

*Appendix G*

# **Potential Noise and Vibration Impacts**



APPENDIX G TABLE G-1 Summary of Potential Noise Impacts							
Alternative	Connection Alternatives	Moderate Light Rail Impacts <sup>a,c</sup>	Severe Light Rail Impacts <sup>b,c</sup>	Traffic Noise Impacts	Proposed Mitigation	Project Noise without mitigation <sup>e</sup>	Residual Impacts (after mitigation)
<b>Segment B</b>							
<i>Preferred Alternative 112th SE Modified (B2M)</i>	to C11A, NE 108th At-Grade	12 multifamily units 50 single-family units	10 single-family units	None	Sound walls, insulation, low noise crossover	54 to 70	Potential for some exterior noise impacts at 6 multifamily units and 8 single-family units
	to C9T NE 110th Tunnel	12 multifamily units 50 single-family units	6 single-family units	None	Sound walls, low noise crossover	52 to 70	Potential for some exterior noise impacts at 6 multifamily units and 8 single-family units
Alternative B3 – 114th Extension Design Option	N/A	27 multifamily units 53 single-family units	1 single-family unit	20	Sound walls, low noise crossover	54 to 68	None
BNSF Alternative (B7)	N/A	101 multifamily units 12 single-family units	37 multifamily units	None	Sound walls, low noise crossover	55 to 73	None
<b>Segment C</b>							
<i>Preferred Alternative NE 108th At-Grade(C11A)</i>	B2M, 112th SE Modified	32 Hotel units 82 multifamily units 17 single-family units	36 hotel units 8 multifamily units 12 single-family units	None	Sound walls, insulation, low noise crossover	54 to 74	Exterior only; up to 72 multifamily units; most units have no outdoor use, so this number could be substantially less
	B3, 112th SE Bypass or B7, BNSF	82 multifamily units 7 single-family units	68 Hotel Units 8 multifamily units 4 single-family units	None	Sound walls, insulation, low noise crossover	54 to 74	Exterior only; up to 72 multifamily units; most units have no outdoor use, so this number could be substantially less

APPENDIX G TABLE G-1 Summary of Potential Noise Impacts							
Alternative	Connection Alternatives	Moderate Light Rail Impacts <sup>a, c</sup>	Severe Light Rail Impacts <sup>b, c</sup>	Traffic Noise Impacts	Proposed Mitigation	Project Noise without mitigation <sup>e</sup>	Residual Impacts (after mitigation)
Preferred Alternative 110th NE Tunnel (C9T)	B2M, 112th SE Modified	8 multifamily units 11 single-family units	36 hotel units 8 multifamily units 6 single-family units	None	Sound walls, insulation, low noise crossover	59 to 74	None
	B3, 112th SE Bypass or B7, BNSF	8 multifamily units	68 hotel units 8 multifamily units	None	Sound wall, insulation, low noise crossover	52 to 74	None
110th NE At-Grade Alternative (C9A)	B2A, 112th SE At-Grade	32 hotel units 58 multifamily units 9 single-family units	36 hotel units 53 multifamily units 7 single-family units	None	Sound walls, insulation, low noise crossover	56 to 76	Potential residual exterior noise impact due to crossover location and bells at one single-family unit and 61 multifamily units.
	B3, 112th SE Bypass or B7, BNSF	32 hotel units 32 multifamily units 4 single-family units	36 hotel Units 38 multifamily units 4 single-family units	None	Sound walls, insulation, low noise crossover	56 to 73	Potential residual exterior noise impact due to crossover location and bells at one single-family unit and 61 multifamily units.
114th NE Elevated Alternative (C14E)	B3, 112th SE Bypass or B7, BNSF	40 hotel units 8 multifamily units	32 hotel units 8 multifamily units	None	Sound walls, insulation, low noise crossover	60 to 71	None

<sup>a</sup> **Moderate Impact:** In this range of noise impact, the change in the cumulative noise level is noticeable to most people but may not be sufficient to cause strong, adverse reactions from the community.

<sup>b</sup> **Severe Impact:** Project-generated noise in the severe impact range can be expected to cause a substantial percentage of people to be highly annoyed by the new noise and represents the most compelling need for mitigation.

<sup>c</sup> SF = single family; MF = multifamily

<sup>e</sup> Light rail operational noise levels in  $L_{dn}$  without any mitigation measures predicted at the outside use at the properties. The  $L_{dn}$  is a 24 hour energy averaged noise level with a 10 dB penalty for nighttime noise between the hours of 10:00 pm and 7:00 am.

APPENDIX G TABLE G-2 Light Rail Noise Analysis for Mercer Slough Area						
Site <sup>1</sup>	Location	Dist to Tracks <sup>2</sup>	Existing L <sub>eq</sub> <sup>3</sup>	Project (LRT) L <sub>eq</sub> <sup>4</sup>	FTA Criteria (Cat 3) <sup>4</sup>	Noise Impacts <sup>5</sup>
Site M1	Boat Ramp	340	56	49	N/A <sup>8</sup>	N/A <sup>8</sup>
Site M2	Interior Trail	707	50	45	59	No
Site M3	Blueberry Farm	80	61	58	N/A <sup>8</sup>	N/A <sup>8</sup>
Site M4	Water Trail	1,225	58	40	63	No
Site M5	Bellefield Office Park	375	56	49	N/A <sup>8</sup>	N/A <sup>8</sup>
	<ol style="list-style-type: none"> <li>1. Monitoring sites shown on Exhibit G-8</li> <li>2. Distance from the tracks to monitoring/modeling site in feet</li> <li>3. Measured existing peak-hour L<sub>eq</sub></li> <li>4. Noise from light rail operations during hour with the most number of train pass-bys</li> <li>5. Locations identified with noise impacts</li> <li>6. Total noise level, adding the existing peak hour L<sub>eq</sub> with the light rail L<sub>eq</sub> for total future noise</li> <li>7. Change in noise levels, existing conditions versus future conditions with light rail operations</li> <li>8. There are no noise impact criteria for active park areas or commercial land uses.</li> </ol>					

APPENDIX G TABLE G-3 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 108th NE At-Grade (C11A)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	54	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	56	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	60	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	61	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	69	1	No	64	64	69	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No Impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No Impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No Impact	--

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No Impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No Impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	67	1	No	59	63	67	--	--	No Impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	67	1	No	60	63	67	--	--	No Impact	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	69	64	69	--	1	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	68	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	67	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	67	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	66	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	66	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	66	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	66	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	66	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	67	1	Yes	63	63	67	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St (SL)	67	3	No	63	63	67	3	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	70	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	No	63	64	69	--	--	No impact	--
Triangle north of SE 30th St.	69	1	No	61	64	69	--	--	No impact	--
Triangle north of SE 30th St.	69	1	No	66	64	69	1	--	Sound Wall on structure	--
Triangle north of SE 30th St.	69	1	Yes	70	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	68	64	69	1	--	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	No	67	64	69	1	--	Sound Wall on structure	--
Triangle north of SE 30th St.	69	1	Yes	70	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	No	66	64	69	1	--	Sound Wall on structure	--



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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Triangle north of SE 30th St.	69	1	Yes	69	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF near Station area	69	1	No	54	64	69	--	--	No impact	--
SF near Station area	69	1	No	57	64	69	--	--	No impact	--
SF near Station area	69	1	No	57	64	69	--	--	No impact	--
SF near Station area	69	1	No	58	64	69	--	--	No impact	--
SF near Station area	69	1	No	59	64	69	--	--	No impact	--
SF near Station area	69	1	No	58	64	69	--	--	No impact	--
SF near Station area	69	1	No	58	64	69	--	--	No impact	--
SF near Station area	69	1	No	61	64	69	--	--	No impact	--
SF near Station area	69	1	No	61	64	69	--	--	No impact	--
SF near Station area	69	1	No	62	64	69	--	--	No impact	--
SF near Station area	69	1	No	62	64	69	--	--	No impact	--
SF near Station area	69	1	No	63	64	69	--	--	No impact	--
SF near Station area	69	1	No	55	64	69	--	--	No impact	--
SF near Station area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF near transition to at-grade area	69	1	No	62	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	63	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	63	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	63	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	62	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	54	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	58	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	57	64	69	--	--	No impact	--

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF near transition to at-grade area	69	1	No	58	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	54	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	55	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impacts	--

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF north of "Y" at start of 112th Avenue SE	69	2	No	54	64	69	--	--	No impacts	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	59	64	69	--	--	No impacts	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impacts	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impacts	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impacts	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impacts	--
SF west side of 112th Ave SE	60	1	No	57	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	63	58	63	--	1	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--

APPENDIX G TABLE G-3 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 108th NE At-Grade (C11A)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	58	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	57	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	56	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	55	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	55	58	63	--	--	No impact	--
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	--
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	--
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF at Bellefield Park	64	1	No	62	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
MF at Bellefield Park	64	1	No	62	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
MF at Bellefield Park	63	1	No	58	60	65	--	--	No impact	--
MF at Bellefield Park	63	1	No	58	60	65	--	--	No impact	--
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	--
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	--
MF at Bellefield Park	63	2	No	60	60	65	2	--	Sound wall on west side of tracks	--
MF at Bellefield Park	63	2	No	60	60	65	2	--	Sound wall on west side of track	--
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	--
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	--
SF west of 112th Ave, South of SDP	64	1	No	62	61	66	1	--	Sound wall	--

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west of 112th Ave, South of SDP	64	1	No	59	61	66	--	--	No impact	--
SF west of 112th Ave, South of SDP	66	1	No	62	62	67	1	--	Sound wall on west side of tracks	--
SF west of 112th Ave, South of SDP	66	1	No	63	62	67	1	--	Sound wall on west side of tracks	--
SF west of 112th Ave, South of SDP	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	--
SF west of 112th Ave, South of SDP	64	1	No	63	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required.	1
SF west of 112th Ave, South of SDP	65	1	No	67	61	66	--	1	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	66	61	66	--	1	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	66	61	66	--	1	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	66	61	66	--	1	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	64	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	63	61	66	1	--	Sound wall on west side of tracks. Sound insulation, if required.	1

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Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west of 112th Ave, South of SDP	66	1	No	62	62	67	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	58	61	66	--	--	No impacts	--

<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.



APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	54	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	56	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	60	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	61	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	69	1	No	64	64	69	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No impact	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	65	1	No	59	61	66	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	67	1	No	59	63	67	--	--	No impact	--
SF-SE 34th St. 109th Ave to 112th Ave (SL)	67	1	No	60	63	67	--	--	No impact	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	69	64	69	--	1	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	68	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	67	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	67	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	66	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	No	66	64	69	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	66	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	66	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	66	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St	67	1	No	64	63	67	1	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	67	1	Yes	63	63	67	1	--	Sound Wall on structure, and special trackwork	--
SF SE 34th St, 113th Ave to SE 30th St (SL)	67	3	No	63	63	67	3	--	Sound Wall on structure	--
SF SE 34th St, 113th Ave to SE 30th St	69	1	Yes	70	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	No	63	64	69	--	--	No impact	--
Triangle north of SE 30th St.	69	1	No	61	64	69	--	--	No impact	--
Triangle north of SE 30th St.	69	1	No	66	64	69	1	--	Sound Wall on structure	--
Triangle north of SE 30th St.	69	1	Yes	70	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	68	64	69	1	--	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	No	67	64	69	1	--	Sound Wall on structure	--
Triangle north of SE 30th St.	69	1	Yes	70	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	No	66	64	69	1	--	Sound Wall on structure	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Triangle north of SE 30th St.	69	1	Yes	69	64	69	--	1	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
Triangle north of SE 30th St.	69	1	Yes	67	64	69	1	--	Sound Wall on structure, and special trackwork	--
SF near Station area	69	1	No	54	64	69	--	--	No impact	--
SF near Station area	69	1	No	57	64	69	--	--	No impact	--
SF near Station area	69	1	No	57	64	69	--	--	No impact	--
SF near Station area	69	1	No	58	64	69	--	--	No impact	--
SF near Station area	69	1	No	59	64	69	--	--	No impact	--
SF near Station area	69	1	No	58	64	69	--	--	No impact	--
SF near Station area	69	0	No	60	64	69	--	--	No impact	--
SF near Station area	69	1	No	58	64	69	--	--	No impact	--
SF near Station area	69	1	No	61	64	69	--	--	No impact	--
SF near Station area	69	1	No	61	64	69	--	--	No impact	--
SF near Station area	69	1	No	62	64	69	--	--	No impact	--
SF near Station area	69	1	No	62	64	69	--	--	No impact	--
SF near Station area	69	1	No	63	64	69	--	--	No impact	--
SF near Station area	69	1	No	55	64	69	--	--	No impact	--
SF near Station area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF near transition to at-grade area	69	1	No	65	64	69	1	--	Sound Wall on structure	--
SF near transition to at-grade area	69	1	No	62	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	63	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	63	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	63	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	62	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	56	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	54	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	58	64	69	--	--	No impact	--
SF near transition to at-grade area	69	1	No	57	64	69	--	--	No impact	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF near transition to at-grade area	69	1	No	58	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	54	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	57	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	55	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impact	--
SF transition to below-grade area	69	1	No	56	64	69	--	--	No impact	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF north of "Y" at start of 112th Avenue SE	69	2	No	54	64	69	--	--	No impact	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	59	64	69	--	--	No impact	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impact	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impact	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impact	--
MF north of "Y" at start of 112th Avenue SE	69	2	No	60	64	69	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	57	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	63	58	63	--	1	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west side of 112th Ave SE	60	1	No	62	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	59	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	58	58	63	1	--	Sound wall on west side of tracks	--
SF west side of 112th Ave SE	60	1	No	57	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	56	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	55	58	63	--	--	No impact	--
SF west side of 112th Ave SE	60	1	No	55	58	63	--	--	No impact	--
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	1
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	1
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	--
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	--
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--
MF at Bellefield Park	64	1	No	62	61	66	1	--	Sound wall on west side of tracks	1
MF at Bellefield Park	64	1	No	62	61	66	1	--	Sound wall on west side of tracks	1



APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF at Bellefield Park	63	1	No	58	60	65	--	--	No impact	
MF at Bellefield Park	63	1	No	58	60	65	--	--	No impact	--
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	1
MF at Bellefield Park	64	1	No	61	61	66	1	--	Sound wall on west side of tracks	1
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--
MF at Bellefield Park	63	1	No	59	60	65	--	--	No impact	--
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	--
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	
MF at Bellefield Park	63	2	No	60	60	65	2	--	Sound wall on west side of tracks	
MF at Bellefield Park	63	2	No	60	60	65	2	--	Sound wall on west side of tracks	
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	
MF at Bellefield Park	62	1	No	58	59	64	--	--	No impact	
SF west of 112th Ave, South of SDP	64	1	No	62	65	75	--	--	No impact	--
SF west of 112th Ave, South of SDP	64	1	No	59	65	75	--	--	No impact	--
SF west of 112th Ave, South of SDP	66	1	No	62	65	75	--	--	No impact	--
SF west of 112th Ave, South of SDP	66	1	No	63	65	75	--	--	No impact	--
SF west of 112th Ave, South of SDP	64	1	No	61	65	75	--	--	No impact	--

APPENDIX G TABLE G-4 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 112th SE Modified (B2M) to Preferred Alternative 110th NE Tunnel (C9T)</i>										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west of 112th Ave, South of SDP	64	1	No	65	65	75	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	66	65	75	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	66	65	75	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	66	65	75	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	65	65	75	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	65	65	75	1	--	Sound wall on west side of tracks. Sound insulation, if required	1
SF west of 112th Ave, South of SDP	65	1	No	65	65	75	1	--	Sound wall on west side of tracks	1
SF west of 112th Ave, South of SDP	66	1	No	65	65	75	1	--	Sound wall on west side of tracks	1
SF west of 112th Ave, South of SDP	65	1	No	62	65	75	--	--	No impacts	--

<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	67	1	No	54	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	56	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	60	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	61	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	64	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	64	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	64	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	64	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	64	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	64	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	65	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	65	1	No	59	61	66	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	65	1	No	59	61	66	--	--	No impact	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	65	1	No	59	61	66	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	65	1	No	59	61	66	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	65	1	No	59	61	66	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	59	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	60	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	65	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	65	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	64	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	64	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	64	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	64	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	Yes	65	64	69	1	--	Sound Wall, and special trackwork	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	69	1	Yes	67	64	69	1	--	Sound Wall, and special trackwork	--
SF I-90 to Bell Wy @ 112th	69	1	Yes	71	64	69	--	1	Sound Wall, Special Trackwork	--
SF I-90 to Bell Wy @ 112th	69	1	No	63	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	57	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	58	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	58	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	58	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	60	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	Yes	67	64	69	1	--	Sound Wall, and special trackwork	--
SF I-90 to Bell Wy @ 112th	69	1	No	62	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	56	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	56	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	Yes	68	64	69	1	--	Sound Wall, and special trackwork	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	69	1	No	61	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	58	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	Yes	67	64	69	1	--	Sound Wall, and special trackwork	--
SF I-90 to Bell Wy @ 112th	69	1	No	60	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	57	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	Yes	67	64	69	1	--	Sound Wall and special trackwork	--
SF I-90 to Bell Wy @ 112th	69	1	No	60	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	61	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	0	No	60	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	55	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	57	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	57	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	60	64	69	--	--	No impact	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	69	1	No	61	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	60	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	61	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	60	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	63	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	62	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	63	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	65	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	65	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	66	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	66	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	56	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	55	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	57	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	57	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	58	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	60	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	57	64	69	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	68	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	61	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	61	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--



APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	62	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	61	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	61	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	67	1	No	62	63	67	--	--	No impact	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	63	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF I-90 to Bell Wy @ 112th	67	1	No	63	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	65	63	67	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	66	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	69	1	No	67	64	69	1	--	Sound Wall	--
SF I-90 to Bell Wy @ 112th	67	1	No	62	63	67	--	--	No impact	--
Apts @ 112th "Y"	69	2	No	65	64	69	2	--	Sound Wall	--
Apts @ 112th "Y"	69	2	No	65	64	69	2	--	Sound Wall	--
Apts @ 112th "Y"	69	2	No	65	64	69	2	--	Sound Wall	--
Apts @ 112th "Y"	69	2	No	61	64	69	--	--	No impact	--
Apts @ 112th "Y"	69	2	No	60	64	69	--	--	No impact	--
Apts @ 112th "Y"	69	2	No	60	64	69	--	--	No impact	--
Apts @ 112th "Y"	69	4	No	61	64	69	--	--	No impact	--
SF north of "Y"	60	1	No	55	58	63	--	--	No impact	--
SF north of "Y"	60	1	No	59	58	63	1	--	Sound Wall	--
SF north of "Y"	60	1	No	59	58	63	1	--	Sound Wall	--
SF north of "Y"	60	1	No	59	58	63	1	--	Sound Wall	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF north of "Y"	60	1	No	59	58	63	1	--	Sound Wall	--
SF north of "Y"	60	1	No	59	58	63	1	--	Sound Wall	--
SF north of "Y"	60	1	No	54	58	63	--	--	No impact	--
SF north of "Y"	60	1	No	56	58	63	--	--	No impact	--
SF north of "Y"	60	1	No	58	58	63	1	--	Sound Wall	--
SF north of "Y"	60	1	No	54	58	63	--	--	No impact	--
SF north of "Y"	60	1	No	57	58	63	--	--	No impact	--
SF north of "Y"	60	1	No	58	58	63	1	--	Sound Wall	--
SF north of "Y"	60	1	No	55	58	63	--	--	No impact	--
SF north of "Y"	60	1	No	54	58	63	--	--	No impact	--
Bellefield MF Units	64	1	No	65	61	66	1	--	Sound Wall, sound insulation, if required	--
Bellefield MF Units	64	1	No	65	61	66	1	--	Sound Wall	--
Bellefield MF Units	64	1	No	65	61	66	1	--	Sound Wall	--
Bellefield MF Units	64	1	No	65	61	66	1	--	Sound Wall	--
Bellefield MF Units	63	1	No	62	60	65	1	--	Sound Wall	--
Bellefield MF Units	63	1	No	62	60	65	1	--	Sound Wall	--
Bellefield MF Units	64	1	No	65	61	66	1	--	Sound Wall	--
Bellefield MF Units	64	1	No	65	61	66	1	--	Sound Wall	--
Bellefield MF Units	63	1	No	61	60	65	1	--	Sound Wall	--
Bellefield MF Units	63	1	No	61	60	65	1	--	Sound Wall	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Bellefield MF Units	64	1	No	64	61	66	1	--	Sound Wall, sound insulation if required	--
Bellefield MF Units	64	1	No	64	61	66	1	--	Sound Wall, sound insulation if required	--
Bellefield MF Units	63	1	No	63	60	65	1	--	Sound Wall, sound insulation if required	--
Bellefield MF Units	63	1	No	63	60	65	1	--	Sound Wall, sound insulation if required	--
Bellefield MF Units	62	1	No	62	59	64	1	--	Sound Wall	--
Bellefield MF Units	62	1	No	62	59	64	1	--	Sound Wall	--
Bellefield MF Units	63	2	No	63	60	65	2	--	Sound Wall	--
Bellefield MF Units	63	2	No	63	60	65	2	--	Sound Wall	--
Bellefield MF Units	62	1	No	62	59	64	1	--	Sound Wall	--
SF south of Surrey Downs Pk	64	1	No	63	61	66	1	--	Sound Wall	--
SF south of Surrey Downs Pk	64	1	No	58	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	66	1	No	63	62	67	1	--	Sound Wall	--
SF south of Surrey Downs Pk	66	1	No	61	62	67	--	--	No Impact	--
SF south of Surrey Downs Pk	64	1	No	57	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	64	1	No	59	61	66	--	--	No Impact	--

APPENDIX G TABLE G-5 Details of Noise Impacts and Mitigation for B3 114th Extension Design Option										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF south of Surrey Downs Pk	65	1	No	59	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	65	1	No	58	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	65	1	No	59	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	65	1	No	58	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	65	1	No	58	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	65	1	No	57	61	66	--	--	No Impact	--
SF south of Surrey Downs Pk	65	1	No	57	61	66	--	--	No Impact	--
Residence Inn Hotel	70	24	No	62	65	69	--	--	No Impact	--
Residence Inn Hotel	70	24	No	63	65	69	--	--	No Impact	--
Residence Inn Hotel	70	48	No	62	65	69	--	--	No Impact	--
Residence Inn Hotel	70	48	No	62	65	69	--	--	No Impact	--
Residence Inn Hotel	70	24	No	60	65	69	--	--	No Impact	--

<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.

APPENDIX G TABLE G-6 Details of Noise Impacts and Mitigation for the BNSF Alternative (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SE 34th St at 108th Ave SE	67	2	No	66	63	67	2	--	Sound wall along the elevated structure	--
SE 34th St at 109th Ave SE	67	2	No	66	63	67	2	--		--
SE 34th St at 110th - 111th Ave SE	67	3	No	65	63	67	3	--		--
SE 34th at 113th Ave SE	67	2	No	64	63	67	2	--		--
SE 34th at 113th Ave SE	69	2	No	64	64	69	2	--		--
113th Ave SE	69	1	No	64	64	69	1	--		--
113th Ave SE	69	1	No	62	64	69	--	--	No Impact	--
Apartment Complex	64	10	No	59	61	66	--	--	No Impact	--
	64	12	Yes	66	61	66	--	12	Sound wall at-grade with Special trackwork	--
	64	12	Yes	63	61	66	12	--	Sound wall at-grade with Special trackwork	--
	64	12	No	58	61	66	--	--	No Impact	--
Apartment Complex	64	8	No	56	61	66	--	--	No Impact	--
New Building	64	4	No	55	61	66	--	--	No impact	--

APPENDIX G TABLE G-6 Details of Noise Impacts and Mitigation for the BNSF Alternative (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Southern area	64	24	No	65	61	66	24	--	Sound wall at grade	--
Central	64	24	No	62	61	66	24	--		--
Northern area near tracks	64	16	No	66	61	66	--	16		--
Northern three buildings	64	20	No	63	61	66	20	--		--
Multifamily units in the northern end of alignment	62	12	No	63	59	64	12	--		--
	62	9	No	64	59	64	--	9		--
	62	6	No	60	59	64	6	--	--	
	62	3	No	60	59	64	3	--	--	
	62	3	No	57	59	64	--	--	No impacts due to WSDOT sound wall	--
	62	3	No	57	59	64	--	--	No impacts due to WSDOT sound wall	--

<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.

