

Residential Equivalency Calculations

Portland – Hotel Shore Areas: PD-14 and PD-16

Based on information from aerial views and expected use, it was assumed that the maximum number of persons using the area at one time would be approximately 24. Assuming that the area is used an average of 10 hour per day, 7 days per week, 5 months per year, the usage factor is

$$10/24 * 7/7 * 5/12 = 0.17$$

Typical *maximum* use during any one hour is approximately 24 people,

$$24 \text{ persons} * 0.17 \text{ (usage factor)} = 4 \text{ (rounded)}$$

$$4/3 \text{ (average persons per household)} = 1\text{-}1/3 \text{ residences rounded up to } = \underline{2} \text{ residences}$$

Fort Vancouver:

Based on information from aerial views, meetings with the US Forest Service and expected use the following factors for Fort Vancouver were projected. Calculations were made assuming that the areas are used an average of 10 hour per day, 7 days per week, 5 months per year, the usage factor is

$$10/24 * 7/7 * 5/12 = 0.17$$

FV-2: Typical *maximum* use during any one hour is approximately 75 people,

$$75 \text{ persons} * 0.17 \text{ (usage factor)} = 13 \text{ (rounded)}$$

$$13/3 \text{ (average persons per household)} = \underline{4} \text{ residences}$$

FV-3: Typical *maximum* use during any one hour is approximately 300 people,

$$300 \text{ persons} * 0.17 \text{ (usage factor)} = 51 \text{ (rounded)}$$

$$51/3 \text{ (average persons per household)} = \underline{17} \text{ residences}$$

FV-4: Typical *maximum* use during any one hour is approximately 15 people,

$$15 \text{ persons} * 0.17 \text{ (usage factor)} = 3 \text{ (rounded)}$$

$$3/3 \text{ (average persons per household)} = \underline{1} \text{ residences}$$

FV-13: Typical *maximum* use during any one hour is approximately 18 people,

$$18 \text{ persons} * 0.17 \text{ (usage factor)} = 3 \text{ (rounded)}$$

$$3/3 \text{ (average persons per household)} = \underline{1} \text{ residences}$$

Vancouver:

- VW-36:** Typical *maximum* use during any one hour is approximately 25 people,
25 persons * 0.22 (usage factor) = 5.5 (rounded)
6/3 (average persons per household) = 2 residences
- VW-36F:** Typical *maximum* use during any one hour is approximately 300 people,
300 persons * 0.22 (usage factor) = 66 (rounded)
66/3 (average persons per household) = 22 residences
- VE-1:** Typical *maximum* use during any one hour is approximately 75 people,
75 persons * 0.17 (usage factor) = 16.5 (rounded)
17/3 (average persons per household) = 6 residences
- VE-3:** Typical *maximum* use during any one hour is approximately 26 people,
26 persons * 0.17 (usage factor) = 5 (rounded)
5/3 (average persons per household) = 2 residences
- VE-13:** Typical *maximum* use during any one hour is approximately 75 people,
75 persons * 0.11 (usage factor) = 8.25 (rounded)
9/3 (average persons per household) = 3 residences
- VE-3:** Typical *maximum* use during any one hour is approximately 35 people,
35 persons * 0.17 (usage factor) = 6 (rounded)
6/3 (average persons per household) = 2 residences