

APPENDIX H
Noise Modeling Data

RESULTS: SOUND LEVELS

Delta Shores

PBS&J
A. Campbell

20 November 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

RUN:

Existing No Project

BARRIER DESIGN:

INPUT HEIGHTS

ATMOSPHERICS:

68 deg F, 50% RH

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver		No Barrier						With Barrier				
Name	No.	#DUs	Existing LAeq1h dBA	Increase over existing		Type Impact	Noise Reduction		Calculated LAeq1h dBA	Calculated Goal dB	Calculated minus Goal dB	
				Calculated	Crit'n Sub'l Inc dB		Calculated	Goal				
Receiver1	1	1	0.0	65.8	0	65.8	0	Snd Lvl	65.8	0.0	0	0.0
Receiver2	2	1	0.0	72.8	0	72.8	0	Snd Lvl	72.8	0.0	0	0.0
Receiver3	3	1	0.0	57.6	0	57.6	0	Snd Lvl	57.6	0.0	0	0.0
Receiver4	4	1	0.0	60.3	0	60.3	0	Snd Lvl	60.3	0.0	0	0.0
Receiver5	5	1	0.0	66.7	0	66.7	0	Snd Lvl	66.7	0.0	0	0.0
Receiver6	6	1	0.0	71.7	0	71.7	0	Snd Lvl	71.7	0.0	0	0.0
Dwelling Units		# DUs	Noise Reduction									
			Min dB	Avg dB	Max dB							
All Selected		6	0.0	0.0	0.0							
All Impacted		6	0.0	0.0	0.0							
All that meet NR Goal		6	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

Delta Shores

PBS&J
A. Campbell

20 November 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:
RUN:
BARRIER DESIGN:
ATMOSPHERICS:

Delta Shores

Existing + Project

INPUT HEIGHTS

68 deg F, 50% RH

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h dBA	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB
				LAeq1h Calculated dBA	Crit'n dBA	Calculated dB	Crit'n Sub'l Inc dB		LAeq1h Calculated dBA	Noise Reduction Calculated dB	
Receiver1	1	1	0.0	66.4	0	66.4	0	Snd Lvl	66.4	0.0	0
Receiver2	2	1	0.0	73.3	0	73.3	0	Snd Lvl	73.3	0.0	0
Receiver3	3	1	0.0	58.1	0	58.1	0	Snd Lvl	58.1	0.0	0
Receiver4	4	1	0.0	63.0	0	63.0	0	Snd Lvl	63.0	0.0	0
Receiver5	5	1	0.0	67.4	0	67.4	0	Snd Lvl	67.4	0.0	0
Receiver6	6	1	0.0	72.1	0	72.1	0	Snd Lvl	72.1	0.0	0
Dwelling Units		# DUs	Noise Reduction								
			Min	Avg	Max						
			dB	dB	dB						
All Selected		6	0.0	0.0	0.0	0.0					
All Impacted		6	0.0	0.0	0.0	0.0					
All that meet NR Goal		6	0.0	0.0	0.0	0.0					

RESULTS: SOUND LEVELS

Delta Shores

PBS&J
A. Campbell

20 November 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Delta Shores
RUN: Cumulative No Project
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver		No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact		With Barrier		Calculated minus Goal dB				
LAEq1h				Calculated	Crit'n	dBA	Calculated	Crit'n	Sub'l Inc	dB	Type	Impact	Calculated LAeq1h		dB	Calculated	Goal	dB
dBA																		
Receiver1		1	1	0.0	69.7	0	69.7	0	Snd Lvl	0	69.7	0.0	0	0.0				
Receiver2		2	1	0.0	73.9	0	73.9	0	Snd Lvl	0	73.9	0.0	0	0.0				
Receiver3		3	1	0.0	61.8	0	61.8	0	Snd Lvl	0	61.8	0.0	0	0.0				
Receiver4		4	1	0.0	62.2	0	62.2	0	Snd Lvl	0	62.2	0.0	0	0.0				
Receiver5		5	1	0.0	68.9	0	68.9	0	Snd Lvl	0	68.9	0.0	0	0.0				
Receiver6		6	1	0.0	72.6	0	72.6	0	Snd Lvl	0	72.6	0.0	0	0.0				
Dwelling Units			# DUs	Noise Reduction														
				Min	Avg	Max												
				dB		dB												
All Selected			6	0.0	0.0	0.0	0.0											
All Impacted			6	0.0	0.0	0.0	0.0											
All that meet NR Goal			6	0.0	0.0	0.0	0.0											

