

# Short Term Aircraft Noise Monitoring



Portola Valley  
Woodside

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Prepared for Portola Valley and Woodside Communities  
San Francisco International Airport Noise Abatement Office  
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Technical Report #022015-974-969

4th Quarter 2014

## Quarterly Noise Monitoring Results

Residents in Portola Valley and Woodside reported concerns of increased aircraft noise in southern San Mateo County. In response to these concerns, SFO Noise Abatement Office at the request of the Airport Community Roundtable (ACR) performed quarterly noise monitoring in these communities. Sound level measurements were collected near Sioux Water Tanks, located off of Sioux Way and Cervantes Road for Portola Valley and at OSI-VORTAC, a ground navigational aid for aircraft pilots in Woodside. Beginning 3<sup>rd</sup> Quarter 2013, sound level data were continuously collected for a minimum of 14 days each quarter, and for the same period in subsequent quarters. So far, 5 quarters of data have been collected simultaneously at these locations. Fourth Quarter 2014 measurement results are provided herein. The results are for periods where full 24 hour days of data are available and are presented in A-weighted decibels (dBA). Table 1 and Table 2 provide the daily noise climates of 4<sup>th</sup> Quarter 2014 for Portola Valley and Woodside, respectively. Identified SFO Aircraft Events were tallied and grouped by day, evening and nighttime hours and events' levels summarized. The Maximum Noise Levels for each Aircraft Event are also listed by Aircraft Types by date for each measurement location.

At all measurement sites the equipment used to measure the sound level was an Environmental Monitoring Unit 2200 noise monitor and Type 41DM-2 microphone manufactured by Bruel & Kjaer. The measurements consisted of monitoring the A-weighted decibels and processing the information into the Airport Noise and Operations Management System (ANOMS) for identification, noise to flight track matching and Community Noise Equivalent Level (CNEL) metric calculations.

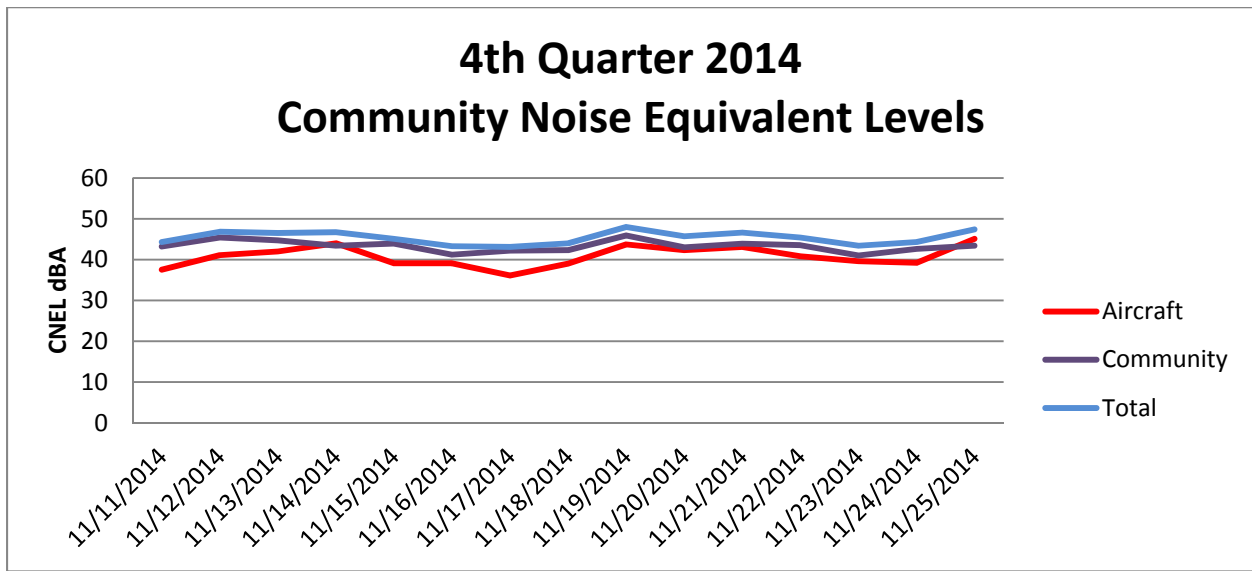
The noise level thresholds of 52 dBA during the daytime hours from 7:00 a.m. to 10:00 p.m. and 50 dBA for the nighttime hours from 10:01 p.m. to 6:59 a.m. were used for this study. Although the ACR's acoustic consultant recommended a lower threshold of 42 dBA to account for lower ambient levels for night hours, the lower level could not be achieved due to the threshold limitations of the equipment.

Aircraft noise levels in Portola Valley and Woodside are at levels expected in communities that are 15 nautical miles away from a large hub airport, and below several arrival corridors serving 2 main commercial use runways (28L, 28R) at SFO. The California Code of Federal Regulations, Title 21, Division 2.5, Chapter 6, paragraph 5012 states:

*“The standard for the acceptable level of aircraft noise for persons living in the vicinity of airports is hereby established to be a community noise equivalent level of 65 decibels.”*

Since Aircraft CNEL was measured at 41dBA for Portola Valley and 41dBA for Woodside, both communities have an acceptable level of aircraft noise as defined by state law. The results of these field monitoring validates the extent of the 65dBA CNEL noise impact boundary confirming Aircraft CNEL is significantly less than 65dBA CNEL.

**Table 1 – Sioux Way, Portola Valley**



|                |                               |                            |                        |
|----------------|-------------------------------|----------------------------|------------------------|
| <b>Average</b> | <b>SFO Aircraft CNEL – 39</b> | <b>Community CNEL – 44</b> | <b>Total CNEL - 46</b> |
| Range          | 29-43                         | 41-46                      | 43-48                  |

**SFO Aircraft Noise Data Summary – 15 Days Measurement Period**

|                             | Total Noise Events | Lowest Value | Highest Value | Average Value |
|-----------------------------|--------------------|--------------|---------------|---------------|
| <b>Aircraft Lmax</b>        | 497                | 51           | 76            | 61            |
| <b>Aircraft SEL</b>         | 497                | 60           | 86            | 70            |
| <b>Noise Event Duration</b> | 497                | 8            | 65            | 23            |

33 events per day

**Daytime Hours 7:00 a.m. to 7:00 p.m.**

|                             | Total Noise Events | Lowest Value | Highest Value | Average Value |
|-----------------------------|--------------------|--------------|---------------|---------------|
| <b>Aircraft Lmax</b>        | 363                | 53           | 76            | 61            |
| <b>Aircraft SEL</b>         | 363                | 60           | 86            | 71            |
| <b>Noise Event Duration</b> | 363                | 8            | 65            | 23            |

24 events per day

**Evening Hours 7:00 p.m. to 10:00 p.m.**

|                             | Total Noise Events | Lowest Value | Highest Value | Average Value |
|-----------------------------|--------------------|--------------|---------------|---------------|
| <b>Aircraft Lmax</b>        | 86                 | 53           | 65            | 60            |
| <b>Aircraft SEL</b>         | 86                 | 61           | 75            | 70            |
| <b>Noise Event Duration</b> | 86                 | 8            | 44            | 23            |

6 events per day

**Nighttime Hours 10:00 p.m. to 7:00 a.m.**

|                             | Total Noise Events | Lowest Value | Highest Value | Average Value |
|-----------------------------|--------------------|--------------|---------------|---------------|
| <b>Aircraft Lmax</b>        | 48                 | 51           | 67            | 58            |
| <b>Aircraft SEL</b>         | 48                 | 61           | 78            | 69            |
| <b>Noise Event Duration</b> | 48                 | 9            | 53            | 24            |