APPENDIX G TABLE G-7 Details of Noise Impacts and Mitigation for Preferred Alternative 108th NE At-Grade (C11A) from Preferred Alternative 112th SE Bypass (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF SE 4th to Main on 111th Ave	67	1	No	59	63	67	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	67	1	Yes	64	63	67	1	--	Sound walls along the west side of the alignment, special trackwork	--
SF SE 4th to Main on 111th Ave	67	1	Yes	63	63	67	1	--		--
SF SE 4th to Main on 111th Ave	67	1	Yes	63	63	67	1	--		--
SF SE 4th to Main on 111th Ave	64	1	Yes	66	61	66	--	1		--
SF SE 4th to Main on 111th Ave	64	1	Yes	69	61	66	--	1		--
SF SE 4th to Main on 111th Ave	64	1	Yes	69	61	66	--	1		--
SF SE 4th to Main on 111th Ave	64	1	Yes	69	61	66	--	1		--
SF SE 4th to Main on 111th Ave	64	1	Yes	68	61	66	--	1		--
SF SE 4th to Main on 111th Ave	64	1	Yes	66	61	66	--	1	Overlap of two sound walls, and special trackwork	--
SF SE 4th to Main on 111th Ave	64	1	No	67	61	66	--	1	Overlap of two sound walls	--
SF SE 4th to Main on 111th Ave	64	1	No	67	61	66	1	--	Sound wall along retained fill/elevated	--
SF SE 4th to Main on 111th Ave	64	1	No	64	61	66	--	1	Sound wall along retained fill/elevated	--



APPENDIX G TABLE G-7 Details of Noise Impacts and Mitigation for Preferred Alternative 108th NE At-Grade (C11A) from Preferred Alternative 112th SE Bypass (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF SE 4th to Main on 111th Ave	64	1	No	64	61	66	1	--	Sound wall along retained fill/elevated	--
SF SE 4th to Main on 111th Ave	64	1	No	64	61	66	1	--	Sound wall along retained fill/elevated	--
SF SE 4th to Main on 111th Ave	64	1	No	64	61	66	1	--	Sound wall along retained fill/elevated	--
SF SE 4th to Main on 111th Ave	64	1	No	64	61	66	1	--	Sound wall along retained fill/elevated	--
SF SE 4th to Main on 111th Ave	66	1	No	64	62	67	1	--	Sound wall along retained fill/elevated	--
SF SE 4th to Main on 111th Ave	69	1	No	68	64	69	1	--	Sound wall along retained fill/elevated	--
SF SE 4th to Main on 111th Ave	64	1	No	59	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	59	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--

APPENDIX G TABLE G-7 Details of Noise Impacts and Mitigation for Preferred Alternative 108th NE At-Grade (C11A) from Preferred Alternative 112th SE Bypass (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	62	1	No	59	59	64	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	62	1	No	66	59	64	--	1	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	59	58	63	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	55	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	64	59	64	--	1	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	59	58	63	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	54	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	63	59	64	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	58	58	63	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	54	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	65	59	64	--	1	Sound wall along the tracks	--

APPENDIX G TABLE G-7 Details of Noise Impacts and Mitigation for Preferred Alternative 108th NE At-Grade (C11A) from Preferred Alternative 112th SE Bypass (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF south of Main, west of 111th Ave	59	1	No	55	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	64	59	64	--	1	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	55	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	61	59	64	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	59	58	63	1	--	Sound wall along the tracks	--
MF units on 108th, south of Main	59	2	No	58	58	63	2	--	Sound wall along the tracks	--
MF units on 108th, north of Main	66	12	No	65	62	67	12	--	Sound insulation, if required, - residual exterior noise impacts only at units with decks	12
MF units on 108th, north of Main	66	16	No	66	62	67	16	--		16
MF units on 108th, north of Main	66	20	No	65	62	67	20	--		20
New MF units at 110th Ave/6th St NE	68	24	No	64	63	68	24	--		24
Coast Hotel	71	36	Yes	74	66	70	--	36	Sound wall eastside of tracks and special trackwork	--

APPENDIX G TABLE G-7 Details of Noise Impacts and Mitigation for Preferred Alternative 108th NE At-Grade (C11A) from Preferred Alternative 112th SE Bypass (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Lake Bellevue Condos	60	8	Yes	63	58	63	--	8	Sound wall eastside of tracks and special trackwork	--
	60	4	Yes	61	58	63	4	--	Sound wall eastside of tracks and special trackwork	--
	60	4	Yes	61	58	63	4	--	Sound wall eastside of tracks and special trackwork	--
Bellevue Club	68	8	Yes	67	63	68	8	--	Sound wall eastside of tracks and special trackwork	--
Bellevue Club	68	8	Yes	67	63	68	8	--	Sound wall eastside of tracks and special trackwork	--
Bellevue Club	68	8	Yes	67	63	68	8	--	Sound wall eastside of tracks and special trackwork	--
Bellevue Club	68	8	Yes	67	63	68	8	--	Sound wall eastside of tracks and special trackwork	--
Outdoor use (FTA Cat 3 peak hour)	64 dBA Leq	1	No	59 dBA Leq	66 dBA Leq	70 dBA Leq	--	--	No impact	--
Hilton Hotel	70	60	No	59	65	69	--	--	No impact	--
	70	72	No	58	65	69	--	--	No impact	--

<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.

APPENDIX G TABLE G-8 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 108th NE At-Grade (C11A)</i> from 112 <sup>th</sup> SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Hilton Hotel	71	32	No	74	66	70	--	32	Sound wall along the tracks	--
Hilton Pool <sup>2</sup>	69 dBA Leq	1	No	58 dBA Leq	65 dBA Leq	69 dBA Leq	--	--	No impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No Impact	--
SF SE 4th to Main on 111th Ave	64	1	No	60	61	66	--	--	No impact	--
SF SE 4th to Main on 111th Ave	62	1	No	59	59	64	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	62	1	No	66	59	64	--	1	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	59	58	63	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	55	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	64	59	64	--	1	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	59	58	63	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	54	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	63	59	64	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	58	58	63	1	--	Sound wall along the tracks	--
SF south of Main,	59	1	No	54	58	63	--	--	No Impact	--

APPENDIX G TABLE G-8 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 108th NE At-Grade (C11A)</i> from 112 <sup>th</sup> SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
west of 111th Ave										
SF south of Main, west of 111th Ave	62	1	No	65	59	64	--	1	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	55	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	64	59	64	--	1	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	55	58	63	--	--	No Impact	--
SF south of Main, west of 111th Ave	62	1	No	61	59	64	1	--	Sound wall along the tracks	--
SF south of Main, west of 111th Ave	59	1	No	59	58	63	1	--	Sound wall along the tracks	--
MF units on 108th, south of Main	59	2	No	58	58	63	2	--	Sound wall along the tracks	--
MF units on 108th, north of Main	66	12	No	65	62	67	12	--	Sound insulation, if required, - residual exterior noise impacts only at units with decks	12
MF units on 108th, north of Main	66	16	No	66	62	67	16	--		16
MF units on 108th, north of Main	66	20	No	65	62	67	20	--		20
New MF units at 110th Ave/6th St NE	68	24	No	64	63	68	24	--		24
Coast Hotel	71	36	Yes	74	66	70	--	36	Sound wall along the eastside of the tracks and special trackwork	--

APPENDIX G TABLE G-8 Details of Noise Impacts and Mitigation for <i>Preferred Alternative 108th NE At-Grade (C11A)</i> from 112 <sup>th</sup> SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Lake Bellevue Condos	60	8	Yes <sup>3</sup>	63	58	63	--	8	Sound wall along the eastside of tracks, and special trackwork	--
	60	4	Yes <sup>3</sup>	61	58	63	4	--	Sound wall along the eastside of tracks, and special trackwork	--
	60	4	Yes <sup>3</sup>	61	58	63	4	--	Sound wall along the eastside of tracks, and special trackwork	--
<p><sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.</p> <p><sup>2</sup> Pools and other outdoor use evaluated with peak hour noise levels.</p> <p><sup>3</sup> Crossover location is located in Segment D and associated with the potential maintenance facilities next to the BNSF corridor and potential storage track within the BNSF Corridor. If the maintenance facility is not located in this location the crossover may not be required.</p>										

APPENDIX G TABLE G-9 Details of Noise Impacts and Mitigation for Preferred Alternative 110th NE Tunnel (C9T) from Preferred Alternative 112th SE Modified (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west side of 112th Ave SE	67	1	No	61	63	67	--	--	No Impact	--
SF west side of 112th Ave SE	67	1	No	66	63	67	1	--	Sound wall	--
SF west side of 112th Ave SE	67	1	No	61	63	67	--	--	No Impact	--
SF west side of 112th Ave SE	67	1	No	66	63	67	1	--	Sound wall	--
SF west side of 112th Ave SE	64	1	No	62	61	66	1	--	Sound wall	--
SF west side of 112th Ave SE	64	1	No	62	61	66	1	--	Sound wall	--
SF west side of 112th Ave SE	64	1	No	63	61	66	1	--	Sound wall	--
SF west side of 112th Ave SE	64	1	No	63	61	66	1	--	Sound wall	--
SF west side of 112th Ave SE	64	1	No	63	61	66	1	--	Sound wall	--
SF west side of 112th Ave SE	64	1	Yes	64	61	66	1	--	Sound walls and special trackwork	--
SF west side of 112th Ave SE	64	1	Yes	66	61	66	--	1	Sound walls and special trackwork	--
SF west side of 112th Ave SE	64	1	Yes	68	61	66	--	1	Sound walls and special trackwork	--
SF west side of 112th Ave SE	64	1	Yes	67	61	66	--	1	Sound walls and special trackwork	--
SF west side of 112th Ave SE	64	1	Yes	67	61	66	--	1	Sound walls and special trackwork	--



APPENDIX G TABLE G-9 Details of Noise Impacts and Mitigation for Preferred Alternative 110th NE Tunnel (C9T) from Preferred Alternative 112th SE Modified (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west side of 112th Ave SE	64	1	Yes	67	61	66	--	1	Sound walls and special trackwork	--
SF west side of 112th Ave SE	64	1	Yes	66	61	66	--	1	Sound walls and special trackwork	--
SF west side of 112th Ave SE	64	1	Yes	64	61	66	1	--	Sound walls and special trackwork	--
SF west side of 112th Ave SE	66	1	No	62	62	67	1	--	Sound walls	--
SF west side of 112th Ave SE	69	1	No	64	64	69	1	--	Sound wall	--
SF west side of 111th Ave SE	64	1	No	52	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	52	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	53	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	53	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	53	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	53	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	54	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	53	61	66	--	--	No impact	--

APPENDIX G TABLE G-9 Details of Noise Impacts and Mitigation for Preferred Alternative 110th NE Tunnel (C9T) from Preferred Alternative 112th SE Modified (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF west side of 111th Ave SE	64	1	No	53	61	66	--	--	No impact	--
SF west side of 111th Ave SE	64	1	No	53	61	66	--	--	No impact	--
SF west side of 111th Ave SE	62	1	No	54	59	64	--	--	No Impacts	--
Bellevue Club hotel	68	8	No	61	63	68	--	--	No Impacts	--
Bellevue Club hotel	68	8	No	61	63	68	--	--	No Impacts	--
Bellevue Club hotel	68	8	No	61	63	68	--	--	No Impacts	--
Bellevue Club hotel	68	8	No	61	63	68	--	--	No Impacts	--
Bellevue Club Pool <sup>2</sup>	64 dBA Leq	1	No	57 dBA Leq	66 dBA Leq	70 dBA Leq	--	--	No impacts	--
SFs south of Main	62	1	No	54	59	64	--	--	No Impacts	--
SFs south of Main	59	1	No	54	58	63	--	--	No Impacts	--
SFs south of Main	59	1	No	52	58	63	--	--	No Impacts	--
Coast Hotel	71	36	Yes	74	66	70	--	36	Sound walls and special trackwork	--
Lake Bellevue Condos	58	8	Yes <sup>3</sup>	63	57	62	--	8	Sound walls and special trackwork	--
	58	4	Yes <sup>3</sup>	61	57	62	4	--		--
	58	4	Yes <sup>3</sup>	61	57	62	4	--		--

APPENDIX G TABLE G-9 Details of Noise Impacts and Mitigation for Preferred Alternative 110th NE Tunnel (C9T) from Preferred Alternative 112th SE Modified (B2M)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
<p><sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.</p> <p><sup>2</sup> Pools and other outdoor use evaluated with peak hour noise levels.</p> <p><sup>3</sup> Crossover location is located in Segment D and associated with the potential maintenance facilities next to the BNSF corridor and potential storage track within the BNSF Corridor. If the maintenance facility is not located in this location the crossover may not be required.</p>										

APPENDIX G TABLE G-10 Details of Noise Impacts and Mitigation for Preferred Alternative 110th NE Tunnel (C9T) from 112 <sup>th</sup> SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Hilton Hotel	71	32	No	74	66	70	--	32	Sound Walls	--
Hilton Pool <sup>2</sup>	69 dBA Leq	1	No	58 dBA Leq	65 dBA Leq	69 dBA Leq	--	--	No impact	--
SF west side of 111th Ave SE	62	1	No	54	59	64	--	--	No Impacts	--
SFs south of Main	62	1	No	54	59	64	--	--	No Impacts	--
SFs south of Main	59	1	No	54	58	63	--	--	No Impacts	--
SFs south of Main	59	1	No	52	58	63	--	--	No Impacts	--
Coast Hotel	71	36	Yes	74	66	70	--	36	Sound walls and special trackwork	--
Lake Bellevue Condos	58	8	Yes <sup>3</sup>	63	57	62	--	8	Sound walls and special trackwork	--
	58	4	Yes <sup>3</sup>	61	57	62	4	--		--
	58	4	Yes <sup>3</sup>	61	57	62	4	--		--

<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.

<sup>2</sup> Pools and other outdoor use evaluated with peak hour noise levels.

<sup>3</sup> Crossover location is located in Segment D and associated with the potential maintenance facilities next to the BNSF corridor and potential storage track within the BNSF Corridor. If the maintenance facility is not located in this location the crossover may not be required.