RESULTS: SOUND LEVELS

Delta Shores

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RESULTS: SOUND LEVELS

PROJECT/CONTRACT:
RUN:
BARRIER DESIGN:
ATMOSPHERICS:

Delta Shores
Cumulative + Project
INPUT HEIGHTS
68 deg F, 50% RH
Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver		No.	#DUs	Existing		No Barrier		Increase over existing			With Barrier		Calculated minus Goal dB
Name	LAeq1h			LAeq1h	LAeq1h	Calculated	Crit'n	Calculated	Crit'n	Sub'l Inc	Type	Calculated LAeq1h	
	dB	dB	dB	dB	dB	dB	dB	dB			dB	dB	dB
Receiver1	1	1	0.0	70.0	0	70.0	0	Snd Lvl	70.0	0.0	0	0.0	
Receiver2	2	1	0.0	74.2	0	74.2	0	Snd Lvl	74.2	0.0	0	0.0	
Receiver3	3	1	0.0	62.0	0	62.0	0	Snd Lvl	62.0	0.0	0	0.0	
Receiver4	4	1	0.0	64.2	0	64.2	0	Snd Lvl	64.2	0.0	0	0.0	
Receiver5	5	1	0.0	69.5	0	69.5	0	Snd Lvl	69.5	0.0	0	0.0	
Receiver6	6	1	0.0	72.9	0	72.9	0	Snd Lvl	72.9	0.0	0	0.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
All Impacted		6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
All that meet NR Goal		6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

RESULTS: SOUND LEVELS

Delta Shores

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16 November 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

RUN:

I-5 West WITHOUT BARRIER

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver		No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction Calculated	Goal	Calculated minus Goal
Name	LAeq1h				LAeq1h Calculated	Crit'n	Calculated	Crit'n Sub'l Inc		LAeq1h Calculated	Goal			
Receiver1		21	1	0.0	79.9	66	79.9	10	Snd Lvl	79.9	0.0	8	-8.0	
Dwelling Units														
			# DUs	Noise Reduction										
				Min	Avg	Max								
				dB	dB	dB								
All Selected			1	0.0	0.0	0.0								
All Impacted			1	0.0	0.0	0.0								
All that meet NR Goal			0	0.0	0.0	0.0								

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RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

RUN:

I-5 West WITH 27' BARRIER

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		With Barrier		Type Impact	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
				LAeq1h Calculated	Crit'n	LAeq1h Calculated	Crit'n	LAeq1h Calculated	Crit'n				
Receiver1	21	1	0.0	59.8	66	59.8	10	---	59.8	0.0	8	-8.0	
Dwelling Units													
		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		1	0.0	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

Delta Shores

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RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Delta Shores
RUN: I-5 West WITH 15' BARRIER
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver		No.	#DUs	Existing		No Barrier		Increase over existing		Type		With Barrier		Calculated minus Goal dB
Name	L Aeq1h			L Aeq1h	L Aeq1h	Calculated	Crit'n	Calculated	Crit'n	Sub'l Inc	Impact	Calculated	Calculated	
	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
Receiver1		21	1	0.0	64.9	66	64.9	10	----	64.9	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction											
			Min	Avg	Max									
			dB	dB	dB									
All Selected		1	0.0	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0	0.0								

RESULTS: SOUND LEVELS

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RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

RUN:

I-5 East WITHOUT BARRIER

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver		Increase over existing										With Barrier		Noise Reduction	
Name	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction		Calculated minus Goal	dB	
				LAeq1h Calculated	Crit'n	Calculated	Crit'n Sub'l Inc		LAeq1h Calculated	dB	Calculated	dB			Calculated
Receiver25	25	1	0.0	78.7	66	78.7	10	Snd Lvl	78.7	0.0	8	-8.0			
Dwelling Units															
		# DUs	Noise Reduction												
			Min	Avg	Max										
			dB	dB	dB										
All Selected		1	0.0	0.0	0.0										
All Impacted		1	0.0	0.0	0.0										
All that meet NR Goal		0	0.0	0.0	0.0										

RESULTS: SOUND LEVELS

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RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

