# *Appendix P*
# *Noise Modeling Sheets*

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## Noise Modeling of Crummer Site Subdivision

| Outdoor Play Areas | Initial Sound Pressure | | | | | | Initial number of noise sources | Measurement Distance | Based on Noise Monitoring of: |
|---|---|---|---|---|---|---|---|---|---|
| | Leq | L50 | L25 | L16 | L8 | Lmax | | | |
| **Softball Reference Data** | 53.6 | 51.5 | 53.3 | 54.4 | 56.4 | 77.7 | 25 | 147 | Softball |

### Softball Field Noise Levels at Lot 4 - property line

| Outdoor Play Areas | New number of noise sources | Hard (0) or Soft Site (0.5) | Distance to Property Line | Future Sound Pressure Level | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Leq | L50 | L25 | L16 | L8 | Lmax |
| Crummer Baseball Field | 63 | 0.5 | 240 | 51.2 | 49.1 | 50.9 | 52.0 | 54.0 | 75.3 |
| Malibu Bluffs Baseball Field (East) | 63 | 0.5 | 320 | 47.5 | 45.4 | 47.2 | 48.3 | 50.3 | 71.6 |
| Total Number of Spectators | 126 | | **Combined Noise Level =** | 52.8 | 50.7 | 52.5 | 53.6 | 55.6 | 76.9 |
| | | | **Adjustment for 6' high home run wall =** | -5.0 | | | | | |
| | | | **Adjusted Combined Noise Level =** | **47.8** | | | | | |

### Softball Field Noise Levels at Lot 4 - pool house

| Outdoor Play Areas | New number of noise sources | Hard (0) or Soft Site (0.5) | Distance to Property Line | Future Sound Pressure Level | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Leq | L50 | L25 | L16 | L8 | Lmax |
| Crummer Baseball Field | 63 | 0.5 | 275 | 49.5 | 47.4 | 49.2 | 50.3 | 52.3 | 73.6 |
| Malibu Bluffs Baseball Field (East) | 63 | 0.5 | 375 | 45.4 | 43.3 | 45.1 | 46.2 | 48.2 | 69.5 |
| Total Number of Spectators | 126 | | **Combined Noise Level =** | 50.9 | 48.8 | 50.6 | 51.7 | 53.7 | 75.0 |
| | | | **Adjustment for 6' high home run wall =** | -5.0 | | | | | |
| | | | **Adjusted Combined Noise Level =** | **45.9** | | | | | |

Softball Noise data obtained from noise monitoring of softball game conducted by The Planning Center at Worthy Park in Huntington Beach, California on November 16, 2008.

## Noise Modeling of Crummer Site Subdivision

| Outdoor Play Areas | Initial Sound Pressure | | | | | | Initial number of noise sources | Measurement Distance | Based on Noise Monitoring of: |
|---|---|---|---|---|---|---|---|---|---|
| | Leq | L50 | L25 | L16 | L8 | Lmax | | | |
| **Softball Reference Data** | 53.6 | 51.5 | 53.3 | 54.4 | 56.4 | 77.7 | 25 | 147 | Softball |

### Softball Field Noise Levels at Lot 5 - property line

| Outdoor Play Areas | New number of noise sources | Hard (0) or Soft Site (0.5) | Distance to Property Line | Future Sound Pressure Level | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Leq | L50 | L25 | L16 | L8 | Lmax |
| Crummer Baseball Field | 63 | 0.5 | 180 | 55.0 | 52.9 | 54.7 | 55.8 | 57.8 | 79.1 |
| Malibu Bluffs Baseball Field (East) | 63 | 0.5 | 160 | 56.5 | 54.4 | 56.2 | 57.3 | 59.3 | 80.6 |
| Total Number of Spectators | 126 | | **Combined Noise Level =** | 58.8 | 56.7 | 58.5 | 59.6 | 61.6 | 82.9 |
| | | | **Adjustment for 6' high home run wall =** | -5.0 | | | | | |
| | | | **Adjusted Combined Noise Level =** | **53.8** | | | | | |