APPENDIX G TABLE 11 Details of Noise Impacts and Mitigation for the 110th NE At-Grade (C9A) from SE At-Grade (B2A)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF units on 112th Ave SE near 4th	69	1	Yes	76	63	67	--	1	Sound walls and special trackwork	1
SF units on 112th Ave SE near 4th	67	1	Yes	67	63	67	--	1	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	64	1	Yes	63	61	66	1	--	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	69	1	Yes	71	63	67	--	1	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	69	1	Yes	66	63	67	1	--	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	67	1	No	62	63	68	--	--	No Impacts	--
SF units on 112th Ave SE near 4th	64	1	Yes	63	61	66	1	--	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	64	1	No	63	61	66	1	--	Sound Walls	--
SF units on 112th Ave SE near 4th	64	1	No	64	61	66	1	--	Sound Walls	--
MF units along 112th, west side	69	2	Yes	69	61	66	--	2	Sound walls and special trackwork	--
MF units along 112th, west side	69	1	Yes	68	61	66	--	1	Sound walls and special trackwork	--
MF units along 112th, west side	69	2	Yes	69	61	66	--	2	Sound walls and special trackwork	--
MF units along 112th, west side	69	1	Yes	70	61	66	--	1	Sound walls and special trackwork	--
MF units along 112th, west side	69	2	No	72	61	66	--	2	Sound walls	2

APPENDIX G TABLE 11 Details of Noise Impacts and Mitigation for the 110th NE At-Grade (C9A) from SE At-Grade (B2A)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF units along 112th, west side	69	1	No	71	61	66	--	1	Sound walls	--
MF units along 112th, west side	69	2	No	71	61	66	--	2	Sound Walls	2
MF units along 112th, west side	69	1	No	71	61	66	--	1	Sound Walls	1
MF units along 112th, west side	69	2	No	70	61	66	--	2	Sound Walls	2
MF units along 112th, west side	69	1	No	68	61	66	--	1	Sound Walls	--
MF units along 112th, west side	69	2	No	66	62	67	2	--	Sound Walls	--
MF units along 112th, west side	69	1	No	64	64	69	1	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	1	No	62	61	66	1	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	1	No	62	61	66	1	--	Sound Walls	--
MF units along 112th, west side	69	3	No	62	61	66	3	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--

APPENDIX G TABLE 11 Details of Noise Impacts and Mitigation for the 110th NE At-Grade (C9A) from SE At-Grade (B2A)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF units along 112th, west side	69	2	No	63	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	59	59	64	2	--	Sound Walls	--
SF units on 112 <sup>th</sup> Ave SE near Main	66	1	No	56	62	67	--	--	No impact	--
SF units on 112 <sup>th</sup> Ave SE near Main	69	1	No	59	64	69	--	--	No impact	--
SF units on 112 <sup>th</sup> Ave SE near Main	69	1	No	59	64	69	--	--	No impact	--
SF south of Main ST	62	1	No	59	59	64	1	--	Sound Walls	--
SF south of Main ST	62	1	No	67	59	64	--	1	Sound Walls	--
SF south of Main ST	59	1	No	63	58	63	--	1	Sound Walls	--
SF south of Main ST	59	1	No	58	58	63	1	--	Sound Walls	--
SF south of Main ST	62	1	No	65	59	64	--	1	Sound Walls	--
SF south of Main ST	59	1	No	60	58	63	1	--	Sound Walls	--

APPENDIX G TABLE 11 Details of Noise Impacts and Mitigation for the 110th NE At-Grade (C9A) from SE At-Grade (B2A)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF south of Main ST	59	1	No	56	58	63	--	--	No impact	--
SF south of Main ST	62	1	No	65	59	64	--	1	Sound Walls	--
SF south of Main ST	59	1	No	59	58	63	1	--	Sound Walls	--
SF south of Main ST	59	1	No	57	58	63	--	--	No impact	--
SF south of Main ST	62	1	No	58	59	64	--	--	No impact	--
Receivers along 110th Ave NE	66	12	No	65	62	67	12	--	Sound Insulation, if required.	12
	66	8	No	66	62	67	8	--	Sound Insulation, if required.	8
	66	4	No	62	62	67	4	--	Sound Insulation, if required.	4
	66	16	No	60	62	67	--	--	No Impact	--
	66	18	No	68	62	67	--	18	Sound Insulation, if required.	18
	66	12	No	68	62	67	--	12	Sound Insulation, if required.	12
Bellevue Club Hotel	68	16	Yes	67	63	68	16	--	Sound walls and special trackwork	--
Bellevue Club Hotel	68	16	Yes	67	63	68	16	--	Sound walls and special trackwork	--
Bellevue Club Pool <sup>2</sup>	64 dBA Leq	1	Yes	65 dBA Leq	66 dBA Leq	70 dBA Leq	--	--	No impact	--
Coast Hotel	71	36	No	73	66	70	--	36	Sound walls and special trackwork	--



APPENDIX G TABLE 11 Details of Noise Impacts and Mitigation for the 110th NE At-Grade (C9A) from SE At-Grade (B2A)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Lake Bellevue Condos	60	8	Yes <sup>3</sup>	63	58	63	--	8	Sound Walls and special trackwork for storage tracks and access to maintenance base	--
	60	4	Yes <sup>3</sup>	61	58	63	4	--		--
	60	4	Yes <sup>3</sup>	61	58	63	4	--		--
<p><sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.</p> <p><sup>2</sup> Pools and other outdoor use evaluated with peak hour noise levels.</p> <p><sup>3</sup> Crossover location is located in Segment D and associated with the potential maintenance facilities next to the BNSF corridor and potential storage track within the BNSF Corridor. If not located in this location the crossover may not be required.</p>										

APPENDIX G TABLE G-12 Details of Noise Impacts and Mitigation for 110th NE At-Grade (C9A) from 112th SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF units on 112th Ave SE near 4th	69	1	Yes	76	63	67	--	1	Sound walls and special trackwork	1
SF units on 112th Ave SE near 4th	67	1	Yes	67	63	67	--	1	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	64	1	Yes	63	61	66	1	--	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	69	1	Yes	71	63	67	--	1	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	69	1	Yes	66	63	67	1	--	Sound walls and special trackwork	--
SF units on 112th Ave SE near 4th	67	1	No	62	63	68	--	--	No Impacts	--
SF units on 112th Ave SE near 4th	64	1	No	63	61	66	1	--	Sound walls	--
SF units on 112th Ave SE near 4th	64	1	No	63	61	66	1	--	Sound Walls	--
SF units on 112th Ave SE near 4th	64	1	No	64	61	66	1	--	Sound Walls	--
MF units along 112th, west side	69	2	Yes	69	61	66	--	2	Sound walls and special trackwork	--
MF units along 112th, west side	69	1	Yes	68	61	66	--	1	Sound walls and special trackwork	--
MF units along 112th, west side	69	2	Yes	69	61	66	--	2	Sound walls and special trackwork	--
MF units along 112th, west side	69	1	Yes	70	61	66	--	1	Sound walls and special trackwork	--

APPENDIX G TABLE G-12 Details of Noise Impacts and Mitigation for 110th NE At-Grade (C9A) from 112th SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF units along 112th, west side	69	2	No	72	61	66	--	2	Sound walls and special trackwork	2
MF units along 112th, west side	69	1	No	71	61	66	--	1	Sound walls and special trackwork	--
MF units along 112th, west side	69	2	No	71	61	66	--	2	Sound Walls	2
MF units along 112th, west side	69	1	No	71	61	66	--	1	Sound Walls	1
MF units along 112th, west side	69	2	No	70	61	66	--	2	Sound Walls	2
MF units along 112th, west side	69	1	No	68	61	66	--	1	Sound Walls	--
MF units along 112th, west side	69	2	No	66	62	67	2	--	Sound Walls	--
MF units along 112th, west side	69	1	No	64	64	69	1	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	1	No	62	61	66	1	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	1	No	62	61	66	1	--	Sound Walls	--
MF units along 112th, west side	69	3	No	62	61	66	3	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--

APPENDIX G TABLE G-12 Details of Noise Impacts and Mitigation for 110th NE At-Grade (C9A) from 112th SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	63	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	62	61	66	2	--	Sound Walls	--
MF units along 112th, west side	69	2	No	59	59	64	2	--	Sound Walls	--
ST units on 112 <sup>th</sup> Ave SE near Main	66	1	No	56	62	67	--	--	No impact	--
ST units on 112 <sup>th</sup> Ave SE near Main	69	1	No	59	64	69	--	--	No impact	--
ST units on 112 <sup>th</sup> Ave SE near Main	69	1	No	59	64	69	--	--	No impact	--
SF south of Main ST	62	1	No	59	59	64	1	--	Sound Walls	--
SF south of Main ST	62	1	No	67	59	64	--	1	Sound Walls	--
SF south of Main ST	59	1	No	63	58	63	--	1	Sound Walls	--
SF south of Main ST	59	1	No	58	58	63	1	--	Sound Walls	--
SF south of Main ST	62	1	No	65	59	64	--	1	Sound Walls	--

APPENDIX G TABLE G-12 Details of Noise Impacts and Mitigation for 110th NE At-Grade (C9A) from 112th SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
SF south of Main ST	59	1	No	60	58	63	1	--	Sound Walls	--
SF south of Main ST	59	1	No	56	58	63	--	--	No impact	--
SF south of Main ST	62	1	No	65	59	64	--	1	Sound Walls	--
SF south of Main ST	59	1	No	59	58	63	1	--	Sound Walls	--
SF south of Main ST	59	1	No	57	58	63	--	--	No impact	--
SF south of Main ST	62	1	No	58	59	64	--	--	No impact	--
Receivers along 110th Ave NE	66	12	No	65	62	67	12	--	Sound Insulation, if required.	12
	66	8	No	66	62	67	8	--	Sound Insulation, if required.	8
	66	4	No	62	62	67	4	--	Sound Insulation, if required.	4
	66	16	No	60	62	67	--	--	No Impact	--
	66	18	No	68	62	67	--	18	Sound Insulation, if required.	18
	66	12	No	68	62	67	--	12	Sound Insulation, if required.	12
Bellevue Club Hotel	68	16	Yes	67	63	68	16	--	Sound walls and special trackwork	--
Bellevue Club Hotel	68	16	Yes	67	63	68	16	--	Sound walls and special trackwork	--
Bellevue Club Pool <sup>2</sup>	64 dBA Leq	1	Yes	65 dBA Leq	66 dBA Leq	70 dBA Leq	--	--	No impact	--

APPENDIX G TABLE G-12 Details of Noise Impacts and Mitigation for 110th NE At-Grade (C9A) from 112th SE Bypass (B3) or BNSF (B7)										
Receptor Description	Ambient Ldn	Number of Receptors	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigation, Mitigated Noise Levels and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Coast Hotel	71	36	No	73	66	70	--	36	Sound walls and special trackwork	--
Lake Bellevue Condos	60	8	Yes <sup>3</sup>	63	58	63	--	8	Sound Walls and special trackwork for storage tracks and access to maintenance base	--
	60	4	Yes <sup>3</sup>	61	58	63	4	--		--
	60	4	Yes <sup>3</sup>	61	58	63	4	--		--

<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.

<sup>2</sup> Pools and other outdoor use evaluated with peak hour noise levels.

<sup>3</sup> Crossover location is located in Segment D and associated with the potential maintenance facilities next to the BNSF corridor and potential storage track within the BNSF Corridor. If the maintenance facility is not located in this location the crossover may not be required.

APPENDIX G TABLE G-13 Details of Noise Impacts and Mitigation for Alternative C14E										
Receptor Description	Ambient Ldn	Number of Units	Cross-over <sup>1</sup>	Project Noise (Ldn)	FTA Criteria		Impacts		Proposed Mitigated, Mitigated Noise Levels, and Exterior Impacts	
					Mod	Sev	Mod	Sev	Proposed Mitigation	Exterior Impacts
Bellevue Club	71	36	No	65	66	70	--	--	No impact	--
Outdoor use (FTA Cat 3 peak hour) <sup>2</sup>	64 dBA Leq	1	No	59 dBA Leq	66 dBA Leq	70 dBA Leq	--	--		--
Hilton rooms	71	30	Yes	65	66	70	--	--	No impact	--
Hilton rooms	71	32	Yes	71	66	70	--	32	Sound walls and special trackwork and Sound insulation, if required.	--
Sheraton Hotel	71	40	No	69	66	70	40	--		--
Coast hotel	71	40	No	60	66	70	--	--	No impact	--
Coast Hotel	71	1	No	60	66	70	--	--		--
Coast Hotel	68	12	No	61	63	68	--	--		--
Lake Bellevue Condos	60	8	Yes <sup>3</sup>	63	58	63	--	8	Sound wall, Sound insulation, if required.	--
	60	4	Yes <sup>3</sup>	61	58	63	4	--		--
	60	4	Yes <sup>3</sup>	61	58	63	4	--		--