4 events per day

**Sioux Way, Portola Valley**

**Date:** 11-11-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|
| A319                 | 1             | 62.5                              |      |      |      |      |
| A320                 | 5             | 54.7                              | 59.8 | 60.2 | 60.6 | 62.0 |
| B733                 | 2             | 56.0                              | 56.8 |      |      |      |
| B734                 | 1             | 66.5                              |      |      |      |      |
| B737                 | 1             | 57.2                              |      |      |      |      |
| B738                 | 2             | 55.6                              | 57.3 |      |      |      |
| B739                 | 1             | 63.1                              |      |      |      |      |
| B763                 | 1             | 55.7                              |      |      |      |      |
| B772                 | 1             | 58.2                              |      |      |      |      |
| B77W                 | 2             | 52.8                              | 55.3 |      |      |      |
| <b>Total</b>         | <b>17</b>     |                                   |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|
| B734                 | 1             | 58.4                              |      |      |      |      |      |
| B737                 | 1             | 56.7                              |      |      |      |      |      |
| B738                 | 1             | 56.5                              |      |      |      |      |      |
| BE20                 | 1             | 63.5                              |      |      |      |      |      |
| BE9L                 | 1             | 61.0                              |      |      |      |      |      |
| C425                 | 1             | 61.5                              |      |      |      |      |      |
| DH8D                 | 1             | 55.1                              |      |      |      |      |      |
| M20P                 | 1             | 62.4                              |      |      |      |      |      |
| PC12                 | 1             | 53.7                              |      |      |      |      |      |
| SR22                 | 1             | 59.0                              |      |      |      |      |      |
| (blank)              | 6             | 55.1                              | 55.7 | 59.1 | 60.8 | 62.8 | 64.3 |
| <b>Total</b>         | <b>16</b>     |                                   |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-12-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|
| A320                 | 4             | 57.6                              | 58.3 | 61.6 | 64.9 |      |
| A321                 | 3             | 54.8                              | 55.8 | 59.9 |      |      |
| A343                 | 1             | 60.9                              |      |      |      |      |
| A388                 | 1             | 60.3                              |      |      |      |      |
| B733                 | 1             | 54.9                              |      |      |      |      |
| B737                 | 4             | 56.2                              | 57.8 | 57.9 | 60.5 |      |
| B738                 | 5             | 54.4                              | 56.4 | 57.3 | 58.9 | 59.3 |
| B744                 | 4             | 53.7                              | 56.4 | 59.9 | 61.8 |      |
| B77W                 | 4             | 54.6                              | 55.7 | 62.5 | 63.5 |      |
| CL30                 | 2             | 55.2                              | 62.1 |      |      |      |
| CRJ2                 | 1             | 61.8                              |      |      |      |      |
| CRJ7                 | 1             | 54.9                              |      |      |      |      |
| E120                 | 3             | 56.1                              | 56.7 | 57.6 |      |      |
| GALX                 | 1             | 58.3                              |      |      |      |      |
| <b>Total</b>         | <b>35</b>     |                                   |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|
| B734                 | 3             | 55.1                              | 55.3 | 60.0 |      |      |      |
| B737                 | 1             | 55.5                              |      |      |      |      |      |
| B738                 | 1             | 55.4                              |      |      |      |      |      |
| B763                 | 2             | 60.9                              | 68.6 |      |      |      |      |
| C206                 | 6             | 55.7                              | 57.8 | 60.6 | 61.4 | 67.6 | 68.0 |
| CL30                 | 1             | 65.9                              |      |      |      |      |      |
| MD88                 | 1             | 54.8                              |      |      |      |      |      |
| PC12                 | 2             | 56.5                              | 56.8 |      |      |      |      |
| (blank)              | 3             | 56.4                              | 57.7 | 74.8 |      |      |      |
| <b>Total</b>         | <b>20</b>     |                                   |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/origin airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-13-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |  |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|--|
| A319                 | 2             | 54.3                              | 56   |      |      |      |      |  |
| A320                 | 6             | 52.6                              | 53.3 | 55.3 | 58.9 | 59.4 | 60.4 |  |
| A321                 | 2             | 52.8                              | 65.4 |      |      |      |      |  |
| A332                 | 2             | 55.5                              | 59.4 |      |      |      |      |  |
| A346                 | 1             | 59.6                              |      |      |      |      |      |  |
| B733                 | 1             | 57.6                              |      |      |      |      |      |  |
| B737                 | 3             | 55.2                              | 58.2 | 63   |      |      |      |  |
| B738                 | 2             | 51.2                              | 60.6 |      |      |      |      |  |
| B739                 | 3             | 56.8                              | 60.5 | 61.4 |      |      |      |  |
| B744                 | 2             | 59.8                              | 66   |      |      |      |      |  |
| B748                 | 1             | 58.8                              |      |      |      |      |      |  |
| B772                 | 3             | 54                                | 54.8 | 57.5 |      |      |      |  |
| B77W                 | 5             | 55.6                              | 56.4 | 56.5 | 59.8 | 61.9 |      |  |
| B788                 | 1             | 54.1                              |      |      |      |      |      |  |
| CL30                 | 1             | 64.5                              |      |      |      |      |      |  |
| E120                 | 3             | 56.4                              | 59.2 | 59.4 |      |      |      |  |
| E170                 | 4             | 58.4                              | 61   | 61.3 | 62.7 |      |      |  |
| WW24                 | 1             | 56.2                              |      |      |      |      |      |  |
| <b>Total</b>         | <b>43</b>     |                                   |      |      |      |      |      |  |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |  |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|--|
| A388                 | 1             | 51.8                              |      |      |      |      |      |      |  |
| B734                 | 1             | 53.8                              |      |      |      |      |      |      |  |
| B737                 | 4             | 54.2                              | 55.1 | 55.8 | 57.8 |      |      |      |  |
| B738                 | 2             | 56.1                              | 57.8 |      |      |      |      |      |  |
| C130                 | 1             | 58.7                              |      |      |      |      |      |      |  |
| P3                   | 1             | 57.2                              |      |      |      |      |      |      |  |
| PC12                 | 3             | 58.5                              | 62.2 | 63.7 |      |      |      |      |  |
| (blank)              | 7             | 53.7                              | 56.4 | 60.9 | 63.5 | 64.4 | 66.7 | 68.4 |  |
| <b>Total</b>         | <b>20</b>     |                                   |      |      |      |      |      |      |  |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-14-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|
| A319                 | 5             | 56.1                              | 61.2 | 61.8 | 63.1 | 63.4 |      |      |
| A320                 | 7             | 55.8                              | 58.7 | 58.7 | 61.0 | 62.2 | 62.8 | 67.7 |
| A321                 | 2             | 52.5                              | 62.8 |      |      |      |      |      |
| A332                 | 2             | 53.4                              | 53.6 |      |      |      |      |      |
| A388                 | 1             | 53.4                              |      |      |      |      |      |      |
| B733                 | 2             | 60.4                              | 61.3 |      |      |      |      |      |
| B737                 | 2             | 52.7                              | 60.6 |      |      |      |      |      |
| B738                 | 3             | 54.7                              | 61.3 | 63.4 |      |      |      |      |
| B739                 | 2             | 57.8                              | 62.4 |      |      |      |      |      |
| B744                 | 2             | 56.3                              | 67.0 |      |      |      |      |      |
| B763                 | 1             | 58.4                              |      |      |      |      |      |      |
| B772                 | 2             | 55.8                              | 56.2 |      |      |      |      |      |
| B77W                 | 4             | 55.7                              | 55.7 | 59.1 | 64.0 |      |      |      |
| B788                 | 1             | 54.9                              |      |      |      |      |      |      |
| CL30                 | 1             | 60.0                              |      |      |      |      |      |      |
| CRJ7                 | 4             | 54.3                              | 57.0 | 57.1 | 63.9 |      |      |      |
| E120                 | 4             | 51.8                              | 52.8 | 53.3 | 55.6 |      |      |      |
| E170                 | 2             | 56.1                              | 57.6 |      |      |      |      |      |
| <b>Total</b>         | <b>47</b>     |                                   |      |      |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|
| B738                 | 3             | 54.7                              | 56.3 | 58.3 |      |      |      |      |
| B763                 | 1             | 64.8                              |      |      |      |      |      |      |
| C25C                 | 1             | 60.4                              |      |      |      |      |      |      |
| C310                 | 1             | 60.9                              |      |      |      |      |      |      |
| C337                 | 1             | 59.9                              |      |      |      |      |      |      |
| EC45                 | 3             | 56.9                              | 60.5 | 61.9 |      |      |      |      |
| PC12                 | 4             | 53.9                              | 55.0 | 61.8 | 63.8 |      |      |      |
| R22                  | 7             | 53.9                              | 54.8 | 55.6 | 55.9 | 57.7 | 59.3 | 60.1 |
| T38                  | 1             | 63.8                              |      |      |      |      |      |      |
| TBM7                 | 1             | 61.0                              |      |      |      |      |      |      |
| (blank)              | 7             | 54.1                              | 55.0 | 55.1 | 57.0 | 59.3 | 62.7 | 65.7 |
| <b>Total</b>         | <b>30</b>     |                                   |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:***Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.**Red is a Departure Operation.**Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-15-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |
|----------------------|---------------|-----------------------------------|------|------|
| A319                 | 3             | 57.3                              | 61.9 | 65.1 |
| A320                 | 1             | 61.3                              |      |      |
| A321                 | 2             | 56.6                              | 63.2 |      |
| A332                 | 2             | 53.7                              | 55.5 |      |
| A388                 | 1             | 58.9                              |      |      |
| B733                 | 2             | 51.9                              | 54.9 |      |
| B738                 | 2             | 55.5                              | 59.6 |      |
| B739                 | 2             | 52.3                              | 54.5 |      |
| B744                 | 2             | 57.1                              | 61.6 |      |
| B752                 | 2             | 58.3                              | 61.4 |      |
| B764                 | 1             | 58.4                              |      |      |
| B772                 | 2             | 55.5                              | 57.1 |      |
| B77W                 | 2             | 57.0                              | 62.3 |      |
| B788                 | 1             | 55.0                              |      |      |
| E120                 | 3             | 54.7                              | 57.1 | 58.6 |
| E170                 | 1             | 53.3                              |      |      |
| GALX                 | 1             | 60.5                              |      |      |
| <b>Total</b>         | <b>30</b>     |                                   |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| B737                 | 1             | 56.8                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| B738                 | 3             | 53.9                              | 55.0 | 57.2 |      |      |      |      |      |      |      |      |      |      |      |
| BE35                 | 1             | 62.8                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| C140                 | 1             | 61.4                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| C172                 | 1             | 61.1                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| C206                 | 1             | 57.8                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| C210                 | 1             | 54.1                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| DH8D                 | 1             | 51.2                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| GLEX                 | 1             | 56.6                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| P28A                 | 1             | 54.8                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| PC12                 | 3             | 57.4                              | 61.2 | 64.9 |      |      |      |      |      |      |      |      |      |      |      |
| SR22                 | 1             | 55.3                              |      |      |      |      |      |      |      |      |      |      |      |      |      |
| (blank)              | 14            | 54.4                              | 55.0 | 55.9 | 56.5 | 57.5 | 57.9 | 58.1 | 58.2 | 59.0 | 60.8 | 60.9 | 61.1 | 62.1 | 66.3 |
| <b>Total</b>         | <b>30</b>     |                                   |      |      |      |      |      |      |      |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/origin airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*



