Appendix D
Noise Calculation Worksheets

Project: Trunk Line Units 1 & 2

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	1	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				Residences along Arbor Vitae				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Site Preparation						***85***		
Cranes	1	81	16%	25	87	79	82	0
Excavators	1	81	40%	25	87	83	86	0
Generator Sets	1	81	50%	200	69	66	69	0
Pumps	1	81	50%	200	69	66	69	0
Tractors/Loaders/Backhoes	2	78	40%	200	69	65	68	0
Excavation/Trenching						***87***		
Cranes	1	81	16%	200	69	61	64	0
Air Compressors	1	78	40%	200	66	62	65	0
Bore/Drill Rigs	1	84	20%	25	90	83	86	0
Excavators	1	81	40%	200	69	65	68	0
Generator Sets	1	81	50%	200	69	66	69	0
Pumps	1	81	50%	25	87	84	87	0
Tractors/Loaders/Backhoes	2	78	40%	200	69	65	68	0
Paving						***90***		
Air Compressors	1	78	40%	200	66	62	65	0
Cranes	1	81	16%	200	69	61	64	0
Crushing/Proc. Equipment	1	84	10%	200	72	62	65	0
Pumps	1	81	50%	200	69	66	69	0
Rubber Tired Dozers	1	82	40%	25	88	84	87	0
Surfacing Equipment	1	85	50%	25	91	88	91	0
Tractors/Loaders/Backhoes	1	78	40%	200	66	62	65	0

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Century Trunk Line Unit 1 and 2 Project
Number: D160626.03
Analysis Scenario: Trucks
Source of Traffic Volumes: Construction Assumptions

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (dBA Leq(h))	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Arbor Vitae	Hard	25	35	35	35	30	0	6	58.0	58.5

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.