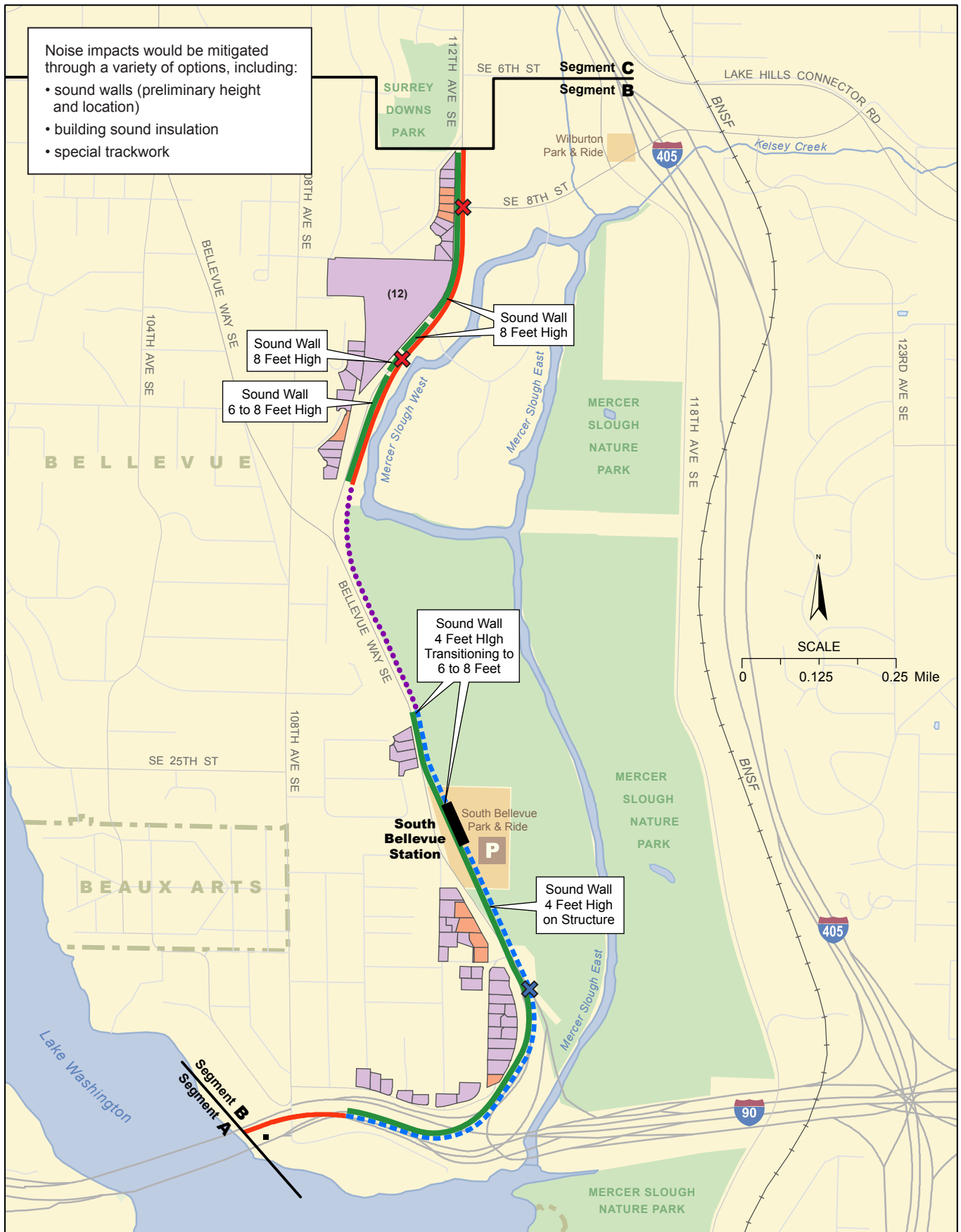
<sup>1</sup> Crossover – Yes indicates there is a crossover within approximately 350 feet of the receptor and the noise from the crossover is a contributor to the overall noise at this location. No indicates any nearby crossover are either more than 350 feet away, and/or are shielded from the receptor by existing structures, and therefore not a contributor to the overall noise.

<sup>2</sup> Pools and other outdoor use evaluated with peak hour noise levels.

<sup>3</sup> Crossover location is located in Segment D and associated with the potential maintenance facilities next to the BNSF corridor and potential storage track within the BNSF Corridor. If the maintenance facility is not located in this location the crossover may not be required.







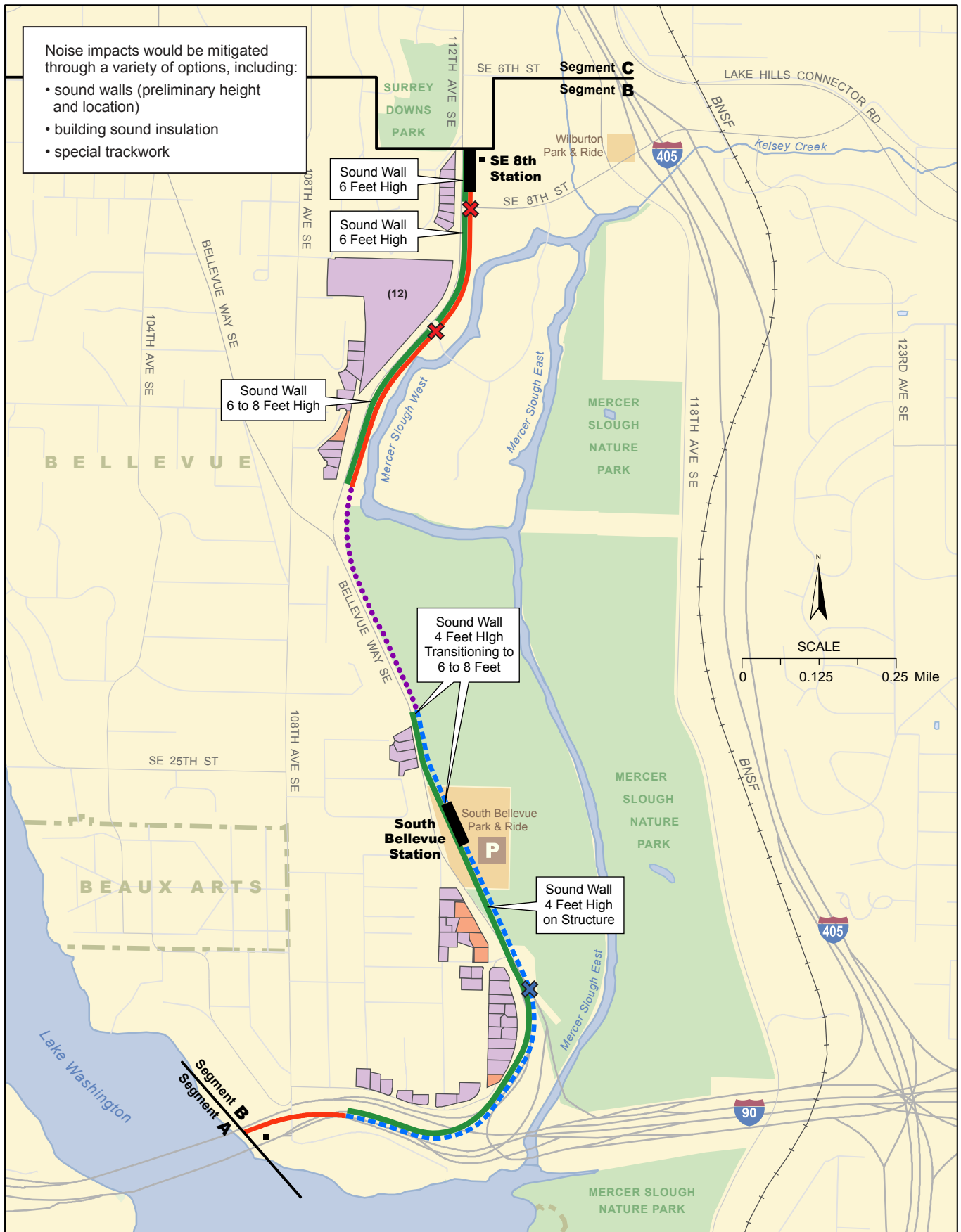
Noise impacts would be mitigated through a variety of options, including:

- sound walls (preliminary height and location)
- building sound insulation
- special trackwork

Source: City of Bellevue (2005) and King County (2006).

- |                     |                   |                                 |
|---------------------|-------------------|---------------------------------|
| At-Grade Route      | Station           | Moderate Impact                 |
| Elevated Route      | Segment Limit     | Severe Impact                   |
| Retained-Cut Route  | At-Grade Crossing | Both Moderate and Severe Impact |
| Retained-Fill Route | Crossover         |                                 |
| Tunnel Route        |                   |                                 |
| Sound Wall          |                   |                                 |
- NOTE: One noise impact per parcel unless noted in parentheses)

Exhibit G-1  
**Noise Impacts**  
**Segment B, B2M to C11A**  
*East Link Project*



Noise impacts would be mitigated through a variety of options, including:

- sound walls (preliminary height and location)
- building sound insulation
- special trackwork

Sound Wall 6 Feet High

Sound Wall 6 Feet High

Sound Wall 6 to 8 Feet High

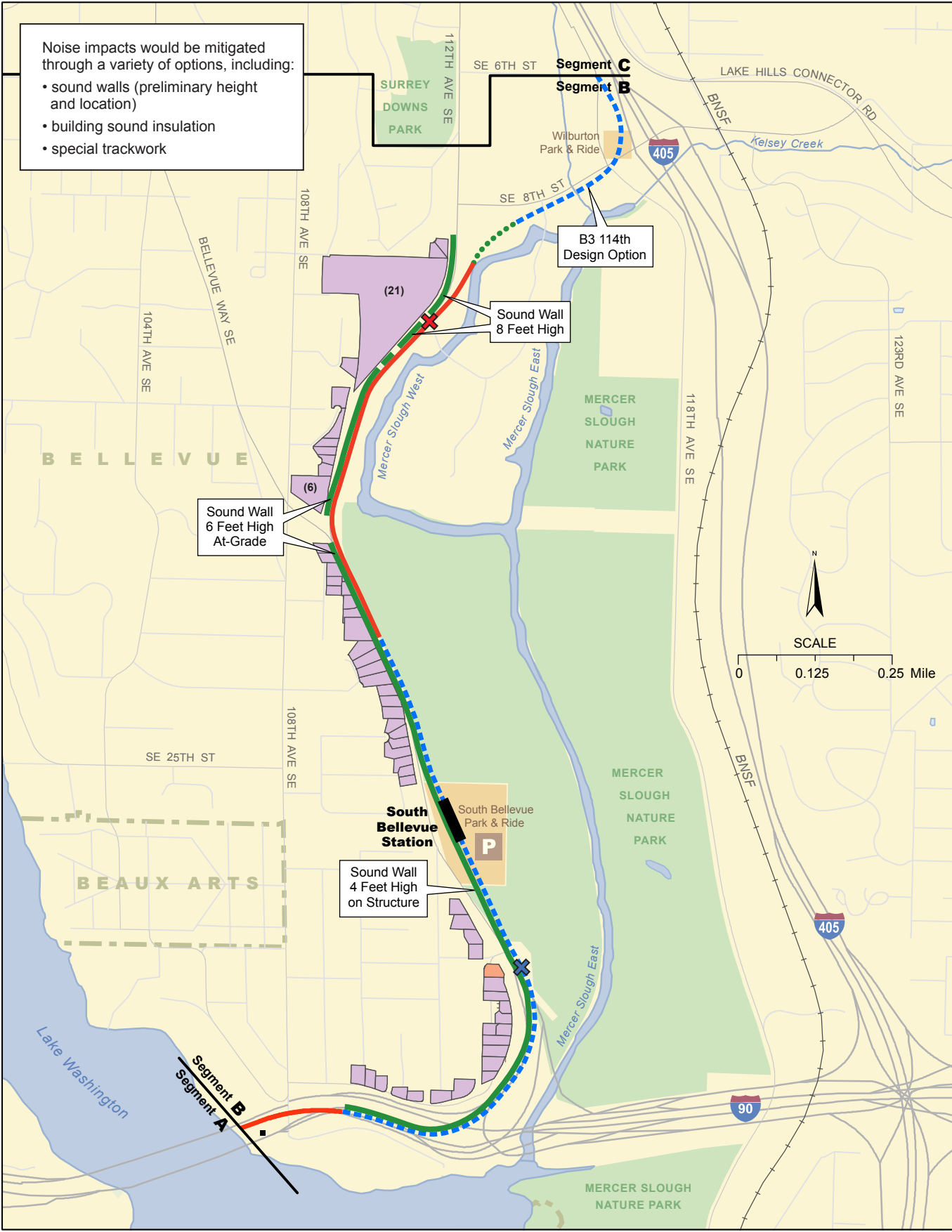
Sound Wall 4 Feet High Transitioning to 6 to 8 Feet

Sound Wall 4 Feet High on Structure

- |                     |                   |                                 |
|---------------------|-------------------|---------------------------------|
| At-Grade Route      | Station           | Moderate Impact                 |
| Elevated Route      | Segment Limit     | Severe Impact                   |
| Retained-Cut Route  | At-Grade Crossing | Both Moderate and Severe Impact |
| Retained-Fill Route | Crossover         |                                 |
| Tunnel Route        |                   |                                 |
| Sound Wall          |                   |                                 |
- NOTE: One noise impact per parcel unless noted in parentheses)

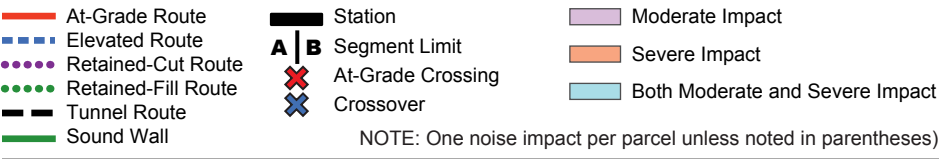
Source: City of Bellevue (2005) and King County (2006).

Exhibit G-2  
**Noise Impacts**  
**Segment B, B2M to C9T**  
*East Link Project*



Noise impacts would be mitigated through a variety of options, including:

- sound walls (preliminary height and location)
- building sound insulation
- special trackwork



Source: City of Bellevue (2005) and King County (2006).

Exhibit G-3  
**Noise Impacts, Segment B,  
 B3 - 114th Design Option**  
 East Link Project



Source: City of Bellevue (2005) and King County (2006).