**Sioux Way, Portola Valley**

**Date:** 11-16-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| A319                 | 1             | 54.8                              |      |      |      |
| A320                 | 2             | 56.2                              | 56.5 |      |      |
| A321                 | 1             | 60.1                              |      |      |      |
| B737                 | 1             | 53.2                              |      |      |      |
| B738                 | 3             | 52.6                              | 61.2 | 63.2 |      |
| B739                 | 2             | 53.3                              | 57.7 |      |      |
| B744                 | 1             | 58.4                              |      |      |      |
| B772                 | 3             | 51.7                              | 55.5 | 56.7 |      |
| B77W                 | 2             | 55.7                              | 63.5 |      |      |
| B788                 | 1             | 57.4                              |      |      |      |
| BE20                 | 1             | 56.0                              |      |      |      |
| CRJ7                 | 1             | 55.0                              |      |      |      |
| E120                 | 4             | 53.5                              | 57.2 | 59.2 | 61.9 |
| <b>Total</b>         | <b>23</b>     |                                   |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| F18 (4)              | 1             | 57.9                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| B734                 | 1             | 53.6                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| B738                 | 2             | 54.5                              | 55.9 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| B788                 | 1             | 54.6                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| C172                 | 1             | 59.6                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| PC12                 | 1             | 56.7                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| SR20                 | 1             | 55.9                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| SR22                 | 1             | 59.5                              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| (blank)              | 16            | 54.8                              | 54.8 | 55.0 | 55.1 | 55.8 | 56.1 | 56.5 | 56.9 | 57.1 | 58.2 | 58.3 | 58.5 | 59.1 | 59.3 | 59.4 | 72.9 |
| <b>Total</b>         | <b>25</b>     |                                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-17-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |
|----------------------|---------------|-----------------------------------|------|
| A319                 | 2             | 57.6                              | 58.3 |
| A320                 | 1             | 55.9                              |      |
| B738                 | 2             | 54.8                              | 58.0 |
| B744                 | 2             | 57.9                              | 58.4 |
| B772                 | 1             | 53.7                              |      |
| B788                 | 1             | 55.7                              |      |
| E120                 | 1             | 55.7                              |      |
| HELO                 | 1             | 61.4                              |      |
| <b>Total</b>         | <b>11</b>     |                                   |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |           |
|----------------------|---------------|-----------------------------------|------|-----------|
| B738                 | 1             | 53.6                              |      |           |
| B763                 | 2             | 53.0                              | 58.9 |           |
| PC12                 | 4             | 56.9                              | 58.9 | 60.7 61.0 |
| (blank)              | 3             | 56.8                              | 58.9 | 62.2      |
| <b>Total</b>         | <b>10</b>     |                                   |      |           |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

**Date:** 11-18-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| A320                 | 1             | 56.0                              |      |      |      |
| B733                 | 1             | 57.4                              |      |      |      |
| B738                 | 2             | 59.3                              | 60.6 |      |      |
| B744                 | 2             | 56.6                              | 65.1 |      |      |
| B772                 | 1             | 54.1                              |      |      |      |
| B77W                 | 1             | 58.9                              |      |      |      |
| E120                 | 4             | 53.7                              | 56.5 | 57.7 | 61.6 |
| <b>Total</b>         | <b>12</b>     |                                   |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| B737                 | 2             | 54.2                              | 58.1 |      |      |
| B738                 | 3             | 53.3                              | 56.3 | 57.3 |      |
| C130                 | 1             | 63.3                              |      |      |      |
| C172                 | 3             | 55.0                              | 56.1 | 56.1 |      |
| HELO                 | 1             | 73.2                              |      |      |      |
| PC12                 | 3             | 57.8                              | 57.9 | 60.0 |      |
| SR22                 | 1             | 56.1                              |      |      |      |
| (blank)              | 4             | 53.8                              | 55.0 | 60.9 | 61.1 |
| <b>Total</b>         | <b>18</b>     |                                   |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-19-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| A319                 | 1             | 53.7                              |      |      |      |
| A320                 | 3             | 55.7                              | 58.9 | 61.4 |      |
| A321                 | 2             | 54.2                              | 64.1 |      |      |
| A332                 | 1             | 56.6                              |      |      |      |
| A346                 | 3             | 53.3                              | 59.0 | 63.1 |      |
| B733                 | 1             | 60.6                              |      |      |      |
| B734                 | 1             | 64.9                              |      |      |      |
| B737                 | 1             | 53.6                              |      |      |      |
| B738                 | 4             | 55.9                              | 60.4 | 61.0 | 61.2 |
| B739                 | 4             | 54.7                              | 55.5 | 56.5 | 60.2 |
| B744                 | 2             | 56.7                              | 76.4 |      |      |
| B748                 | 1             | 58.9                              |      |      |      |
| B753                 | 1             | 53.5                              |      |      |      |
| B772                 | 2             | 59.0                              | 60.9 |      |      |
| B77W                 | 1             | 60.3                              |      |      |      |
| C56X                 | 1             | 57.2                              |      |      |      |
| CL30                 | 1             | 61.5                              |      |      |      |
| CRJ9                 | 1             | 56.3                              |      |      |      |
| E120                 | 3             | 53.0                              | 55.0 | 57.3 |      |
| E170                 | 3             | 55.3                              | 56.0 | 60.3 |      |
| <b>Total</b>         | <b>37</b>     |                                   |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| B737                 | 1             | 59.2                              |      |      |      |
| B738                 | 1             | 54.5                              |      |      |      |
| BE20                 | 1             | 56.6                              |      |      |      |
| C172                 | 1             | 54.6                              |      |      |      |
| PC12                 | 4             | 56.5                              | 58.4 | 59.1 | 62.9 |
| SR20                 | 1             | 53.2                              |      |      |      |
| <b>Total</b>         | <b>9</b>      |                                   |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-20-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|
| A319                 | 4             | 52.5                              | 58.5 | 59.5 | 63.1 |      |      |
| A320                 | 6             | 55.6                              | 55.7 | 63.5 | 63.6 | 64.0 | 64.4 |
| A321                 | 2             | 57.0                              | 57.4 |      |      |      |      |
| A332                 | 1             | 62.4                              |      |      |      |      |      |
| A346                 | 1             | 63.2                              |      |      |      |      |      |
| B733                 | 3             | 52.7                              | 56.4 | 61.3 |      |      |      |
| B734                 | 2             | 55.8                              | 59.0 |      |      |      |      |
| B737                 | 2             | 55.7                              | 55.7 |      |      |      |      |
| B738                 | 6             | 54.4                              | 55.2 | 55.4 | 56.3 | 58.1 | 64.3 |
| B739                 | 4             | 53.9                              | 60.1 | 61.5 | 61.7 |      |      |
| B744                 | 3             | 54.6                              | 56.4 | 64.4 |      |      |      |
| B752                 | 1             | 56.1                              |      |      |      |      |      |
| B772                 | 1             | 65.5                              |      |      |      |      |      |
| B77W                 | 3             | 55.1                              | 58.6 | 63.6 |      |      |      |
| B788                 | 1             | 56.6                              |      |      |      |      |      |
| CL30                 | 1             | 64.1                              |      |      |      |      |      |
| CRJ7                 | 1             | 63.5                              |      |      |      |      |      |
| E170                 | 1             | 58.1                              |      |      |      |      |      |
| <b>Total</b>         | <b>43</b>     |                                   |      |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|
| B733                 | 1             | 56.6                              |      |      |      |      |      |      |
| B734                 | 4             | 52.6                              | 55.1 | 56.5 | 59.1 |      |      |      |
| B737                 | 1             | 60.7                              |      |      |      |      |      |      |
| B738                 | 3             | 53.4                              | 58.0 | 58.2 |      |      |      |      |
| C180                 | 1             | 66.2                              |      |      |      |      |      |      |
| C750                 | 1             | 66.7                              |      |      |      |      |      |      |
| PC12                 | 7             | 55.4                              | 55.7 | 55.8 | 55.9 | 56.5 | 58.4 | 58.5 |
| SR22                 | 1             | 59.8                              |      |      |      |      |      |      |
| <b>Total</b>         | <b>19</b>     |                                   |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-21-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|
| A319                 | 5             | 53.3                              | 53.5 | 55.0 | 55.1 | 56.6 |      |      |
| A320                 | 7             | 53.4                              | 54.7 | 55.0 | 58.2 | 63.1 | 63.6 | 71.5 |
| A321                 | 1             | 56.3                              |      |      |      |      |      |      |
| A343                 | 1             | 53.8                              |      |      |      |      |      |      |
| A346                 | 1             | 59.0                              |      |      |      |      |      |      |
| B733                 | 5             | 55.6                              | 59.3 | 60.1 | 62.8 | 63.3 |      |      |
| B734                 | 2             | 55.9                              | 60.4 |      |      |      |      |      |
| B738                 | 5             | 54.0                              | 54.4 | 55.4 | 58.3 | 59.4 |      |      |
| B739                 | 4             | 53.3                              | 54.6 | 56.4 | 58.1 |      |      |      |
| B744                 | 5             | 55.1                              | 56.4 | 56.6 | 57.9 | 72.6 |      |      |
| B753                 | 1             | 52.5                              |      |      |      |      |      |      |
| B763                 | 1             | 58.2                              |      |      |      |      |      |      |
| B764                 | 1             | 62.6                              |      |      |      |      |      |      |
| B772                 | 2             | 55.0                              | 67.5 |      |      |      |      |      |
| B77W                 | 5             | 53.2                              | 53.3 | 55.9 | 56.0 | 64.5 |      |      |
| B788                 | 2             | 53.9                              | 54.9 |      |      |      |      |      |
| E120                 | 3             | 53.3                              | 54.2 | 57.1 |      |      |      |      |
| E170                 | 2             | 54.5                              | 58.7 |      |      |      |      |      |
| HELO                 | 1             | 76.0                              |      |      |      |      |      |      |
| <b>Total</b>         | <b>54</b>     |                                   |      |      |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |  |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|--|
| B733                 | 1             | 60.4                              |      |      |      |      |      |  |
| B734                 | 1             | 58.9                              |      |      |      |      |      |  |
| B737                 | 3             | 54.7                              | 56.2 | 57.4 |      |      |      |  |
| B738                 | 3             | 51.2                              | 56.7 | 61.7 |      |      |      |  |
| B739                 | 1             | 56.5                              |      |      |      |      |      |  |
| B763                 | 1             | 58.0                              |      |      |      |      |      |  |
| C25C                 | 1             | 60.9                              |      |      |      |      |      |  |
| CL30                 | 1             | 58.1                              |      |      |      |      |      |  |
| GALX                 | 1             | 55.6                              |      |      |      |      |      |  |
| GLF5                 | 1             | 51.1                              |      |      |      |      |      |  |
| PC12                 | 6             | 53.2                              | 57.8 | 59.0 | 61.7 | 63.3 | 64.2 |  |
| SR22                 | 1             | 61.8                              |      |      |      |      |      |  |
| (blank)              | 1             | 71.0                              |      |      |      |      |      |  |
| <b>Total</b>         | <b>22</b>     |                                   |      |      |      |      |      |  |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-22-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |      |  |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|------|--|
| A319                 | 3             | 59.0                              | 59.5 | 63.3 |      |      |      |      |      |      |  |
| A320                 | 6             | 58.1                              | 58.6 | 58.9 | 59.9 | 63.0 | 68.0 |      |      |      |  |
| A321                 | 1             | 65.5                              |      |      |      |      |      |      |      |      |  |
| A332                 | 1             | 61.1                              |      |      |      |      |      |      |      |      |  |
| A343                 | 1             | 58.8                              |      |      |      |      |      |      |      |      |  |
| A346                 | 1             | 57.4                              |      |      |      |      |      |      |      |      |  |
| B733                 | 1             | 57.8                              |      |      |      |      |      |      |      |      |  |
| B734                 | 3             | 58.8                              | 60.0 | 60.3 |      |      |      |      |      |      |  |
| B737                 | 3             | 56.5                              | 61.3 | 62.9 |      |      |      |      |      |      |  |
| B738                 | 9             | 52.9                              | 57.4 | 58.2 | 58.6 | 58.7 | 58.8 | 59.3 | 60.6 | 60.8 |  |
| B739                 | 3             | 54.2                              | 54.9 | 55.0 |      |      |      |      |      |      |  |
| B744                 | 6             | 56.3                              | 58.4 | 60.0 | 60.4 | 61.9 | 64.5 |      |      |      |  |
| B772                 | 3             | 55.0                              | 57.1 | 57.4 |      |      |      |      |      |      |  |
| B77W                 | 2             | 54.5                              | 55.0 |      |      |      |      |      |      |      |  |
| B788                 | 1             | 56.0                              |      |      |      |      |      |      |      |      |  |
| CRJ7                 | 2             | 56.1                              | 60.2 |      |      |      |      |      |      |      |  |
| E120                 | 5             | 56.3                              | 56.5 | 59.0 | 60.9 | 63.5 |      |      |      |      |  |
| E170                 | 3             | 53.6                              | 54.7 | 55.8 |      |      |      |      |      |      |  |
| <b>Total</b>         | <b>54</b>     |                                   |      |      |      |      |      |      |      |      |  |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |  |  |  |  |  |
|----------------------|---------------|-----------------------------------|------|------|------|------|--|--|--|--|--|
| B733                 | 2             | 55.1                              | 61.8 |      |      |      |  |  |  |  |  |
| B734                 | 2             | 54.3                              | 55.3 |      |      |      |  |  |  |  |  |
| B737                 | 1             | 56.2                              |      |      |      |      |  |  |  |  |  |
| B738                 | 3             | 57.4                              | 60.1 | 61.7 |      |      |  |  |  |  |  |
| B763                 | 1             | 55.3                              |      |      |      |      |  |  |  |  |  |
| C172                 | 1             | 57.6                              |      |      |      |      |  |  |  |  |  |
| PA32                 | 1             | 53.8                              |      |      |      |      |  |  |  |  |  |
| PC12                 | 3             | 52.6                              | 53.5 | 56.3 |      |      |  |  |  |  |  |
| SR22                 | 1             | 65.4                              |      |      |      |      |  |  |  |  |  |
| (blank)              | 5             | 56.0                              | 56.0 | 58.0 | 60.0 | 64.1 |  |  |  |  |  |
| <b>Total</b>         | <b>20</b>     |                                   |      |      |      |      |  |  |  |  |  |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/origin airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

