



City of Havre de Grace

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Susquehanna River Rail Bridge Project
Advisory Board
of the
Mayor and City Council of Havre de Grace
for the
Mayor and Town Commission of Perryville

Advisory Bulletin #19
Rail Operation Noise Control in Perryville
March 23, 2015

Background

The Advisory Board met on March 12, 2015 to discuss noise issues in Perryville that are directly associated with freight train operations through the sharply-curved wye tracks at the MARC Station. Track alignment and curvature, particularly along the somewhat tighter northbound turn from the Norfolk Southern line onto the Amtrak main line, produces flange squeal of intense magnitude which can be heard from as far away as Havre de Grace.

The proposed rail bridge replacement project, which does not include the Perryville wye intersection with the Norfolk Southern line, may nevertheless require some modification of the wye tracks at the main line turnouts. This may be necessary to realign them with the new low-speed bridge location. The Board has identified two general measures to abate noise from flange squeal: a) adjust the curvatures more precisely with easing where possible, and b) install acoustical barriers along the curves.

Recommendations

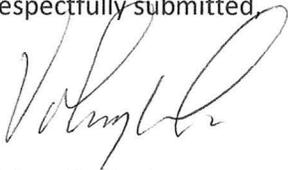
1. Modify the wye curve entering northbound onto Amtrak so that its radius is eased as it merges with the nearest station boarding track. Flange squeal is most intense alongside the east parking lot of the station, suggesting very tight curvature at this point.
2. Modify the wye curve entering southbound onto Amtrak so that its radius is eased as it merges with the northernmost main line track aligning with the new north bridge.
3. A slight repositioning of the Broad Street rail overpass bridge decks within the existing abutment bearings may be necessary to ease curvatures without impacting the station parking lot layout.
4. Design a concrete acoustical barrier system that is just high enough to block, absorb and reflect intense flange noise emanating from rail height. The barriers should be parabolically curved inward to deflect noise downward toward track centers. It is hoped that such a barrier system would be no more than five feet in height.

5. Install the barrier system along both sides of each wye track, positioning it as close to the rails as normal operations and track maintenance will allow.
6. Install a modified version of the same system along both sides of the Broad Street rail bridges.
7. Extend the acoustical barrier system from the point of rail divergence leading from the Norfolk Southern line to the Amtrak main line turnouts.
8. Auch taller acoustical barrier may become necessary along the northeast right-of-way boundary, adjacent to the existing trailer park, if rail curvature easing cannot be achieved at this most intense noise location.
9. If flange squeal noise can be almost entirely abated by improvement of track alignment and curvature, some or all of the proposed acoustical barriers may prove to be unnecessary.

Recommended Action

The Advisory Board recommends that the Mayor and Town Commission of Perryville take necessary steps to consolidate these or similar recommendations into a formal communication to the SRRBP Project Team as soon as possible.

Respectfully submitted,



Volney H. Ford
Chairman