

**2016 Weekday AM**

**1) Ferry Landing, Idling, and Departing**

$$\begin{aligned} \text{Hourly } L_{eq} @ 50 \text{ Feet} &= \text{SEL ref} + 10 \cdot \text{LOG}(N) - 35.6 \\ &= 91 + 3.010299957 - 35.6 \\ &= \boxed{58.4} \\ \text{Usage Factor} &= 1.0 \\ \text{SEL ref} &= 91 \\ \text{\# of ferry events per hour} &= 2 \\ L_{eq} @ 50 \text{ Feet} &= \boxed{58.4} \end{aligned}$$

Receptor	Distance (feet)	$L_{eq}$ (1-Hour)	Shielding Calc.	R
Site 5	1814	17.7	9.5	4
Site 6	484	38.7	N/A	0
Site 7	1620	20.2	8.0	3

**Note:** FTA SEL of 91 dBA represents, "Landing, Idling, and Departing." By this definition and based on the Commuter Ferry Schedule, the maximum number of event during the AM peak would be 1 and 1/3 events. For analysis purposes, two events were conservatively assumed.

**Note:** There was no Trip Demand for the Weekend Ferry Service. Since Ferry  $L_{eq}$  values for the Weekday are so low and don't significantly contribute to the noise levels at Sites 5, 6, and 7, the Weekday values were conservatively assumed for the Weekend, too.

**Definitions:**

- 1) Sound Exposure Level (SEL) - The level of sound accumulated over a given time interval or event. Technically, the sound exposure level is the level of the time-integrated mean square A-weighted sound for a stated time interval or event, with a reference time of one second.
- 2) Equivalent Level ( $L_{eq}$ ) - The level of a steady sound which, in a stated time period and at a stated location, has the same sound energy as the time-varying sound.
- 3) Usage Factor - Percentage of time a piece of equipment operates. For example, a piece of equipment that operates for 30 minutes out of a one hour period would have a usage factor of 0.5 (50%), and a piece of equipment that operates for 60 minutes out of a one hour period would have a usage factor of 1.0 (100%).

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**Note:** FTA SEL of 91 dBA represents, "Landing, Idling, and Departing." By this definition and based on the Commuter Ferry Schedule, the maximum number of event during the PM peak would be 1 and 2/3 events. For analysis purposes, two events were conservatively assumed.