Sioux Way, Portola Valley

Date: 11-23-2014

Single SFO Aircraft

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |
|----------------------|---------------|-----------------------------------|
| B738                 | 1             | 54.6                              |
| B772                 | 2             | 52.7 53.2                         |
| CRJ7                 | 1             | 56.0                              |
| E120                 | 1             | 58.9                              |
| HELO                 | 1             | 57.2                              |
| <b>Total</b>         | <b>6</b>      |                                   |

Non-SFO Aircraft

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u>  |
|----------------------|---------------|--|
| B763                 | 1             | 63.7   |
| C172                 | 3             | 55.3 58.7 64.3   |
| C182                 | 4             | 55.5 56.2 57.2 62.7  |
| C210                 | 2             | 55.7 58.4  |
| DA42                 | 1             | 53.4   |
| EC45                 | 3             | 54.3 68.6 71.1   |
| OFA                  | 1             | 58.1   |
| PC12                 | 1             | 60.0   |
| R44                  | 1             | 54.7   |
| SR22                 | 1             | 54.7   |
| T28                  | 1             | 62.4   |
| (blank)              | 21            | 53.9 54.9 55.3 55.7 56.5 57.9 58.0 58.3 58.7 60.0 60.0 61.6 61.9 62.5 63.1 63.3 64.2 64.3 66.4 66.7 71.9 |
| <b>Total</b>         | <b>40</b>     |  |

**Color Code for Maximum Noise Levels:**

Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.

Red is a Departure Operation.

Blue Highlight is an Oceanic Arrival.



**Sioux Way, Portola Valley**

Date: 11-24-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|
| A319                 | 2             | 59.7                              | 61.5 |      |      |      |
| A320                 | 3             | 55.4                              | 57.5 | 60.4 |      |      |
| B734                 | 1             | 61.9                              |      |      |      |      |
| B737                 | 1             | 51.6                              |      |      |      |      |
| B738                 | 4             | 53.3                              | 54.4 | 56.0 | 56.5 |      |
| B744                 | 3             | 59.1                              | 59.9 | 61.4 |      |      |
| B764                 | 1             | 58.6                              |      |      |      |      |
| B772                 | 1             | 58.4                              |      |      |      |      |
| B77W                 | 3             | 53.6                              | 56.6 | 58.6 |      |      |
| B788                 | 1             | 53.5                              |      |      |      |      |
| CRJ7                 | 1             | 58.4                              |      |      |      |      |
| E120                 | 5             | 51.8                              | 53.7 | 54.8 | 55.7 | 57.4 |
| E170                 | 1             | 56.3                              |      |      |      |      |
| <b>Total</b>         | <b>27</b>     |                                   |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|
| B733                 | 1             | 51.4                              |      |      |      |      |      |      |      |      |      |      |
| B734                 | 2             | 55.0                              | 55.2 |      |      |      |      |      |      |      |      |      |
| B737                 | 1             | 55.2                              |      |      |      |      |      |      |      |      |      |      |
| B738                 | 4             | 54.1                              | 55.2 | 55.4 | 55.7 |      |      |      |      |      |      |      |
| B763                 | 1             | 62.2                              |      |      |      |      |      |      |      |      |      |      |
| BE36                 | 2             | 56.8                              | 58.1 |      |      |      |      |      |      |      |      |      |
| BE76                 | 2             | 56.9                              | 59.2 |      |      |      |      |      |      |      |      |      |
| C172                 | 3             | 54.4                              | 59.4 | 66.5 |      |      |      |      |      |      |      |      |
| PC12                 | 4             | 55.4                              | 58.6 | 61.3 | 62.2 |      |      |      |      |      |      |      |
| SR20                 | 1             | 63.6                              |      |      |      |      |      |      |      |      |      |      |
| TBM7                 | 1             | 59.4                              |      |      |      |      |      |      |      |      |      |      |
| (blank)              | 11            | 53.5                              | 54.9 | 56.9 | 57.0 | 57.6 | 58.2 | 58.7 | 60.0 | 60.5 | 63.9 | 66.1 |
| <b>Total</b>         | <b>33</b>     |                                   |      |      |      |      |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**Sioux Way, Portola Valley**

Date: 11-25-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |  |
|----------------------|---------------|-----------------------------------|------|------|--|
| A320                 | 1             | 59.8                              |      |      |  |
| A321                 | 1             | 63.7                              |      |      |  |
| B737                 | 2             | 54.2                              | 63.9 |      |  |
| B744                 | 2             | 52.8                              | 53.1 |      |  |
| B772                 | 2             | 52.8                              | 56.6 |      |  |
| B77W                 | 3             | 54.9                              | 57.0 | 59.1 |  |
| E120                 | 3             | 54.1                              | 56.4 | 57.8 |  |
| <b>Total</b>         | <b>14</b>     |                                   |      |      |  |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|------|------|
| 8KCA                 | 1             | 63.3                              |      |      |      |      |      |      |      |      |      |
| AC50                 | 1             | 55.6                              |      |      |      |      |      |      |      |      |      |
| B738                 | 2             | 56.1                              | 66.0 |      |      |      |      |      |      |      |      |
| BE20                 | 1             | 54.9                              |      |      |      |      |      |      |      |      |      |
| BE76                 | 1             | 59.4                              |      |      |      |      |      |      |      |      |      |
| C130                 | 1             | 57.1                              |      |      |      |      |      |      |      |      |      |
| C172                 | 3             | 53.1                              | 55.1 | 61.7 |      |      |      |      |      |      |      |
| C182                 | 1             | 55.0                              |      |      |      |      |      |      |      |      |      |
| DA40                 | 1             | 55.4                              |      |      |      |      |      |      |      |      |      |
| F18                  | 1             | 82.3                              |      |      |      |      |      |      |      |      |      |
| GLF4                 | 1             | 57.0                              |      |      |      |      |      |      |      |      |      |
| PC12                 | 8             | 56.9                              | 59.7 | 60.3 | 60.4 | 61.2 | 61.3 | 61.3 | 63.3 |      |      |
| SR22                 | 2             | 62.3                              | 64.9 |      |      |      |      |      |      |      |      |
| T182                 | 1             | 59.6                              |      |      |      |      |      |      |      |      |      |
| (blank)              | 10            | 53.6                              | 54.1 | 55.7 | 55.7 | 55.9 | 57.0 | 58.1 | 58.7 | 59.0 | 59.8 |
| <b>Total</b>         | <b>35</b>     |                                   |      |      |      |      |      |      |      |      |      |

