridge.

Bergmann researched similar transparent wall systems, and found only one other that was on FHWA's list of approved transparent wall systems. However, that system attaches to a metal

barrier that is not compatible with any rail system that MDT uses.

The following photo illustrates an installation of the system on a structure:



We will not extend the proprietary item status of this system to subsequent projects without initiating a separate evaluation.

Approved: _____ Date: _____
Lesly Tribelhorn, P.E.
Highways Engineer

Distribution:
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