Exhibit G-4  
**Noise Impacts**  
**Segment B, B7**  
 East Link Project

NOTE: One noise impact per parcel unless noted in parentheses)

Noise impacts would be mitigated through a variety of options, including:

- sound walls (preliminary height and location)
- building sound insulation
- special trackwork

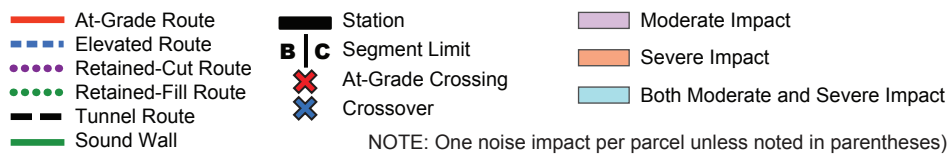
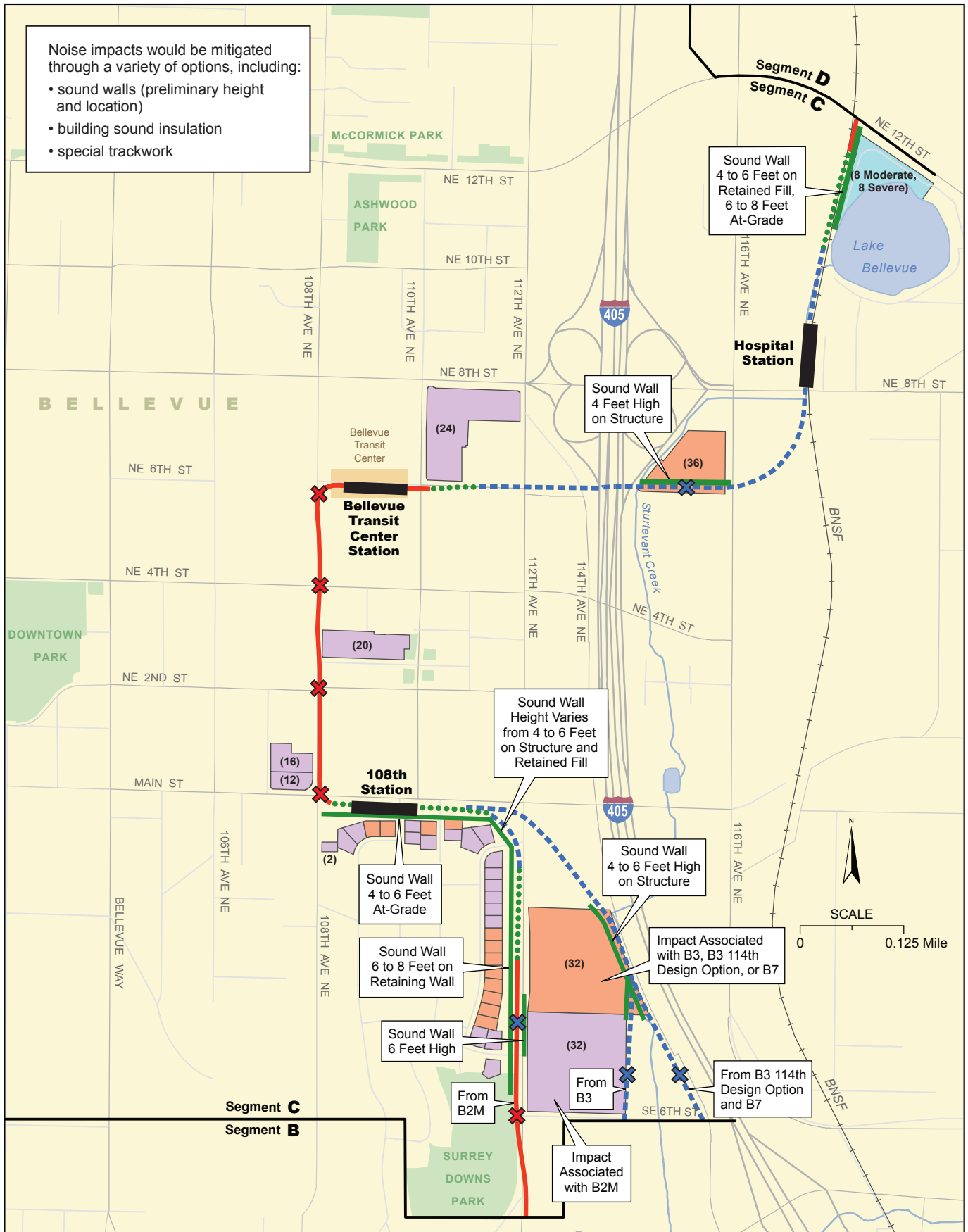
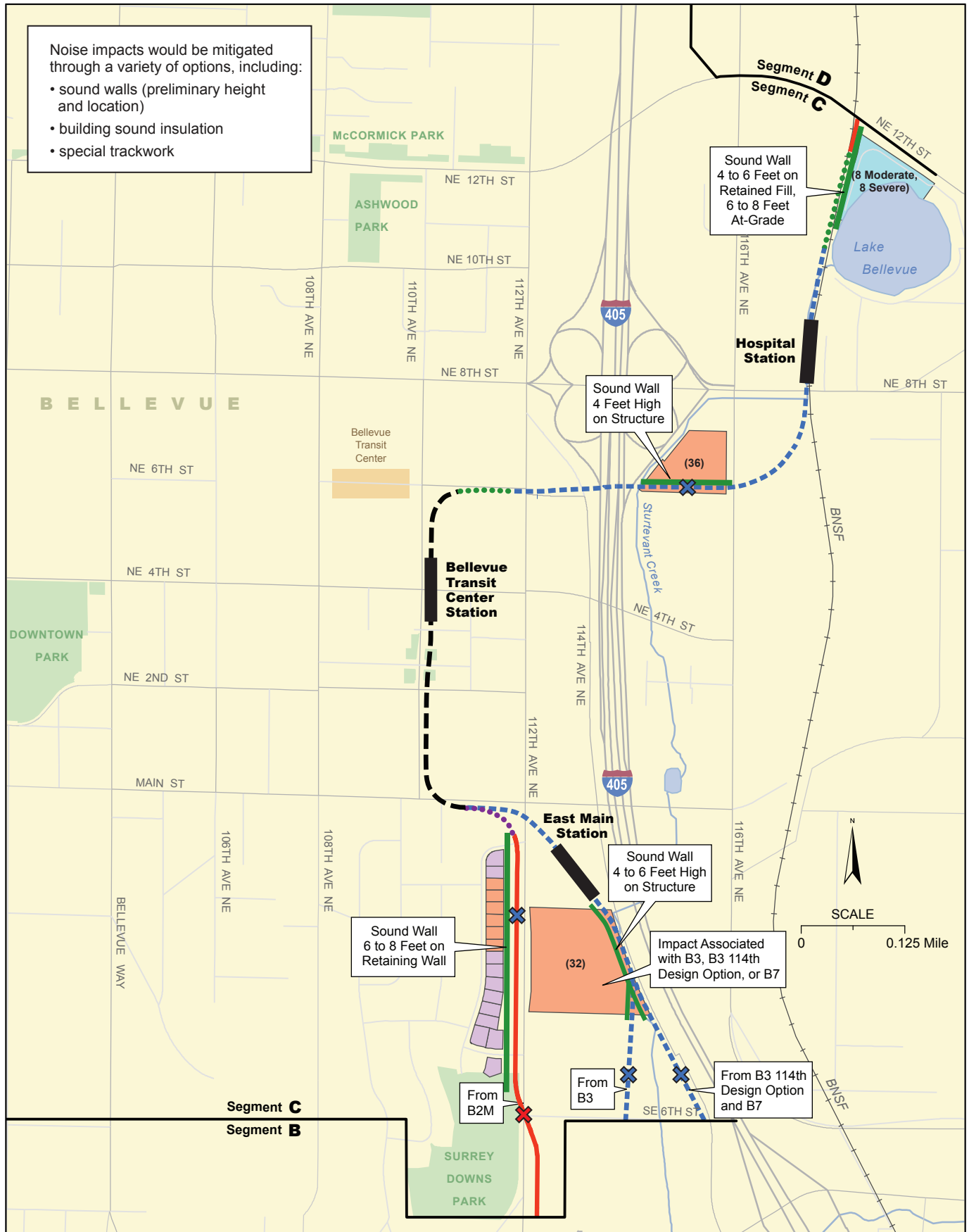


Exhibit G-5  
**Noise Impacts**  
**Segment C, C11A**  
*East Link Project*

Source: City of Bellevue (2005) and King County (2006).

Noise impacts would be mitigated through a variety of options, including:

- sound walls (preliminary height and location)
- building sound insulation
- special trackwork



Source: City of Bellevue (2005) and King County (2006).

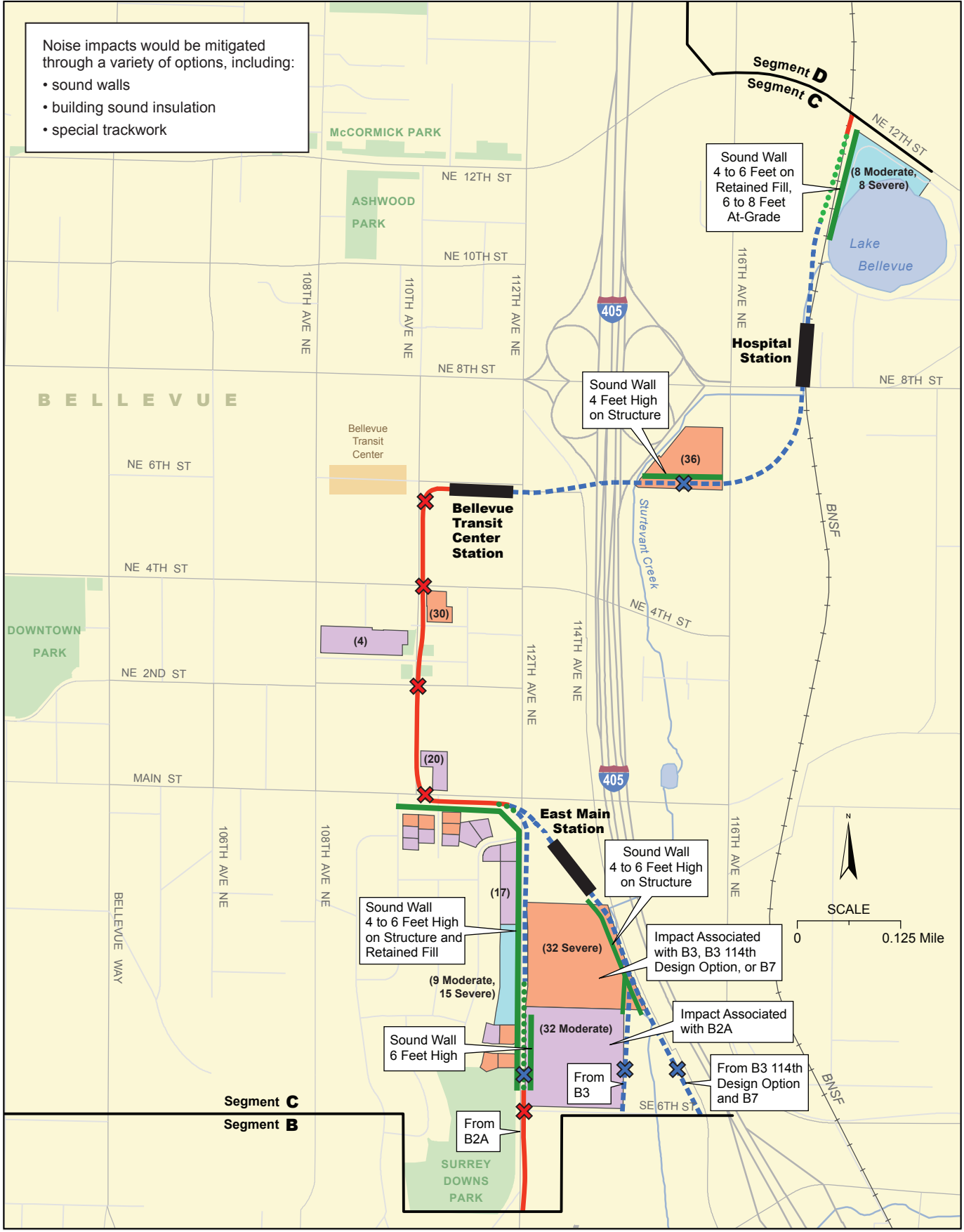
- |                     |                   |                                 |
|---------------------|-------------------|---------------------------------|
| At-Grade Route      | Station           | Moderate Impact                 |
| Elevated Route      | Segment Limit     | Severe Impact                   |
| Retained-Cut Route  | At-Grade Crossing | Both Moderate and Severe Impact |
| Retained-Fill Route | Crossover         |                                 |
| Tunnel Route        |                   |                                 |
| Sound Wall          |                   |                                 |

NOTE: One noise impact per parcel unless noted in parentheses)

Exhibit G-6  
**Noise Impacts**  
**Segment C, C9T**  
*East Link Project*

Noise impacts would be mitigated through a variety of options, including:

- sound walls
- building sound insulation
- special trackwork



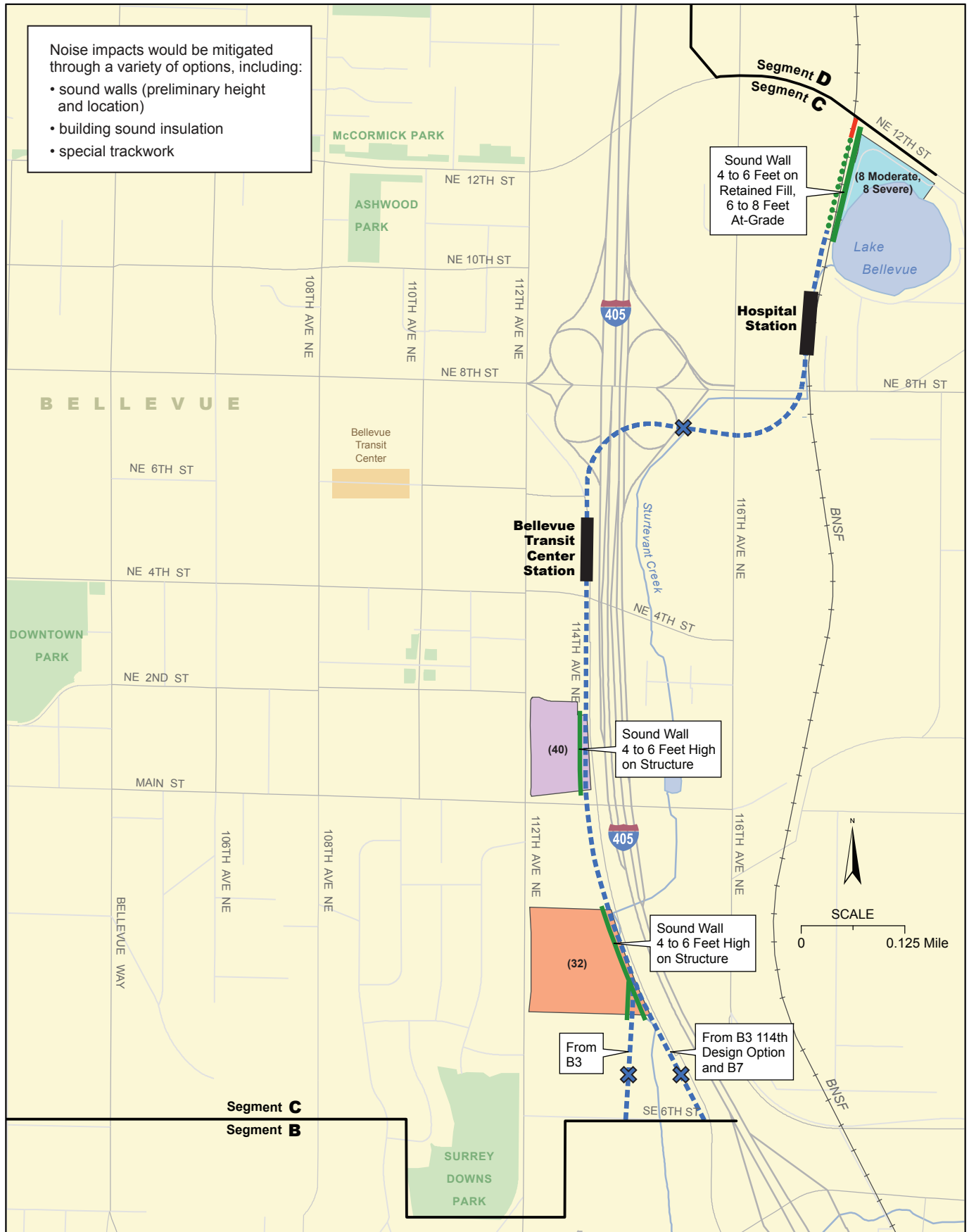
Source: City of Bellevue (2005) and King County (2006).

- |                     |                   |                                 |
|---------------------|-------------------|---------------------------------|
| At-Grade Route      | Station           | Moderate Impact                 |
| Elevated Route      | Segment Limit     | Severe Impact                   |
| Retained-Cut Route  | At-Grade Crossing | Both Moderate and Severe Impact |
| Retained-Fill Route | Crossover         |                                 |
| Tunnel Route        |                   |                                 |
| Sound Wall          |                   |                                 |
- NOTE: One noise impact per parcel unless noted in parentheses)

Exhibit G-7  
**Noise Impacts**  
**Segment C, C9A**  
*East Link Project*

Noise impacts would be mitigated through a variety of options, including:

- sound walls (preliminary height and location)
- building sound insulation
- special trackwork



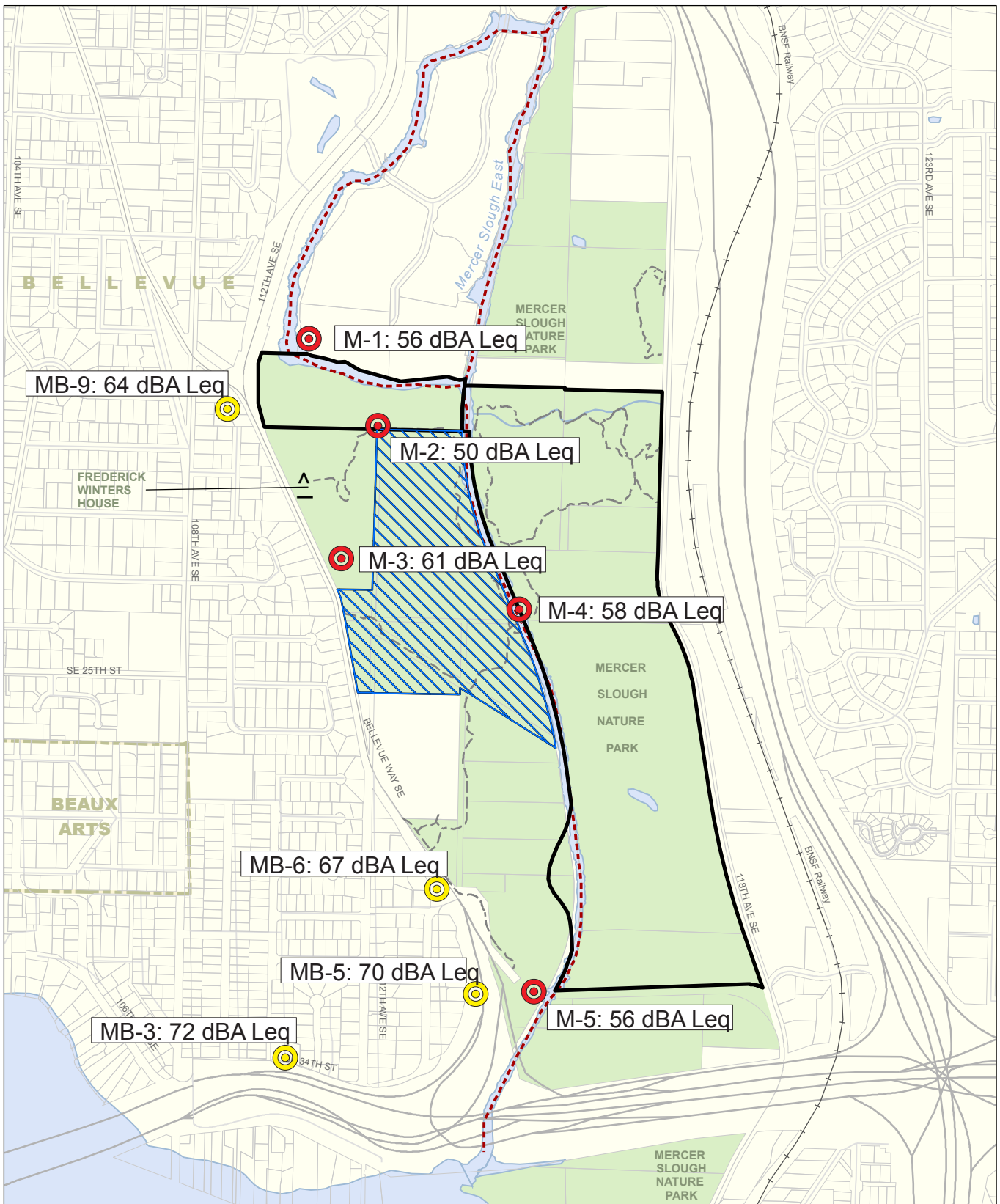
Source: City of Bellevue (2005) and King County (2006).

- |                     |                   |                                 |
|---------------------|-------------------|---------------------------------|
| At-Grade Route      | Station           | Moderate Impact                 |
| Elevated Route      | Segment Limit     | Severe Impact                   |
| Retained-Cut Route  | At-Grade Crossing | Both Moderate and Severe Impact |
| Retained-Fill Route | Crossover         |                                 |
| Tunnel Route        |                   |                                 |
| Sound Wall          |                   |                                 |

NOTE: One noise impact per parcel unless noted in parentheses)

**Exhibit G-8**  
**Noise Impacts**  
**Segment C, C14E**  
*East Link Project*





Source: Data from City of Bellevue (2005) and King County (2006).

- Section 6(f) Boundary
- Washington State Recreation and Conservation Office (RCO) Funded Acquisitions
- Park
- Recreational Water Trail
- Other Trail
- Mercer Slough Noise Monitoring Locations (M-1 through M-5)
- Bellevue Way Noise Monitoring Location (MB-3, 5, 6 and 9)



Exhibit G-9  
**Ambient Noise Monitoring Locations, Mercer Slough Nature Park**  
*East Link Project*

MB-9: 64 dBA Leq

M-1: 56 dBA Leq

M-2: 50 dBA Leq

M-3: 61 dBA Leq

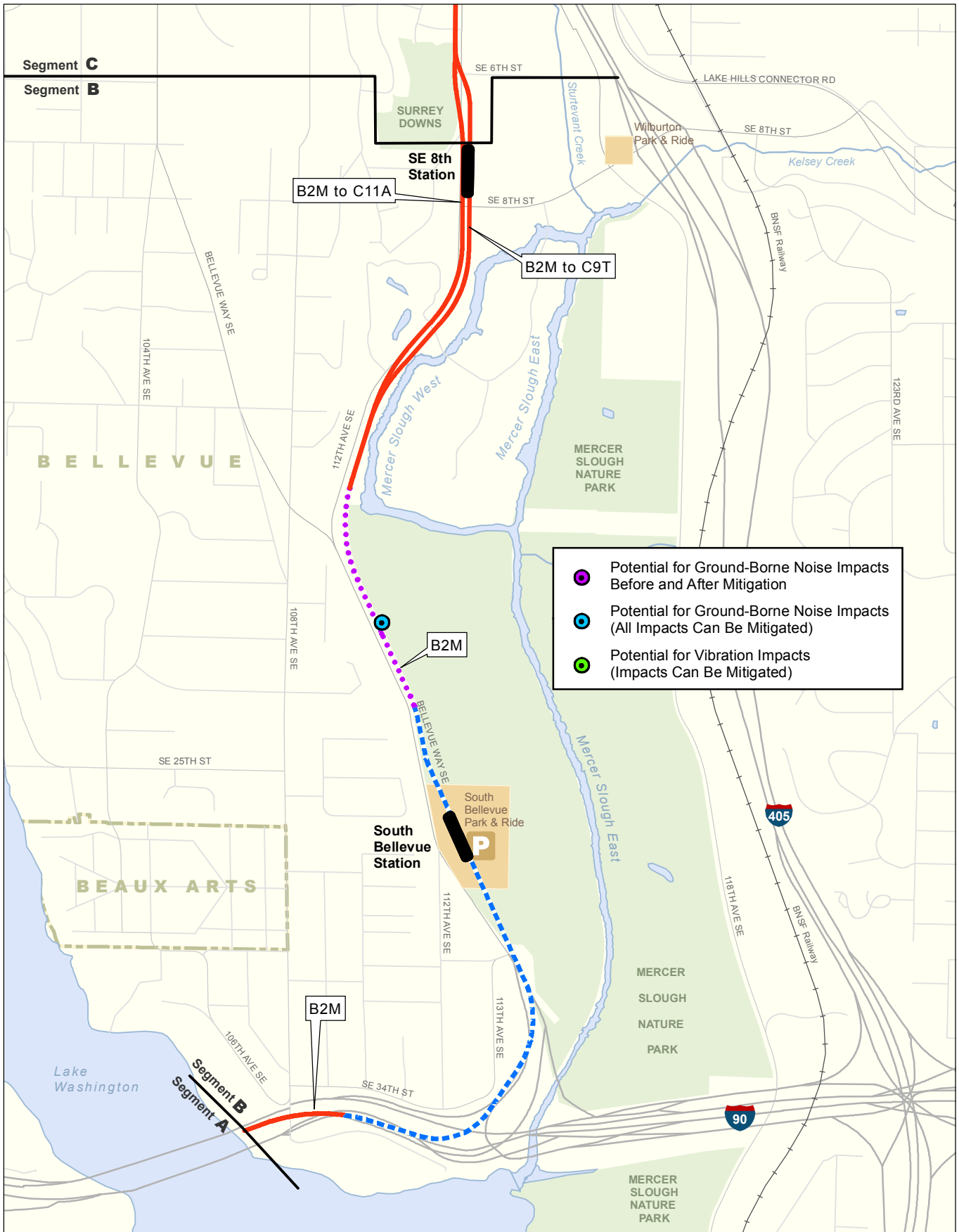
M-4: 58 dBA Leq

MB-6: 67 dBA Leq

MB-5: 70 dBA Leq

MB-3: 72 dBA Leq

M-5: 56 dBA Leq



Source: Data from City of Bellevue (2005) and King County (2006).