### Softball Field Noise Levels at Lot 5 - guest house

| Outdoor Play Areas | New number of noise sources | Hard (0) or Soft Site (0.5) | Distance to Property Line | Future Sound Pressure Level | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Leq | L50 | L25 | L16 | L8 | Lmax |
| Crummer Baseball Field | 63 | 0.5 | 400 | 44.6 | 42.5 | 44.3 | 45.4 | 47.4 | 68.7 |
| Malibu Bluffs Baseball Field (East) | 63 | 0.5 | 420 | 43.9 | 41.8 | 43.6 | 44.7 | 46.7 | 68.0 |
| Total Number of Spectators | 126 | | **Combined Noise Level =** | 47.3 | 45.2 | 47.0 | 48.1 | 50.1 | 71.4 |
| | | | **Adjustment for 6' high home run wall =** | -5.0 | | | | | |
| | | | **Adjusted Combined Noise Level =** | **42.3** | | | | | |

Softball Noise data obtained from noise monitoring of softball game conducted by The Planning Center at Worthy Park in Huntington Beach, California on November 16, 2008.

# Construction Generated Noise - Crummer Site Subdivision

**Construction Noise at 50 Feet (dBA Leq)**

| Construction Phase | All Applicable Equipment in Use[1] | Minimum Required Equipment in Use[1] |
|---|---|---|
| Ground Clearing/Demolition | 83 | 83 |
| Excavation | 88 | 75 |
| Foundation Construction | 81 | 81 |
| Building Construction | 81 | 65 |
| Finishing and Site Cleanup | 88 | 72 |

**Construction Noise at 750 Feet (dBA Leq) — Residential to North**

| Construction Phase | All Applicable Equipment in Use[1] | Minimum Required Equipment in Use[1] |
|---|---|---|
| Ground Clearing/Grading | 54 | 54 |
| Excavation | 59 | 46 |
| Foundation Construction | 52 | 52 |
| Building Construction | 52 | 36 |
| Finishing and Site Cleanup | 59 | 43 |

**Construction Noise at 100 Feet (dBA Leq) — Residential to South**

| Construction Phase | All Applicable Equipment in Use[1] | Minimum Required Equipment in Use[1] |
|---|---|---|
| Ground Clearing/Grading | 75 | 75 |
| Excavation | 80 | 67 |
| Foundation Construction | 73 | 73 |
| Building Construction | 73 | 57 |
| Finishing and Site Cleanup | 80 | 64 |

**Construction Noise at 300 Feet (dBA Leq) — Residential to East**

| Construction Phase | All Applicable Equipment in Use[1] | Minimum Required Equipment in Use[1] |
|---|---|---|
| Ground Clearing/Demolition | 64 | 64 |
| Excavation | 69 | 56 |
| Foundation Construction | 62 | 62 |
| Building Construction | 62 | 46 |
| Finishing and Site Cleanup | 69 | 53 |

Source: Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the USEPA, December 31, 1971. Based on analysis for Domestic Housing.

## Construction Generated Vibration - Crummer Site Subdivision

| Receptor: | Vibration Levels at 100 Feet | |
|---|---|---|
| Equipment | Approximate RMS a Velocity at 25 ft, inch/second | Approximate RMS Velocity Level, inch/second |
| **Large bulldozer** | 0.089 | 0.011125 |
| **Small bulldozer** | 0.003 | 0.000375 |
| **Jackhammer** | 0.035 | 0.004375 |
| **Loaded trucks** | 0.076 | 0.009500 |

| Receptor: | Vibration Levels at 220 Feet | |
|---|---|---|
| Equipment | Approximate RMS a Velocity at 25 ft, inch/second | Approximate RMS Velocity Level, inch/second |
| **Large bulldozer** | 0.089 | 0.00341 |
| **Small bulldozer** | 0.003 | 0.00011 |
| **Jackhammer** | 0.035 | 0.00134 |
| **Loaded trucks** | 0.076 | 0.00291 |

[1.] Determined based on use of jackhammers or pneumatic hammers that may be used for pavement demolition at a distance of 25 feet

Notes: RMS velocity calculated from vibration level (VdB) using the reference of one microinch/second.

Source: Based on methodology from the United States Department of Transportation Federal Transit Administration, *Transit Noise and Vibration Impact Assessment* (2006).