

OFFICE MEMORANDUM



MICHIGAN
DEPARTMENT OF STATE HIGHWAYS

March 8, 1973

To: S. F. Cryderman
Engineer of Transportation Planning

From: L. T. Oehler

Subject: Further Noise Predictions for I 696 EIS-II
Research Project 71 TI-40, Research Report No. R-851 (EV-22)

References:

1. "Noise Predictions for I 696 EIS," L. T. Oehler to S. F. Cryderman, December 8, 1972.
2. "Further Noise Predictions for I 696 EIS, Research Project 71 TI-40, Research Report No. R-841 (EV-20)," L. T. Oehler to S. F. Cryderman, December 26, 1972.

In response to a February 20, 1973 phone request from J. Raad to P. Milliman, we have computed the barrier heights needed to reduce the L_{10} values to 70 dbA for sites 3 through 13 inclusive for the years 1982 and 2000. The request specified use of 2-1/2 percent commercial, depressed roadway with concrete surface, and the a. m. -p. m. traffic peak data producing the higher no-barrier L_{10} values (Tables 3 and 4, ref 1). For sites having retaining walls, the barrier is an extension of this wall, while the other sites have the barrier placed at the cut distance. Other geometric and traffic data remained the same as in references 1 and 2.

The infinite length barrier option was assumed in the calculations.

A February 22, 1973 phone call from C. Carroll to P. Milliman requested calculation of the minimum barrier lengths for sites 3 through 13. This information (included in Table 1) was transmitted to C. Carroll by telephone on February 22, 1973.

TESTING AND RESEARCH DIVISION

L. T. Oehler

Engineer of Research

LTO:GHG:bf

cc: M. N. Clyde
C. J. Carroll
J. H. Raad
P. Milliman
L. E. DeFrain

TABLE 1
I 696 BARRIER CALCULATIONS

Site No.	Retaining Wall	Barrier Distance DB (=DC)	Barrier Height (H)		Minimum Length
			1982	2000	
3	no	50'	10'	12'	700'
4	yes	50'	9'	10'	1,300'
5	no	54'	11'	12'	800'
6	no	141'	7'	7'	1,600'
7	no	50'	11'	12'	1,300'
8	no	102'	7'	7'	1,400'
9	yes	70'	8'	9'	1,100'
10	yes	75'	8'	9'	5,800'
11	yes	95'	6'	8'	
12	yes	75'	10'	12'	1,000'
13	no	80'	8'	8'	900'