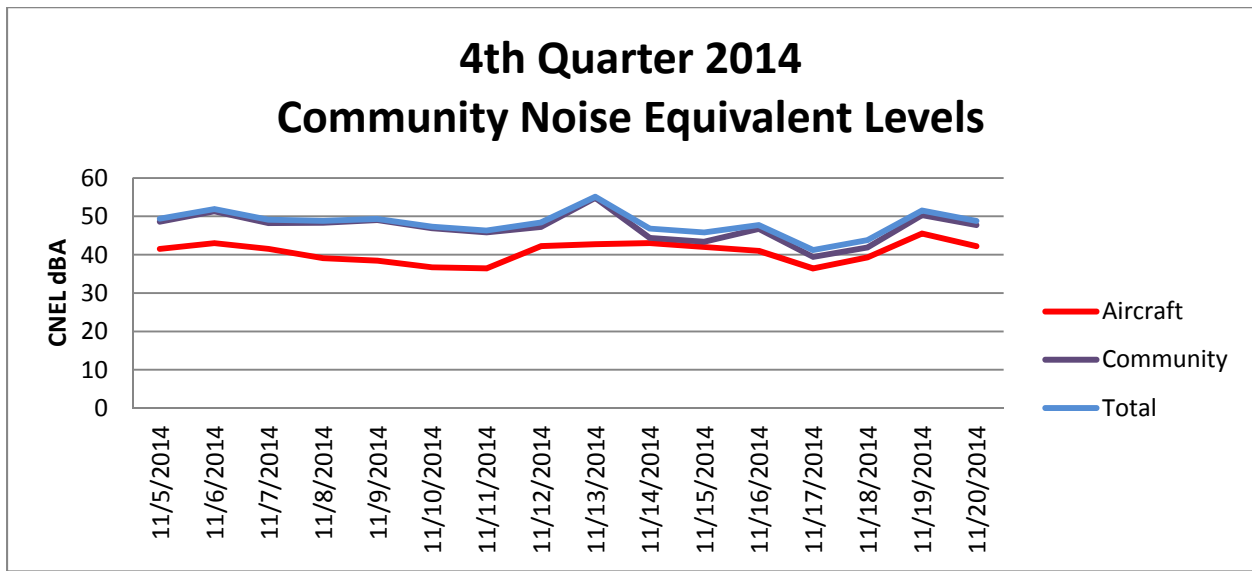
**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

Table 2 – OSI-VORTAC, Woodside



| Average | SFO Aircraft CNEL – 40 | Community CNEL – 49 | Total CNEL - 49 |
|---------|------------------------|---------------------|-----------------|
| Range   | 30-45                  | 39-55               | 41-55           |

**SFO Aircraft Noise Data Summary – 16 Days Measurement Period**

|                      | Total Noise Events | Lowest Value | Highest Value | Average Value |
|----------------------|--------------------|--------------|---------------|---------------|
| Aircraft Lmax        | 469                | 51           | 76            | 61            |
| Aircraft SEL         | 469                | 60           | 84            | 72            |
| Noise Event Duration | 469                | 8            | 120           | 25            |

29 events per day

**Daytime Hours 7:00 a.m. to 7:00 p.m.**

|                      | Total Noise Events | Lowest Value | Highest Value | Average Value |
|----------------------|--------------------|--------------|---------------|---------------|
| Aircraft Lmax        | 328                | 53           | 76            | 62            |
| Aircraft SEL         | 328                | 61           | 84            | 72            |
| Noise Event Duration | 328                | 8            | 120           | 26            |

21 events per day

**Evening Hours 7:00 p.m. to 10:00 p.m.**

|                      | Total Noise Events | Lowest Value | Highest Value | Average Value |
|----------------------|--------------------|--------------|---------------|---------------|
| Aircraft Lmax        | 74                 | 53           | 72            | 61            |
| Aircraft SEL         | 74                 | 62           | 81            | 71            |
| Noise Event Duration | 74                 | 8            | 57            | 23            |

5 events per day

**Nighttime Hours 10:00 p.m. to 7:00 a.m.**

|                      | Total Noise Events | Lowest Value | Highest Value | Average Value |
|----------------------|--------------------|--------------|---------------|---------------|
| Aircraft Lmax        | 67                 | 51           | 67            | 58            |
| Aircraft SEL         | 67                 | 60           | 76            | 69            |
| Noise Event Duration | 67                 | 8            | 63            | 24            |

4 events per day

**OSI-VORTAC, Woodside**

**Date:** 11-5-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| A320                 | 1             | 54.4                              |      |      |      |
| A321                 | 2             | 52.7                              | 54.9 |      |      |
| B734                 | 1             | 55.8                              |      |      |      |
| B738                 | 4             | 52.8                              | 55.2 | 57.2 | 61.6 |
| B739                 | 1             | 56.5                              |      |      |      |
| B744                 | 3             | 60.2                              | 64.7 | 66.3 |      |
| B752                 | 1             | 54.2                              |      |      |      |
| B753                 | 2             | 52.9                              | 53.9 |      |      |
| B763                 | 1             | 59.7                              |      |      |      |
| B764                 | 1             | 57.9                              |      |      |      |
| B772                 | 4             | 57.7                              | 58.6 | 59.1 | 59.9 |
| B77W                 | 4             | 56.3                              | 58.3 | 58.6 | 63.3 |
| B788                 | 1             | 56.8                              | 59.3 |      |      |
| E120                 | 3             | 53.8                              | 59.7 | 60.9 |      |
| E50P                 | 1             | 58.6                              |      |      |      |
| <b>Total</b>         | <b>30</b>     |                                   |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |  |
|----------------------|---------------|-----------------------------------|------|------|--|
| B733                 | 1             | 54.8                              |      |      |  |
| B763                 | 2             | 58.5                              | 69.2 |      |  |
| C182                 | 1             | 63.2                              |      |      |  |
| MD11                 | 1             | 55.4                              |      |      |  |
| SR20                 | 1             | 71.9                              |      |      |  |
| (blank)              | 4             | 53.4                              | 54.7 | 61.2 |  |
| <b>Total</b>         | <b>10</b>     |                                   |      |      |  |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-6-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|
| A320                 | 2             | 58.2                              | 60.2 |      |      |      |
| B738                 | 5             | 53.0                              | 54.4 | 55.7 | 57.2 | 59.3 |
| B739                 | 2             | 54.6                              | 57.9 |      |      |      |
| B744                 | 5             | 57.4                              | 66.2 | 66.7 | 66.8 |      |
| B752                 | 1             | 54.2                              |      |      |      |      |
| B753                 | 1             | 52.0                              |      |      |      |      |
| B764                 | 1             | 60.5                              |      |      |      |      |
| B772                 | 4             | 54.6                              | 56.2 | 56.4 | 59.5 |      |
| B77W                 | 1             | 58.6                              |      |      |      |      |
| E120                 | 1             | 55.3                              |      |      |      |      |
| GLEX                 | 1             | 62.7                              |      |      |      |      |
| HELO                 | 1             | 55.6                              |      |      |      |      |
| <b>Total</b>         | <b>25</b>     |                                   |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| B738                 | 2             | 58.0                              | 63.0 |      |      |
| B763                 | 1             | 66.0                              |      |      |      |
| C172                 | 4             | 63.2                              | 65.0 | 66.0 | 67.3 |
| C182                 | 1             | 54.0                              |      |      |      |
| C208                 | 1             | 53.5                              |      |      |      |
| F2TH                 | 1             | 62.1                              |      |      |      |
| F900                 | 1             | 60.8                              |      |      |      |
| MD11                 | 1             | 54.0                              |      |      |      |
| PA24                 | 1             | 56.2                              |      |      |      |
| PC12                 | 1             | 62.1                              |      |      |      |
| (blank)              | 4             | 58.7                              | 61.1 | 62.4 | 63.8 |
| <b>Total</b>         | <b>18</b>     |                                   |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-7-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| A320                 | 2             | 55.5                              | 61.1 |      |      |
| A332                 | 2             | 53.1                              | 60.4 |      |      |
| B733                 | 2             | 56.9                              | 63.0 |      |      |
| B734                 | 1             | 53.3                              |      |      |      |
| B737                 | 1             | 60.3                              |      |      |      |
| B738                 | 2             | 56.3                              | 58.3 |      |      |
| B739                 | 1             | 55.2                              |      |      |      |
| B744                 | 4             | 58.5                              | 58.5 | 59.5 | 61.5 |
| B753                 | 1             | 55.0                              |      |      |      |
| B762                 | 1             | 52.7                              |      |      |      |
| B763                 | 2             | 58.7                              | 64.8 |      |      |
| B764                 | 1             | 56.9                              |      |      |      |
| B772                 | 4             | 54.6                              | 56.4 | 56.5 | 57.3 |
| B77W                 | 3             | 53.3                              | 54.5 | 62.7 |      |
| B788                 | 2             | 54.0                              | 55.8 |      |      |
| CL30                 | 1             | 69.8                              |      |      |      |
| E120                 | 1             | 53.3                              |      |      |      |
| <b>Total</b>         | <b>31</b>     |                                   |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| B738                 | 3             | 53.2                              | 54.3 | 54.9 |      |
| B763                 | 1             | 59.1                              |      |      |      |
| BE35                 | 5             | 60.6                              | 63.5 | 63.5 | 65.6 |
| BE36                 | 1             | 61.8                              |      |      |      |
| BE40                 | 1             | 58.8                              |      |      |      |
| C130                 | 1             | 75.6                              |      |      |      |
| C172                 | 1             | 63.6                              |      |      |      |
| C206                 | 1             | 53.4                              |      |      |      |
| C510                 | 1             | 57.2                              |      |      |      |
| C750                 | 1             | 57.3                              |      |      |      |
| MD11                 | 1             | 52.6                              |      |      |      |
| P28R                 | 1             | 53.2                              |      |      |      |
| (blank)              | 2             | 53.5                              | 64.0 |      |      |
| <b>Total</b>         | <b>20</b>     |                                   |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-8-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| A320                 | 1             | 59.5                              |      |      |      |
| A321                 | 1             | 53.7                              |      |      |      |
| A332                 | 1             | 54.3                              |      |      |      |
| B733                 | 2             | 53.5                              | 58.6 |      |      |
| B738                 | 4             | 51.7                              | 52.5 | 53.4 | 55.4 |
| B739                 | 1             | 55.8                              |      |      |      |
| B744                 | 1             | 55.0                              |      |      |      |
| B763                 | 1             | 59.6                              |      |      |      |
| B772                 | 1             | 59.3                              |      |      |      |
| B77W                 | 3             | 52.6                              | 54.5 | 55.0 |      |
| B788                 | 1             | 59.5                              |      |      |      |
| E120                 | 1             | 54.2                              |      |      |      |
| GL5T                 | 1             | 63.2                              |      |      |      |
| <b>Total</b>         | <b>19</b>     |                                   |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| B738                 | 3             | 52.1                              | 53.0 | 53.4 |      |      |      |      |      |      |      |      |      |
| B763                 | 1             | 68.4                              |      |      |      |      |      |      |      |      |      |      |      |
| C172                 | 3             | 59.0                              | 59.0 | 61.4 |      |      |      |      |      |      |      |      |      |
| GL5T                 | 1             | 59.6                              |      |      |      |      |      |      |      |      |      |      |      |
| M20P                 | 1             | 55.6                              |      |      |      |      |      |      |      |      |      |      |      |
| PC12                 | 1             | 56.0                              |      |      |      |      |      |      |      |      |      |      |      |
| (blank)              | 12            | 54.4                              | 55.0 | 55.3 | 55.4 | 56.4 | 57.3 | 57.6 | 58.2 | 59.3 | 59.4 | 61.9 | 65.7 |
| <b>Total</b>         | <b>22</b>     |                                   |      |      |      |      |      |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-9-2014

