Appendix D Vibration Propagation Test Sites

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V-1: The Firs Mobile Home Park, 20440 International Boulevard, SeaTac

The Firs Mobile Home Park abuts SR 99, and the potential vibration impacts at this site were assessed along the east sidewalk of SR 99. The measurement location is shown in Exhibit D-1. There were two lines of accelerometers running away from the road. The first line consisted of six accelerometers placed at 25, 38, 50, 63, 75, and 100 feet from the drop-hammer impact line. The second line consisted of two accelerometers that were offset by 15 feet from the 25-foot and 50-foot positions.



EXHIBIT D-1 Schematic of Test Site V-1, The Firs Mobile Home Park

V-2: 32nd Avenue S and S 212th St, SeaTac

This test was performed at the intersection of 32nd Avenue S and S 212th Street. The drop-hammer impact line was on the edge of 32nd Avenue S, while the line of accelerometers was placed on S 212th Street. Accelerometers were placed at 25, 38, 50, 75, 100, 125, 150, and 200 feet from the impact line as shown in Exhibit D-2. This area is a quiet residential neighborhood with very little vehicular traffic.



EXHIBIT D-2 Schematic of Test Site V-2, 32nd Avenue S and S 212th Street Intersection

V-3: 30th Avenue S and S 225th Place, Des Moines

This test site is located at the corner of 30th Avenue S and S 225th Place. The impact locations were along the edge of 30th Avenue S and the accelerometers were placed in a line down the edge of S 225th Place as shown in Exhibit D-3. Accelerometers were placed at 25, 38, 50, 75, 100, 125, 160, and 200 feet from the drop-hammer impact line. This area is in a residential neighborhood with moderate traffic on 30th Avenue S and minimal traffic on S 225th Place.



EXHIBIT D-3 Schematic of Test Site V-3, 30th Avenue S and S 225th Place Intersection

V-4: 3012 S 240th Street, Kent

This test was performed in the driveway of the apartment building at 3012 S 240th Street. The test site is located to the north of a Lowes hardware store. The impact locations were along the edge of 30th Avenue S. The accelerometers were placed in two perpendicular lines. The primary line contained six accelerometers placed perpendicular to the drop-hammer impact line and 30th Avenue S at distances of 25, 38, 50, 63, 75, and 100 feet. The second line contained two accelerometers that were placed at the façade of the apartment building perpendicular to the primary line at distances of 30 and 40 feet from the 25-foot location of the primary line, as shown in Exhibit D-4. The apartment building is at the edge of a residential area and there is moderate traffic on 30th Avenue S and fairly high traffic on S 240th Street.



EXHIBIT D-4 Schematic of Test Site V-4, 3012 S 240th Street

V-5: 31st Avenue S and S 254th Street, Kent

This test was performed at the corner of 31st Avenue S and S 254th Street. The impact locations were on 31st Avenue in a line perpendicular to S 254th Street. The accelerometers were placed in a single line along S 254th Street, as shown in Exhibit D-5. Accelerometers were placed at 25, 50, 75, 100, 125, 150, 175, and 200 feet from the drop-hammer impact line. This area is a residential neighborhood with low vehicular traffic.



EXHIBIT D-5 Schematic of Test Site V-5, 31st Avenue S and S 254th Street Intersection

V-6: Mark Twain Elementary School, 2450 S Star Lake Road, Federal Way

This test was performed at the parking lot of Mark Twain Elementary School located west of I-5. The impact locations were along the southeast edge of the parking lot. Six accelerometers were placed in a line perpendicular to the drop-hammer impact line as shown in Exhibit D-6. Accelerometers were placed at 25, 50, 75, 100, 125, and 150 feet from the impact line. This school is at the end of a long driveway.



EXHIBIT D-6 Schematic of Test Site V-6, Mark Twain Elementary School

V-7: Redondo Heights Park-and-Ride Facility, 27454 Pacific Highway S, Federal Way

This measurement was performed at the park-and-ride lot next to SR 99. The drop-hammer impact line was parallel to SR 99 and located on the east sidewalk, as shown in Exhibit D-7. The accelerometers were placed at 25, 50, 75, 100, 125, and 140 feet from the impact line. This area is a mix of commercial and residential land uses.



EXHIBIT D-7 Schematic of Test Site V-7, Park-and-Ride Facility on SR 99

V-8: S 283rd Street and SR 99, Federal Way

This test was performed at the intersection of SR 99 and S 283rd Street. The drop-hammer impact line was parallel to SR 99 and the line was partially on the sidewalk, as shown in Exhibit D-8. Six accelerometers were placed on the sidewalk of S 283rd Street at 25, 50, 75, 100, 125, and 140 feet from the impact line. This area is primarily residential.