I-5 East WITH 25' BARRIER

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver		No.	#DUs	Existing		No Barrier		Increase over existing		With Barrier		Type Impact	Noise Reduction	Calculated Goal	Calculated minus Goal
Name	LAeq1h			LAeq1h	LAeq1h	Calculated	Crit'n	Calculated	Crit'n	Calculated	LAeq1h				
Receiver25		25	1	0.0	0.0	59.9	66	59.9	10	59.9	0.0	8	59.9	0.0	-8.0
Dwelling Units			# DUs	Noise Reduction											
				Min	Avg	Max									
				dB	dB	dB									
All Selected			1	0.0	0.0	0.0	0.0								
All Impacted			0	0.0	0.0	0.0	0.0								
All that meet NR Goal			0	0.0	0.0	0.0	0.0								

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RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Delta Shores
RUN: I-5 East WITH 15' BARRIER
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver		No Barrier		With Barrier		Noise Reduction						
Name	No.	#DUs	Existing LAeq1h	LAEq1h	Increase over existing	Type Impact	Calculated LAeq1h	Calculated Goal	Calculated minus Goal			
										Crit'n	Crit'n Sub'l Inc	Calculated
		No Barrier		With Barrier		Noise Reduction						
		LAEq1h		LAEq1h		Type Impact		Calculated Goal				
		dBA		dBA		dB		dB				
Receiver25	25	1	0.0	64.2	66	64.2	10	----	64.2	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		1	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NIR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

Delta Shores

PBS&J
A. Campbell

16 November 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

RUN:

I-5 West CUM WITHOUT BARRIER

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver		Increase over existing										Type Impact		With Barrier		Noise Reduction	
Name	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction		Calculated Goal	Calculated minus Goal			
				LAeq1h	Crit'n	Calculated	Crit'n		Calculated LAeq1h	Calculated Goal							
			dBA	dBA	dBA	dBA	dB	dB	dB	dBA	dB	dB	dB	dB			
Receiver1	21	1	0.0	82.1	66	82.1	10	Snd Lvl	82.1	0.0	8	-8.0					
Dwelling Units		# DUs	Noise Reduction		No Barrier		With Barrier		Noise Reduction		Goal		dB				
			Min	Avg	Max	dB	dB	dB	dB	dB	dB						
All Selected		1	0.0	0.0	0.0	0.0											
All Impacted		1	0.0	0.0	0.0	0.0											
All that meet NR Goal		0	0.0	0.0	0.0	0.0											

RESULTS: SOUND LEVELS

Delta Shores

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A. Campbell

16 November 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

RUN:

I-5 West CUM WITH 36' BARRIER

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		With Barrier		Type Impact	Noise Reduction		Calculated minus Goal
				LAeq1h	Crit'n	Calculated	Crit'n Sub'l Inc	Calculated LAeq1h	Calculated		Calculated	Goal	
			dBA	dBA	dBA	dBA	dB	dBA	dBA		dB	dB	dB
Receiver1	21	1	0.0	59.9	66	59.9	10	59.9	59.9	0.0	8	0.0	-8.0
Dwelling Units													
		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		1	0.0	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

Delta Shores

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A. Campbell

16 November 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Delta Shores

RUN:

I-5 East Cum WITHOUT BARRIER

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
				LAeq1h	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated LAeq1h	dB			
Receiver25	25	1	0.0	80.9	66	80.9	10	Snd Lvl	80.9	0.0	8	-8.0	
Dwelling Units													
		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		1	0.0	0.0	0.0	0.0							
All Impacted		1	0.0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

Delta Shores

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RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Delta Shores
RUN: I-5 East Cum WITH 33' BARRIER
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		With Barrier		Type Impact	Noise Reduction		Calculated minus Goal dB
			LAeq1h	dBA	LAeq1h	Crit'n	Calculated	Crit'n Sub'l Inc	Calculated	LAeq1h		Calculated	Goal	
Receiver25	25	1	0.0	66	59.9	66	59.9	10	----	59.9	0.0	8	-8.0	
Dwelling Units														
		# DUs	Noise Reduction		Noise Reduction									
			Min	Avg	Max									
			dB	dB	dB									
All Selected		1	0.0	0.0	0.0	0.0	0.0	0.0						
All Impacted		0	0.0	0.0	0.0	0.0	0.0	0.0						
All that meet NR Goal		0	0.0	0.0	0.0	0.0	0.0	0.0						