**Single SFO Aircraft**

| Aircraft Type | Amount    | Maximum Noise Levels (dBA) |      |      |  |
|---------------|-----------|----------------------------|------|------|--|
| A319          | 1         | 57.3                       |      |      |  |
| A320          | 2         | 59.0                       | 61.0 |      |  |
| A321          | 1         | 51.3                       |      |      |  |
| A332          | 1         | 62.5                       |      |      |  |
| B738          | 3         | 53.4                       | 53.8 | 56.7 |  |
| B739          | 2         | 53.5                       | 54.7 |      |  |
| B744          | 1         | 54.1                       |      |      |  |
| B752          | 1         | 54.3                       |      |      |  |
| B772          | 3         | 55.5                       | 56.7 | 60.9 |  |
| B77W          | 2         | 57.3                       | 58.6 |      |  |
| B788          | 1         | 57.2                       |      |      |  |
| C750          | 1         | 59.0                       |      |      |  |
| E120          | 1         | 57.0                       |      |      |  |
| E170          | 1         | 53.8                       |      |      |  |
| <b>Total</b>  | <b>21</b> |                            |      |      |  |

**Non-SFO Aircraft**

| Aircraft Type | Amount    | Maximum Noise Levels (dBA) |      |      |      |      |      |      |
|---------------|-----------|----------------------------|------|------|------|------|------|------|
| A332          | 1         | 62.0                       |      |      |      |      |      |      |
| B763          | 1         | 61.8                       |      |      |      |      |      |      |
| C172          | 1         | 60.8                       |      |      |      |      |      |      |
| C206          | 1         | 60.1                       |      |      |      |      |      |      |
| MU2           | 1         | 65.4                       |      |      |      |      |      |      |
| P28B          | 1         | 60.4                       |      |      |      |      |      |      |
| (blank)       | 7         | 55.8                       | 58.3 | 58.8 | 59.7 | 59.9 | 60.6 | 66.0 |
| <b>Total</b>  | <b>13</b> |                            |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*



**OSI-VORTAC, Woodside**

**Date:** 11-10-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |
|----------------------|---------------|-----------------------------------|------|------|
| A320                 | 1             | 50.7                              |      |      |
| B738                 | 3             | 54.9                              | 57.5 | 57.6 |
| B739                 | 1             | 54.5                              |      |      |
| B744                 | 1             | 62.2                              |      |      |
| B772                 | 2             | 56.1                              |      |      |
| B77W                 | 1             | 58.3                              |      |      |
| B788                 | 1             | 61.3                              |      |      |
| E170                 | 1             | 57.5                              |      |      |
| <b>Total</b>         | <b>11</b>     |                                   |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |
|----------------------|---------------|-----------------------------------|------|------|
| A306                 | 1             | 61.0                              |      |      |
| B738                 | 1             | 56.2                              |      |      |
| B763                 | 1             | 65.6                              |      |      |
| C172                 | 2             | 55.5                              | 58.8 |      |
| CL30                 | 1             | 71.7                              |      |      |
| LNC4                 | 1             | 55.6                              |      |      |
| PC12                 | 3             | 56.7                              | 59.9 | 63.4 |
| <b>Total</b>         | <b>10</b>     |                                   |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-11-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|
| A319                 | 1             | 61.2                              |      |      |      |
| A320                 | 4             | 54.3                              | 54.7 | 61.6 | 64.3 |
| A332                 | 1             | 57.0                              |      |      |      |
| A388                 | 1             | 58.6                              |      |      |      |
| B733                 | 1             | 59.7                              |      |      |      |
| B738                 | 1             | 53.3                              |      |      |      |
| B739                 | 1             | 62.3                              |      |      |      |
| B744                 | 2             | 57.7                              | 58.5 |      |      |
| B764                 | 1             | 58.4                              |      |      |      |
| B772                 | 2             | 54.7                              | 63.0 |      |      |
| B77W                 | 2             | 57.5                              | 58.7 |      |      |
| B788                 | 1             | 60.6                              |      |      |      |
| CRJ9                 | 1             | 57.3                              |      |      |      |
| E120                 | 1             | 58.9                              |      |      |      |
| GLF4                 | 1             | 56.6                              |      |      |      |
| <b>Total</b>         | <b>21</b>     |                                   |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |
|----------------------|---------------|-----------------------------------|------|------|
| BE40                 | 1             | 64.9                              |      |      |
| BE9L                 | 1             | 60.2                              |      |      |
| C172                 | 3             | 54.2                              | 55.5 | 55.7 |
| C340                 | 1             | 60.2                              |      |      |
| F900                 | 1             | 61.4                              |      |      |
| P28A                 | 1             | 60.2                              |      |      |
| PC12                 | 2             | 57.2                              | 61.8 |      |
| SR22                 | 1             | 62.1                              |      |      |
| <b>Total</b>         | <b>11</b>     |                                   |      |      |

**Color Code for Maximum Noise Levels:***Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.**Red is a Departure Operation.**Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-12-2014

**Single SFO Aircraft**

| Aircraft Type | Amount    | Maximum Noise Levels (dBA) |      |      |      |      |
|---------------|-----------|----------------------------|------|------|------|------|
| A319          | 2         | 59.8                       | 61.4 |      |      |      |
| A320          | 4         | 55.4                       | 55.8 | 56.2 | 64.5 |      |
| A321          | 2         | 55.0                       | 59.4 |      |      |      |
| B734          | 1         | 58.3                       |      |      |      |      |
| B737          | 1         | 53.4                       |      |      |      |      |
| B738          | 5         | 52.6                       | 58.1 | 59.3 | 59.5 | 60.3 |
| B739          | 3         | 57.1                       | 59.5 | 61.5 |      |      |
| B744          | 1         | 64.0                       |      |      |      |      |
| B752          | 2         | 54.8                       | 55.1 |      |      |      |
| B753          | 1         | 57.7                       |      |      |      |      |
| B763          | 1         | 64.1                       |      |      |      |      |
| B764          | 1         | 66.0                       |      |      |      |      |
| B772          | 2         | 55.2                       | 62.6 |      |      |      |
| B77W          | 4         | 55.1                       | 55.6 | 57.9 | 58.8 |      |
| B788          | 1         | 60.5                       |      |      |      |      |
| C56X          | 1         | 58.5                       |      |      |      |      |
| C750          | 1         | 60.8                       |      |      |      |      |
| CL30          | 2         | 71.9                       | 75.5 |      |      |      |
| CRJ7          | 1         | 56.5                       |      |      |      |      |
| E120          | 2         | 55.2                       | 58.8 |      |      |      |
| E170          | 1         | 54.6                       |      |      |      |      |
| <b>Total</b>  | <b>39</b> |                            |      |      |      |      |