EXHIBIT D-8 Schematic of Test Site V-8, S 283rd Street and SR 99 Intersection

V-9: Camelot Square Mobile Home Park, 3001 S 288th Street, Federal Way

The Camelot Square mobile home park is located just west of I-5. The drop-hammer impact line at this site was located along Camelot Drive. Six accelerometers were placed in a line down Sir Galahad Court, as shown in Exhibit D-9. The accelerometers were placed at 25, 50, 75, 100, 125, and 150 feet from the impact line. This area is a residential neighborhood close to the freeway.



EXHIBIT D-9 Schematic of Site V-9, Camelot Square Mobile Home Park

V-10: View at the Lake Apartments, 30602 Pacific Highway S, Federal Way

This measurement was performed in the driveway of View at the Lake Apartments. The drop-hammer impact line was located parallel to SR 99 along the sidewalk, as shown in Exhibit D-10. Six accelerometers were placed in a line down the edge of the apartment parking lot. Accelerometers were placed at 25, 50, 75, 100, 125, and 150 feet from the impact line.



EXHIBIT D-10 Schematic of Test Site V-10, Lake Apartments

V-11: Providence Landing Apartments, 31218 28th Avenue S

This test was performed in the parking lot of Providence Landing Apartments. The impact locations were along the edge of 28th Avenue S, and the accelerometers were placed along the edge of the apartment parking lot. Accelerometers were placed at 25, 38, 50, 63, 75, 100, 125, and 150 feet from the drop-hammer impact line.



EXHIBIT D-11 Schematic of Test Site V-11, Providence Landing Apartments

V-12: Truman High School, 31455 28th Ave S, Federal Way

This test was performed at the parking lot of Truman High School. Six accelerometers were placed in a line down the parking spaces. The impact locations were in a line perpendicular to the accelerometers. The accelerometers were placed at 25, 38, 50, 63, 75, and 100 feet from the drop-hammer impact line.



EXHIBIT D-12 Schematic of Test Site V-12, Truman High School

V-13: S 216th Street West of I-5 Overpass

This borehole test was performed in the eastbound lane of S 216th Street near the I-5 overpass. The accelerometers were placed at 35, 65, 85, 110, and 135 feet from the borehole.



EXHIBIT D-13 Schematic of Test Site V-13, S 216th Street

V-14: Mark Twain Elementary School

This borehole test was performed in the parking lot of Mark Twain Elementary School. The accelerometers were placed at 25, 50, 75, 100, 150, and 200 feet from the borehole.



EXHIBIT D-14 Schematic of Test Site V-14, Mark Twain Elementary School

V-15: Truman High School

This borehole test was performed in the south field of Truman High School. The accelerometers were placed at 25, 50, 75, 100, 150, and 200 feet from the borehole.



EXHIBIT D-15 Schematic of Test Site V-15, Truman High School

V-16: 30432 Military Road, Federal Way

This test was performed in front of the residence at 30432 Military Road. Three accelerometers were placed in a line down the driveway, one in the adjacent yard, one in the interior bottom floor (A6), and one in the interior upstairs room (A5). The impact locations were in a line roughly perpendicular to the accelerometers. The outdoor accelerometers were placed at perpendicular distances of 12, 30, and 50 feet from the drop-hammer impact line.



EXHIBIT D-16 Schematic of Test Site V-16, 30432 Military Road

V-17: King's Arms Motel, 23226 30th Avenue S, Des Moines

This test was performed in the parking lot of the King's Arms Motel. Eight accelerometers were placed at various positions near the motel. The drop-hammer impact line was roughly perpendicular to the accelerometers. The accelerometers were placed at distances of 38, 61, 70, and 100 feet from the impact line.



EXHIBIT D-17 Schematic of Test Site V-17, King's Arms Motel

V-18: America's Best Value Airport Inn, 20620 International Boulevard, SeaTac

This test was performed on the sidewalk in front of the America's Best Value Airport Inn. Five outdoor accelerometers were placed in a line along the walkway, one was placed on the second floor walkway (A6), and one was placed in the interior of a motel room (A5). The drop-hammer impact line was perpendicular to the accelerometers. The accelerometers were placed at 16, 20, 26, 56, and 76 feet from the impact line.



EXHIBIT D-18 Schematic of Test Site V-18, America's Best Value Airport Inn

V-19: 3114 S 216th Street, SeaTac

This test was performed in the parking lot of 3114 S 216th Street. Four accelerometers were placed in a line toward the building, and two interior accelerometers where placed in first and second floor rooms. The drop-hammer impact line was perpendicular to the accelerometers. The accelerometers were placed at 25, 37, 42, 52, and 63 feet from the impact line.



EXHIBIT D-19 Schematic of Test Site V-19, 3114 S 216th Street

V-20: 31524 28th Avenue S, Federal Way

This test was performed on the sidewalk in front of 31524 28th Avenue S. Four outdoor accelerometers were placed in a line down the outside walkway of the building, and two interior accelerometers were placed in the first and second floor hallways. The drop-hammer impact line was perpendicular to the accelerometers. The accelerometers were placed at 25, 45, 59, 84, 109, and 100 feet from the impact line.



EXHIBIT D-20 Schematic of Test Site V-20, 31524 28th Avenue S