- At-Grade Route
- - - Elevated Route
- · · Retained-Cut Route
- · · Retained-Fill Route
- - - Tunnel Route
- Proposed Station
- P New and/or Expanded Park-and-Ride Lot

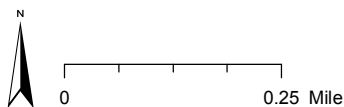
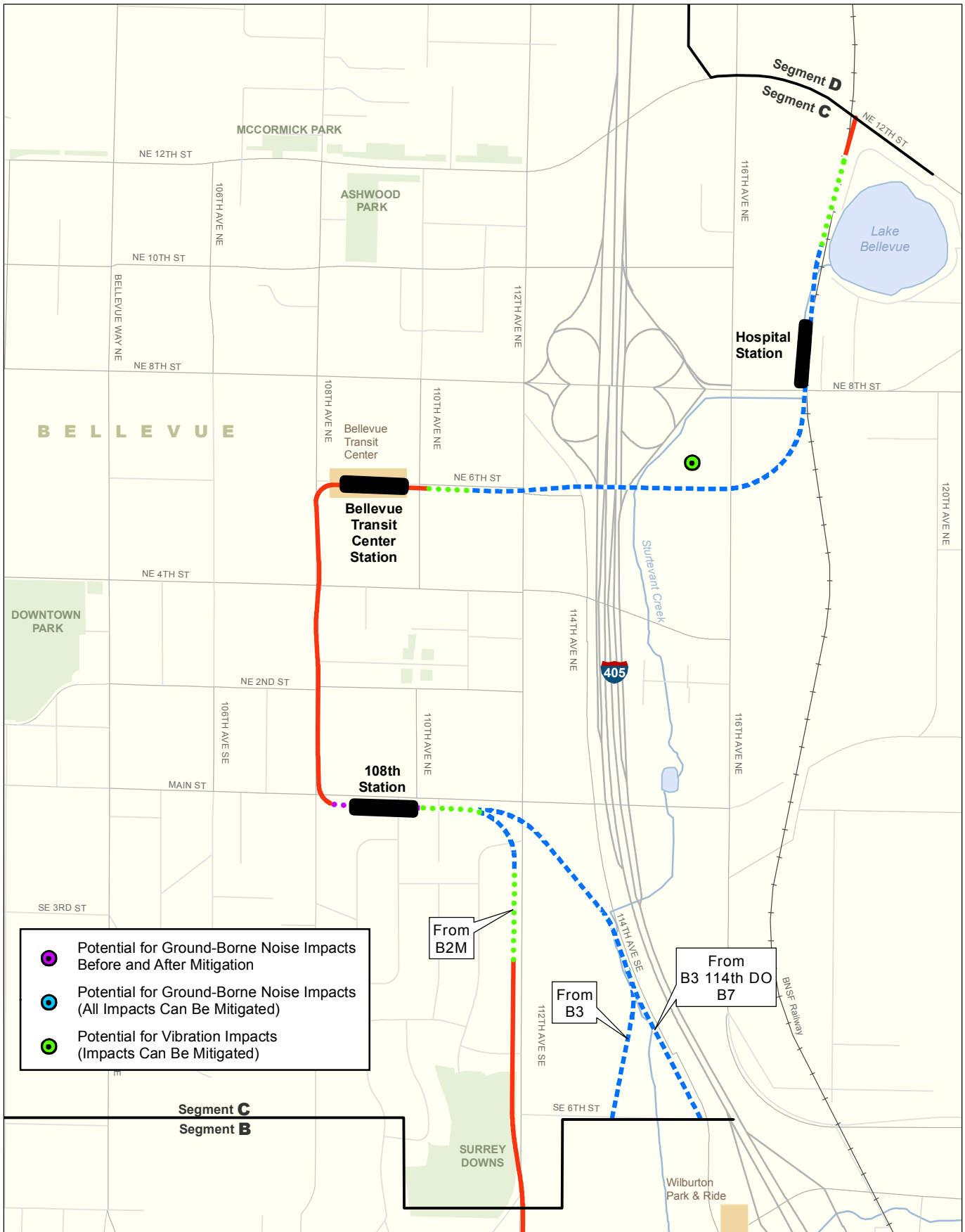


Exhibit G-10  
**Vibration Impacts**  
**Segment B, B2M**  
 East Link Project



Source: Data from City of Bellevue (2005) and King County (2006).

- At-Grade Route
- - - Elevated Route
- · · Retained-Cut Route
- · · Retained-Fill Route
- - - Tunnel Route
- Proposed Station
- P New and/or Expanded Park-and-Ride Lot

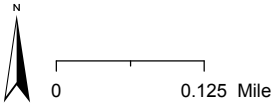
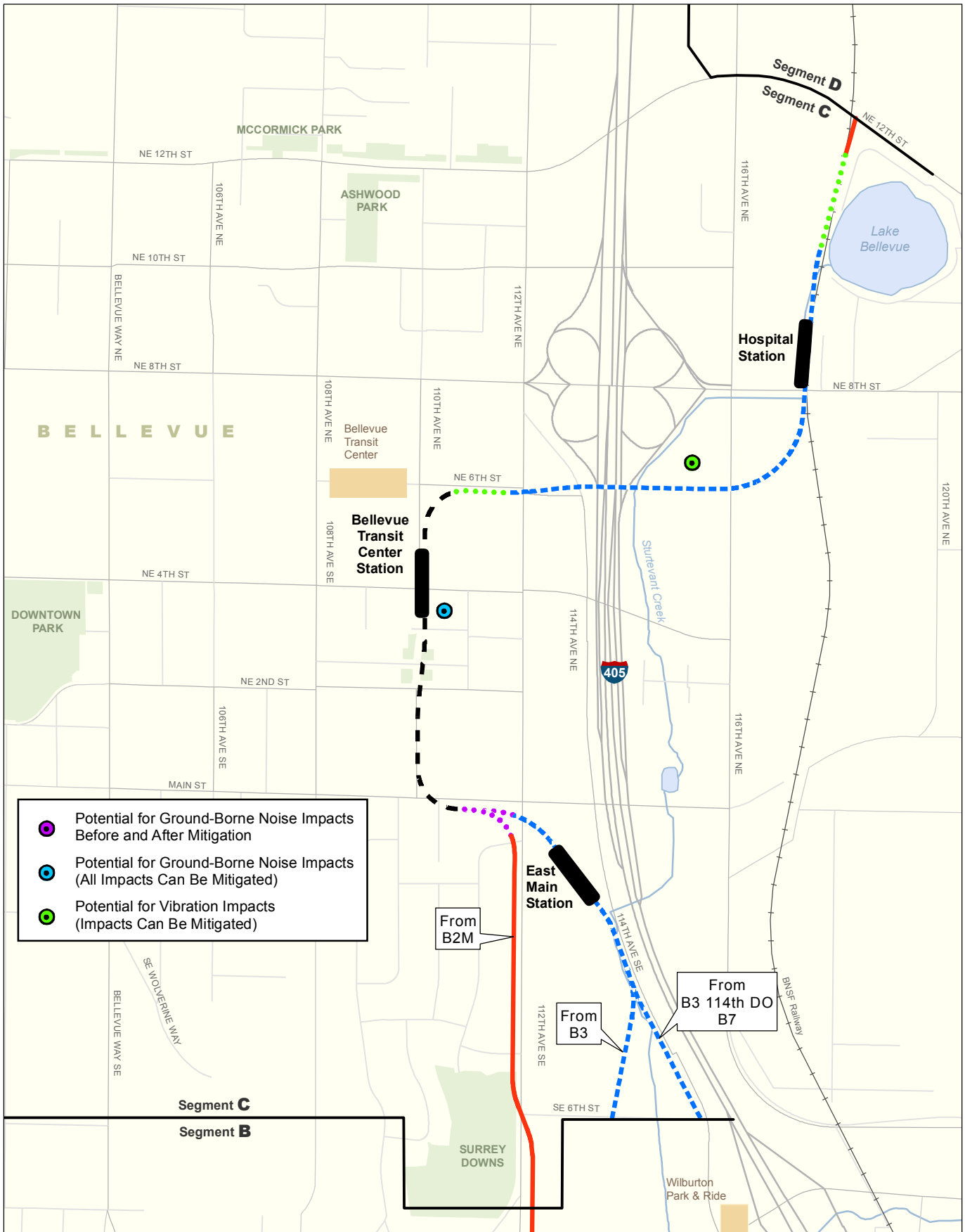


Exhibit G-11  
**Vibration Impacts**  
**Segment C, C11A**  
*East Link Project*



Potential for Ground-Borne Noise Impacts Before and After Mitigation  
 Potential for Ground-Borne Noise Impacts (All Impacts Can Be Mitigated)  
 Potential for Vibration Impacts (Impacts Can Be Mitigated)

- At-Grade Route
- Elevated Route
- Retained-Cut Route
- Retained-Fill Route
- Tunnel Route

- Proposed Station
- New and/or Expanded Park-and-Ride Lot

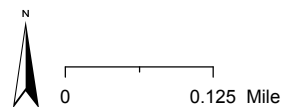


Exhibit G-12  
**Vibration Impacts**  
**Segment C, C9T**  
 East Link Project

Source: Data from City of Bellevue (2005) and King County (2006).

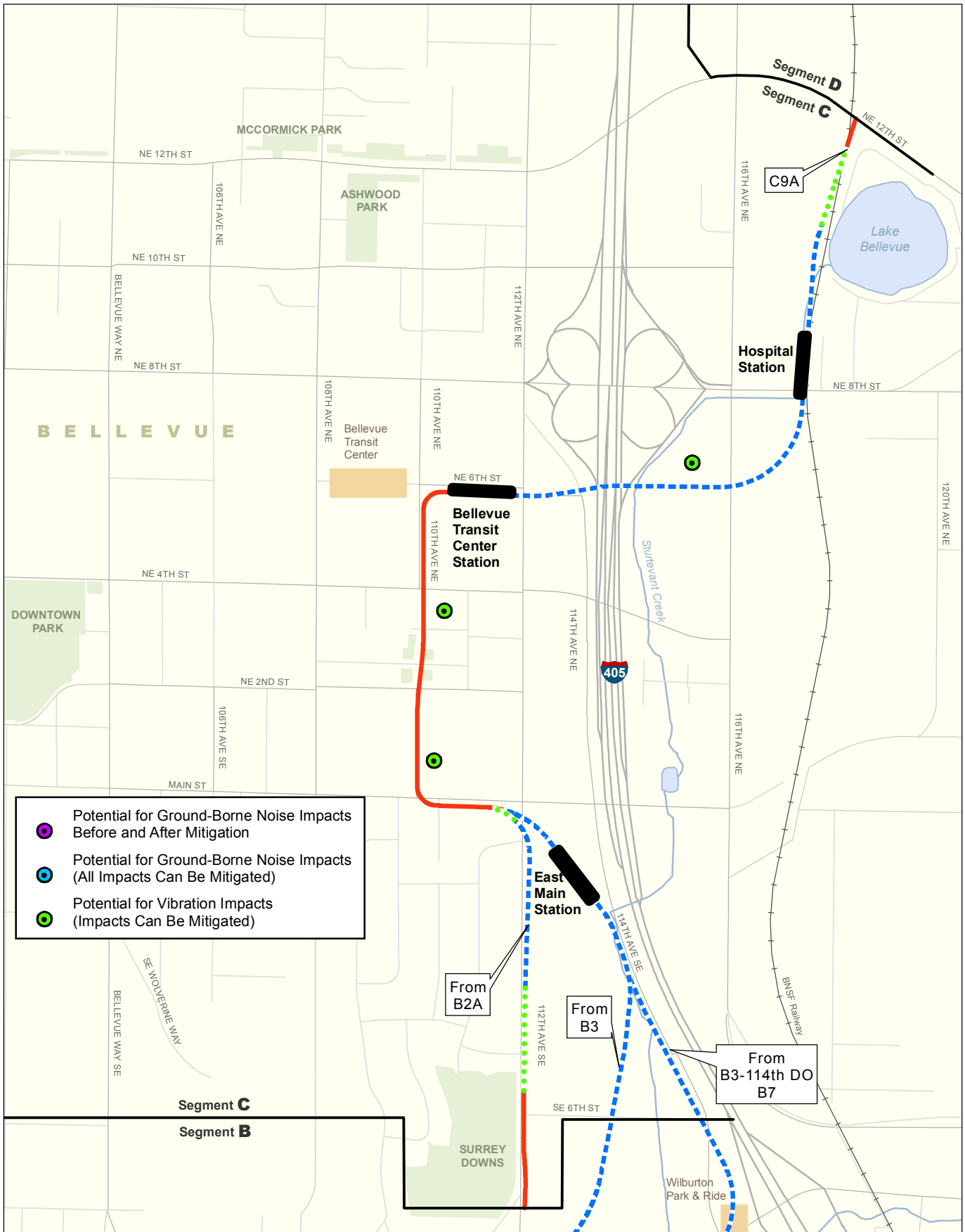


Exhibit G-13  
**Vibration Impacts**  
**Segment C, C9A**  
 East Link Project