**Non-SFO Aircraft**

| Aircraft Type | Amount    | Maximum Noise Levels (dBA) |      |
|---------------|-----------|----------------------------|------|
| AA5           | 1         | 53.6                       |      |
| B734          | 1         | 55.4                       |      |
| B738          | 1         | 61.8                       |      |
| B763          | 1         | 56.9                       |      |
| BE40          | 1         | 55.2                       |      |
| C172          | 1         | 65.4                       |      |
| GLF4          | 1         | 57.2                       |      |
| LJ60          | 1         | 60.5                       |      |
| PC12          | 2         | 61.5                       | 62.0 |
| <b>Total</b>  | <b>10</b> |                            |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-13-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|
| A319                 | 2             | 60.7                              | 68.0 |      |      |      |      |      |
| A320                 | 6             | 52.5                              | 54.3 | 58.2 | 59.2 | 65.8 | 65.9 |      |
| A321                 | 1             | 58.0                              |      |      |      |      |      |      |
| A332                 | 1             | 63.1                              |      |      |      |      |      |      |
| A346                 | 1             | 68.9                              |      |      |      |      |      |      |
| B737                 | 3             | 57.4                              | 59.1 | 61.1 |      |      |      |      |
| B739                 | 4             | 53.2                              | 55.7 | 63.5 | 65.9 |      |      |      |
| B744                 | 3             | 63.6                              | 69.9 | 70.0 |      |      |      |      |
| B752                 | 2             | 54.0                              | 54.9 |      |      |      |      |      |
| B772                 | 5             | 56.7                              | 56.9 | 60.1 | 60.2 | 60.7 |      |      |
| B77W                 | 7             | 55.4                              | 57.3 | 57.3 | 59.3 | 60.1 | 63.4 | 64.3 |
| B788                 | 1             | 54.7                              |      |      |      |      |      |      |
| CL30                 | 1             | 53.7                              |      |      |      |      |      |      |
| E120                 | 3             | 57.8                              | 59.0 | 59.8 |      |      |      |      |
| E170                 | 2             | 55.8                              | 58.2 |      |      |      |      |      |
| HELO                 | 1             | 63.5                              |      |      |      |      |      |      |
| <b>Total</b>         | <b>43</b>     |                                   |      |      |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |
|----------------------|---------------|-----------------------------------|
| B733                 | 1             | 50.1                              |
| B738                 | 1             | 60.9                              |
| BE20                 | 1             | 60.2                              |
| C130                 | 1             | 61.1                              |
| C172                 | 1             | 60.6                              |
| F2TH                 | 1             | 62.5                              |
| LJ30                 | 1             | 57.6                              |
| P3                   | 1             | 72.9                              |
| SR22                 | 1             | 66.7                              |
| <b>Total</b>         | <b>9</b>      |                                   |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-14-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|
| A319                 | 3             | 60.4                              | 64.8 | 71.3 |      |      |      |
| A320                 | 3             | 56.4                              | 58.5 | 62.3 |      |      |      |
| A321                 | 1             | 62.7                              |      |      |      |      |      |
| A332                 | 1             | 55.8                              |      |      |      |      |      |
| B733                 | 1             | 62.6                              |      |      |      |      |      |
| B738                 | 4             | 57.9                              | 59.2 | 60.0 | 60.2 |      |      |
| B739                 | 1             | 55.0                              |      |      |      |      |      |
| B744                 | 3             | 61.8                              | 63.3 | 64.0 |      |      |      |
| B752                 | 1             | 63.2                              |      |      |      |      |      |
| B763                 | 3             | 59.9                              | 60.6 | 65.2 |      |      |      |
| B772                 | 3             | 53.8                              | 61.4 | 71.1 |      |      |      |
| B77W                 | 4             | 55.6                              | 56.3 | 56.4 | 58.3 |      |      |
| B788                 | 1             | 63.0                              |      |      |      |      |      |
| C560                 | 1             | 56.6                              |      |      |      |      |      |
| CRJ7                 | 1             | 56.0                              |      |      |      |      |      |
| CRJ9                 | 1             | 54.6                              |      |      |      |      |      |
| E120                 | 6             | 54.7                              | 54.8 | 57.8 | 58.1 | 60.2 | 63.1 |
| E170                 | 3             | 57.5                              | 59.1 | 60.1 |      |      |      |
| GLEK                 | 1             | 65.5                              |      |      |      |      |      |
| <b>Total</b>         | <b>42</b>     |                                   |      |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |
|----------------------|---------------|-----------------------------------|------|
| B350                 | 1             | 65.7                              |      |
| B738                 | 2             | 57.4                              | 57.8 |
| B763                 | 1             | 57.2                              |      |
| C172                 | 3             | 60.8                              | 63.3 |
| C680                 | 1             | 64.5                              |      |
| C750                 | 1             | 62.7                              |      |
| GLF4                 | 1             | 71.7                              |      |
| M20P                 | 1             | 55.5                              |      |
| MD83                 | 1             | 59.5                              |      |
| T38                  | 1             | 61.4                              |      |
| (blank)              | 2             | 55.0                              | 63.2 |
| <b>Total</b>         | <b>15</b>     |                                   |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-15-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |  |  |  |  |
|----------------------|---------------|-----------------------------------|------|------|------|--|--|--|--|
| A319                 | 1             | 57.5                              |      |      |      |  |  |  |  |
| A320                 | 3             | 53.3                              | 57.2 | 59.1 |      |  |  |  |  |
| A332                 | 1             | 60.5                              |      |      |      |  |  |  |  |
| A346                 | 1             | 63.0                              |      |      |      |  |  |  |  |
| A388                 | 1             | 58.0                              |      |      |      |  |  |  |  |
| B733                 | 1             | 57.6                              |      |      |      |  |  |  |  |
| B738                 | 4             | 50.7                              | 52.7 | 53.8 | 57.3 |  |  |  |  |
| B739                 | 3             | 55.4                              | 55.8 | 56.2 |      |  |  |  |  |
| B744                 | 3             | 54.5                              | 58.8 | 68.4 |      |  |  |  |  |
| B752                 | 2             | 54.0                              | 56.4 |      |      |  |  |  |  |
| B753                 | 1             | 56.5                              |      |      |      |  |  |  |  |
| B764                 | 1             | 63.3                              |      |      |      |  |  |  |  |
| B772                 | 3             | 56.4                              | 56.5 | 66.8 |      |  |  |  |  |
| B77W                 | 2             | 57.5                              | 58.4 |      |      |  |  |  |  |
| B788                 | 1             | 57.7                              |      |      |      |  |  |  |  |
| E120                 | 3             | 54.4                              | 56.1 | 58.6 |      |  |  |  |  |
| GALX                 | 1             | 53.0                              |      |      |      |  |  |  |  |
| <b>Total</b>         | <b>32</b>     |                                   |      |      |      |  |  |  |  |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|
| A332                 | 1             | 63.8                              |      |      |      |      |      |      |      |
| B738                 | 4             | 55.1                              | 55.7 | 57.8 | 59.6 |      |      |      |      |
| C172                 | 1             | 63.2                              |      |      |      |      |      |      |      |
| C182                 | 1             | 59.5                              |      |      |      |      |      |      |      |
| C680                 | 1             | 62.4                              |      |      |      |      |      |      |      |
| HELO                 | 1             | 61.3                              |      |      |      |      |      |      |      |
| M20                  | 1             | 57.3                              |      |      |      |      |      |      |      |
| PC12                 | 1             | 63.6                              |      |      |      |      |      |      |      |
| SR20                 | 1             | 72.8                              |      |      |      |      |      |      |      |
| (blank)              | 8             | 56.2                              | 58.3 | 58.6 | 59.6 | 61.6 | 63.2 | 64.6 | 65.9 |
| <b>Total</b>         | <b>20</b>     |                                   |      |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-16-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |
|----------------------|---------------|-----------------------------------|------|------|
| A320                 | 2             | 60.4                              | 64.0 |      |
| A321                 | 1             | 60.2                              |      |      |
| B738                 | 3             | 55.4                              | 56.0 | 56.1 |
| B739                 | 2             | 57.6                              | 58.5 |      |
| B744                 | 2             | 58.4                              | 69.0 |      |
| B772                 | 2             | 55.1                              | 56.6 |      |
| B77W                 | 3             | 55.4                              | 58.0 | 60.4 |
| B788                 | 2             | 57.4                              | 58.1 |      |
| Total                | 17            |                                   |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|------|------|
| 4F18                 | 1             | 66.1                              |      |      |      |      |      |      |      |      |
| B738                 | 1             | 64.3                              |      |      |      |      |      |      |      |      |
| B763                 | 1             | 65.3                              |      |      |      |      |      |      |      |      |
| BE36                 | 1             | 53.9                              |      |      |      |      |      |      |      |      |
| C177                 | 1             | 70.3                              |      |      |      |      |      |      |      |      |
| C182                 | 3             | 55.7                              | 60.0 | 60.4 |      |      |      |      |      |      |
| P3                   | 1             | 68.2                              |      |      |      |      |      |      |      |      |
| PC12                 | 1             | 61.0                              |      |      |      |      |      |      |      |      |
| SR22                 | 1             | 63.7                              |      |      |      |      |      |      |      |      |
| (blank)              | 9             | 55.1                              | 56.0 | 57.2 | 60.2 | 63.3 | 64.8 | 65.6 | 66.6 | 72.4 |
| Total                | 20            |                                   |      |      |      |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

**Date:** 11-17-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |
|----------------------|---------------|-----------------------------------|------|
| A319                 | 1             | 57.8                              |      |
| B738                 | 1             | 52.6                              |      |
| B739                 | 1             | 56.6                              |      |
| B744                 | 1             | 58.0                              |      |
| B772                 | 2             | 54.2                              | 55.1 |
| B77W                 | 1             | 54.2                              |      |
| <b>Total</b>         | <b>7</b>      |                                   |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |
|----------------------|---------------|-----------------------------------|------|------|
| A306                 | 1             | 62.3                              |      |      |
| B738                 | 1             | 54.0                              |      |      |
| B763                 | 2             | 62.1                              | 62.8 |      |
| C172                 | 1             | 62.8                              |      |      |
| C56X                 | 1             | 57.7                              |      |      |
| (blank)              | 3             | 52.9                              | 57.3 | 65.2 |
| <b>Total</b>         | <b>9</b>      |                                   |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*



**OSI-VORTAC, Woodside**

Date: 11-18-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|
| A320                 | 1             | 56.8                              |      |      |      |      |
| B350                 | 1             | 56.0                              |      |      |      |      |
| B737                 | 1             | 62.5                              |      |      |      |      |
| B738                 | 2             | 53.9                              | 57.4 |      |      |      |
| B739                 | 1             | 55.5                              |      |      |      |      |
| B744                 | 3             | 62.1                              | 62.9 | 65.0 |      |      |
| B753                 | 1             | 51.3                              |      |      |      |      |
| B772                 | 5             | 55.3                              | 55.8 | 56.9 | 60.8 | 61.1 |
| B77W                 | 3             | 53.5                              | 56.1 | 59.3 |      |      |
| E120                 | 1             | 60.0                              |      |      |      |      |
| E170                 | 1             | 53.6                              |      |      |      |      |
| <b>Total</b>         | <b>20</b>     |                                   |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|
| B735                 | 1             | 64.6                              |      |      |      |      |      |
| B738                 | 2             | 55.5                              | 58.5 |      |      |      |      |
| B763                 | 1             | 57.3                              |      |      |      |      |      |
| C172                 | 3             | 59.0                              | 60.5 | 65.6 |      |      |      |
| C206                 | 3             | 61.3                              | 61.7 | 67.0 |      |      |      |
| EC20                 | 1             | 61.5                              |      |      |      |      |      |
| MD11                 | 1             | 55.1                              |      |      |      |      |      |
| PC12                 | 3             | 55.5                              | 59.2 | 59.8 |      |      |      |
| SR20                 | 1             | 62.3                              |      |      |      |      |      |
| (blank)              | 6             | 56.3                              | 58.2 | 58.8 | 58.9 | 61.8 | 66.5 |
| <b>Total</b>         | <b>22</b>     |                                   |      |      |      |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

