



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219 2000

David S. Ekern, P.E.
COMMISSIONER
July 7, 2008

MEMORANDUM

TO: Malcolm T. Kerley, P. E.

FROM: Paul Kohler

SUBJECT: Route 27/Route 244 Interchange Improvements - Noise Abatement
Project: 0027-000-V01, UPC 13528

In compliance with Federal and State Noise Abatement Policy, the Virginia Department of Transportation (VDOT) has recommended one noise barrier in conjunction with the above captioned project and is requesting your approval.

The Noise Abatement Committee had originally met March 16, 2000 upon which three barriers were approved using \$16 per square foot for the cost effectiveness calculation. However, design changes necessitated a reevaluation of the project. The design changes were significant enough to reevaluate the project as a new project.

The Noise Abatement Committee voted on July 3, 2008 to consider the below sound barriers designed in conjunction with the aforementioned project. The following noise abatement recommendations are related to the construction of the Route 27/Route 244 interchange improvement project in Arlington, Virginia. The project extends from 0.03 miles north of I-395 to 0.29 miles north of Route 244, and includes modifying the existing interchange at Route 27 and Route 244.

The cost effectiveness calculation is based on an engineering estimate of \$45 per square foot for concrete sound barrier materials and installation. See Table 1 for the sound barrier summary.

Barrier 1 (Recommended)

Barrier 1 would be located along Ramp G, which connects Route 27 southbound with Route 244. The barrier provides mitigation for 22 impacted noise sensitive receptors in Westhampton Mews. The barrier was designed to be 804 feet in length and 12 to 20 feet in height, providing 5 to 13 dBA of noise reduction. The barrier would cost \$641,970, a cost of \$29,180 per protected and benefited property. This barrier has been determined to be feasible and reasonable; therefore the Noise Abatement Committee recommends construction the sound barrier.

Barrier 2 (Not Recommended)

Barrier 2 would be located along Ramp E, from Route 244 eastbound to Route 27 southbound. The barrier provides mitigation for two impacted noise sensitive receptors in Arlington View. The barrier was designed to be 203 feet in length and 12 to 15 feet in height, providing 5 to 7 dBA of noise reduction. The barrier would cost \$127,800, a cost of \$63,900 per protected and benefited property. Because this cost exceeds the cost effectiveness criteria, the Noise Abatement Committee does not recommend pursuing construction of the sound barrier.

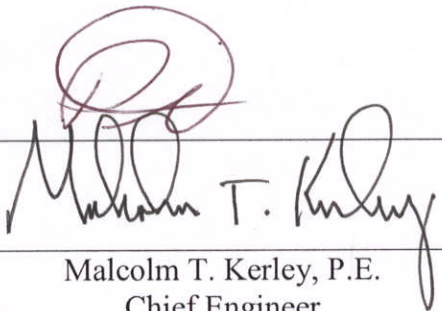
Barrier 3 (Not Recommended)

Barrier 3 would be located along Ramp E, from Route 244 eastbound to Route 27 southbound. The barrier provides mitigation for 2 noise sensitive receptors in Arlington View. The barrier was designed to be 346 feet in length and 14 to 18 feet in height, providing 5 to 7 dBA of noise reduction. The barrier would cost \$220,680, a cost of \$110,340 per protected and benefited property. Because this cost exceeds the cost effectiveness criteria, the Noise Abatement Committee does not recommend pursuing construction of the sound barrier.

These recommendations are submitted for your approval. Should you have any questions, please do not hesitate to contact me at (804) 371-6766.

Paul M. Kohler, Chair
Noise Abatement Committee

Approved



Malcolm T. Kerley, P.E.
Chief Engineer

Date

7/7/08

Table 1: Sound Barrier Summary

Barrier	Noise Sensitive Area	Barrier Location	Height (ft)	Length (ft)	Surface Area (sq ft)	Insertion Loss (dBA)	Total Number Impacts	Protected and Benefited	Total Cost * (\$45/sqft)	Cost per Receptor	Status
Barrier 1	1, Westhampton Mews	Ramp G	12 to 20	804	14,266	5 to 13	34	22	\$641,970	\$29,180	Recommend
			2	203	2,840	5 to 7	5	4	127,800	63,900	
Barrier 2/3	3, Arlington View	Route 244 EB, Ramp E	14 to 18	346	4,904	5 to 7			5	4	220,680
			System	549	7,744	5 to 7	\$348,480	\$87,120			