**Date:** 11-19-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|------|------|
| A319                 | 3             | 56.1                              | 59.7 | 59.9 |      |      |      |      |
| A320                 | 5             | 55.6                              | 56.9 | 59.5 | 64.5 | 64.6 |      |      |
| A321                 | 1             | 59.5                              |      |      |      |      |      |      |
| A332                 | 1             | 67.7                              |      |      |      |      |      |      |
| A343                 | 1             | 64.2                              |      |      |      |      |      |      |
| B733                 | 2             | 55.9                              | 65.5 |      |      |      |      |      |
| B734                 | 1             | 66.3                              |      |      |      |      |      |      |
| B738                 | 6             | 56.2                              | 56.9 | 58.3 | 61.0 | 62.3 | 63.5 |      |
| B739                 | 3             | 53.3                              | 58.9 | 64.6 |      |      |      |      |
| B744                 | 3             | 60.6                              | 66.7 | 72.4 |      |      |      |      |
| B748                 | 1             | 63.1                              |      |      |      |      |      |      |
| B752                 | 2             | 55.4                              | 60.8 |      |      |      |      |      |
| B753                 | 1             | 53.6                              |      |      |      |      |      |      |
| B772                 | 2             | 56.2                              | 59.2 |      |      |      |      |      |
| B77W                 | 2             | 60.6                              | 63.9 |      |      |      |      |      |
| C56X                 | 1             | 60.2                              |      |      |      |      |      |      |
| E120                 | 7             | 57.5                              | 59.3 | 60.2 | 61.0 | 61.1 | 61.9 | 65.3 |
| E170                 | 2             | 62.2                              | 64.2 |      |      |      |      |      |
| <b>Total</b>         | <b>44</b>     |                                   |      |      |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |
|----------------------|---------------|-----------------------------------|------|------|
| B734                 | 1             | 62.4                              |      |      |
| B735                 | 1             | 59.2                              |      |      |
| B737                 | 3             | 59.6                              | 60.8 | 62.0 |
| B738                 | 3             | 56.4                              | 63.7 | 65.6 |
| B739                 | 1             | 57.6                              |      |      |
| C172                 | 2             | 52.3                              | 52.8 |      |
| CRJ7                 | 1             | 58.5                              |      |      |
| E45X                 | 1             | 53.2                              |      |      |
| GLF4                 | 1             | 54.1                              |      |      |
| PC12                 | 3             | 54.9                              | 58.6 | 61.3 |
| <b>Total</b>         | <b>17</b>     |                                   |      |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

**OSI-VORTAC, Woodside**

Date: 11-20-2014

**Single SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |      |      |      |
|----------------------|---------------|-----------------------------------|------|------|------|------|
| A319                 | 2             | 60.7                              |      |      |      |      |
| A320                 | 5             | 54.5                              | 58.1 | 65.4 | 66.0 | 66.2 |
| A321                 | 1             | 58.1                              |      |      |      |      |
| A332                 | 2             | 62.8                              | 63.4 |      |      |      |
| A343                 | 1             | 61.7                              |      |      |      |      |
| A388                 | 1             | 62.4                              |      |      |      |      |
| B733                 | 3             | 61.5                              | 64.3 | 65.3 |      |      |
| B734                 | 2             | 54.5                              | 59.2 |      |      |      |
| B737                 | 3             | 53.4                              | 55.4 | 55.8 |      |      |
| B738                 | 3             | 53.9                              | 54.9 | 60.1 |      |      |
| B739                 | 3             | 54.4                              | 56.1 | 61.6 |      |      |
| B744                 | 2             | 53.3                              | 68.7 |      |      |      |
| B764                 | 1             | 60.1                              |      |      |      |      |
| B772                 | 2             | 56.7                              | 62.6 |      |      |      |
| B77W                 | 4             | 54.7                              | 54.9 | 57.1 | 58.1 |      |
| B788                 | 1             | 58.9                              |      |      |      |      |
| BE20                 | 1             | 59.1                              |      |      |      |      |
| C680                 | 2             | 52.9                              | 53.9 |      |      |      |
| CL30                 | 2             | 54.0                              | 69.2 |      |      |      |
| CRJ7                 | 1             | 64.4                              |      |      |      |      |
| E120                 | 2             | 56.4                              | 63.0 |      |      |      |
| E170                 | 2             | 53.8                              | 55.5 |      |      |      |
| <b>Total</b>         | <b>46</b>     |                                   |      |      |      |      |

**Non-SFO Aircraft**

| <u>Aircraft Type</u> | <u>Amount</u> | <u>Maximum Noise Levels (dBA)</u> |      |
|----------------------|---------------|-----------------------------------|------|
| B738                 | 1             | 61.6                              |      |
| B763                 | 1             | 56.5                              |      |
| C172                 | 2             | 61.0                              | 61.4 |
| C750                 | 1             | 67.3                              |      |
| F2TH                 | 1             | 63.5                              |      |
| GLF5                 | 1             | 55.4                              |      |
| PC12                 | 2             | 54.2                              | 59.3 |
| SR20                 | 2             | 64.4                              | 68.6 |
| SR22                 | 2             | 63.7                              | 66.7 |
| <b>Total</b>         | <b>13</b>     |                                   |      |

**Color Code for Maximum Noise Levels:**

*Black is an Arrival Operation or Overflight if destination/orgination airport is unknown.*

*Red is a Departure Operation.*

*Blue Highlight is an Oceanic Arrival.*

Portola Valley (974) and Woodside (969) Noise Monitoring Locations



**Portola Valley (974) Microphone**



Woodside (969) Microphone



**Aircraft Type Reference Sheet**

| Wide Body Jet<br>(Airplane fuselage is wide enough to accommodate two passenger aisles) | Narrow Body Jet<br>(Airplane fuselage is wide enough to accommodate one passenger aisle) | Business Aircraft<br>(Transportation for small groups of people) | General Aviation<br>(Generally small, propeller-driven aircraft) | Helicopters<br>(Aircraft operated by rotor blades) | Military<br>(U.S. Military aircraft) |
|---|--|--|--|--|--------------------------------------|
| A306 Airbus A300-600  | A319 Airbus A319   | AC50 North American Rockwell Commander 500                       | AA5 Grumman American AA-5  | EC20 Eurocopter EC-120 Colibri                     | C130 Lockheed C-130 Hercules         |
| A332 Airbus A330-200  | A320 Airbus A320   | B350 Beech 350 King Air  | 8KCAB American Champion Decathlon                                | EC45 Eurocopter EC-145                             | F18 McDonnell Douglas F/A-18 Hornet  |
| A343 Airbus A340-300  | A321 Airbus A321   | BE20 Beechcraft 200 Super King Air                               | BE35 Beechcraft 35 Bonanza                                       | HELO Helicopter                                    | P3 Lockheed P-3 Orion                |
| A346 Airbus A340-600  | B733 Boeing 737-300  | BE40 Beechcraft 400 Beechjet                                     | BE36 Beechcraft 36 Bonanza                                       | R22 Robinson R-22                                  | T38 Northrop AT-38 Talon             |
| A388 Airbus A380  | B734 Boeing 737-400  | C210 Cessna 210 Centurion  | BE76 Beechcraft 76 Duchess                                       |  |                                      |
| B744 Boeing 747-400   | B735 Boeing 737-500  | C25C Cessna Citation CJ4   | C140 Cessna 140  |  |                                      |
| B748 Boeing 747-8   | B737 Boeing 737-700  | C425 Cessna 425 Corsair/Conquest                                 | C172 Cessna 172 Skyhawk  |  |                                      |
| B762 Boeing 767-200   | B738 Boeing 737-800  | C510 Cessna 510 Citation Mustang                                 | C177 Cessna 177 Cardinal   |  |                                      |
| B763 Boeing 767-300   | B739 Boeing 737-900  | C560 Cessna 560 Citation 5                                       | C180 Cessna 180 Skywagon   |  |                                      |
| B764 Boeing 767-400ER   | B752 Boeing 757-200  | C56X Cessna 560XL Citation Excel                                 | C182 Cessna 182 Skylane  |  |                                      |
| B772 Boeing 777-200   | B753 Boeing 757-300  | C680 Cessna 680 Citation Sovereign                               | C208 Cessna 208 Caravan  |  |                                      |
| B77W Boeing 777-300ER   | CRJ2 Bombardier CRJ-200  | C750 Cessna Citation X   | C310 Cessna 310  |  |                                      |
| B788 Boeing 787-8   | CRJ7 Bombardier CRJ-700  | CL30 Bombardier Challenger 300                                   | C337 Cessna 337 Super Skymaster                                  |  |                                      |
| MD11 McDonnell Douglas MD-11  | CRJ9 Bombardier CRJ-900  | E50P Embraer EMB-500 Phenom 100                                  | C340 Cessna 340  |  |                                      |
|   | DH8D Bombardier Dash 8 - Q400  | F27H Dassault Falcon 2000  | DA40 Diamond DA40 Diamond Star                                   |  |                                      |
|   | E120 Embraer EMB 120 Brasilia  | F900 Dassault Falcon 900   | LANC4 Lancair 4  |  |                                      |
|   | E170 Embraer EMB 170   | GALX Dassault Falcon 900EX                                       | M20 Aerostar   |  |                                      |
|   | E45X Embraer EMB 145XR   | GLF4 Gulfstream 4  | M20P Mooney M-20   |  |                                      |
|   | GL5T Bombardier Global 5000  | GLF5 Gulfstream 5  | MU2 Mitsubishi MU-2  |  |                                      |
|   | GLEX Bombardier Global Express   | LJ30 Learjet 31A   | P28A Piper 28A Cheorkee  |  |                                      |
|   | MD83 McDonnell Douglas MD-83   | LJ60 Learjet 60  | P28B Piper 28B Cheorkee  |  |                                      |
|   | MD88 McDonnell Douglas MD-88   | PC12 Pilatus PC-12 Eagle   | P28R Piper 28R Cheorkee  |  |                                      |
|   |  | TBM7 Socata TBM-700  | PA24 Piper PA24 Comanche   |  |                                      |
|   |  | WW24 IAI 1124 Westwind   | PA32 Piper PA32 Cherokee Six                                     |  |                                      |
|   |  |  | SR20 Cirrus SR-20  |  |                                      |
|   |  |  | SR22 Cirrus SR-22  |  |                                      |
|   |  |  | T182 Cessna T182 Turbo Skylane                                   |  |                                      |