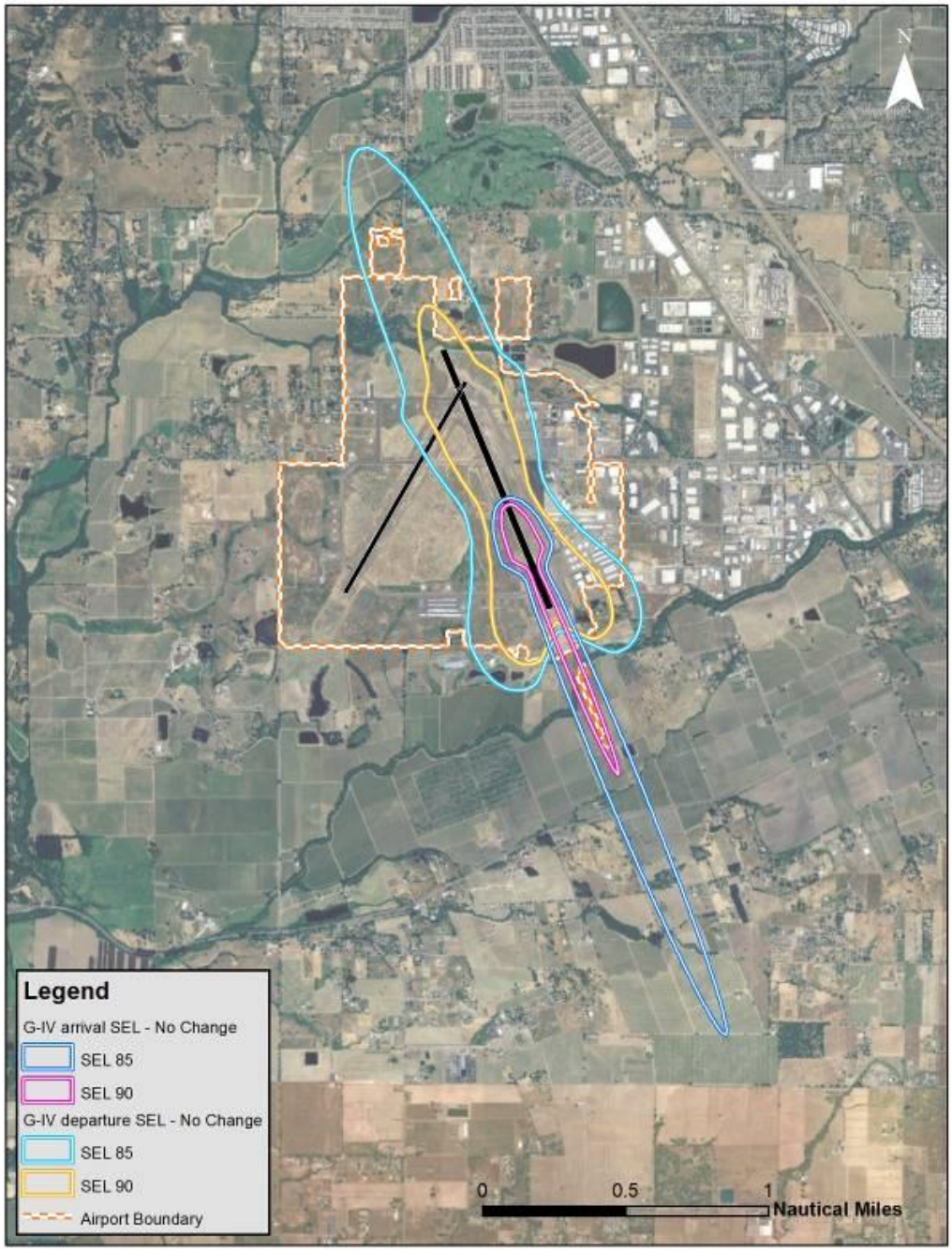
Figure 6-4a

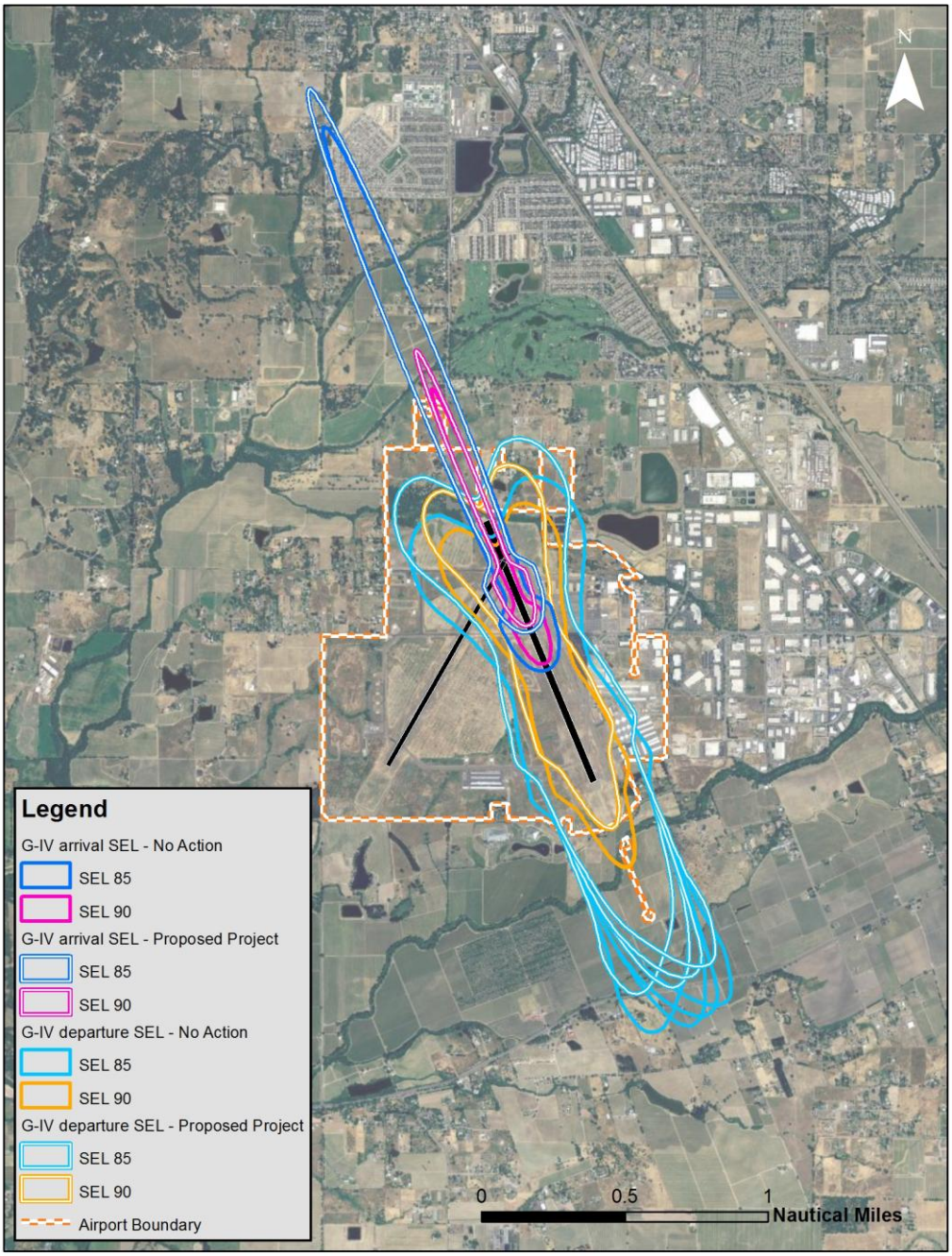
G-IV 85 dB and 90 dB SEL CONTOURS – Runway 32



SOURCE: MGA/L&B (2011)

Figure 6-4b

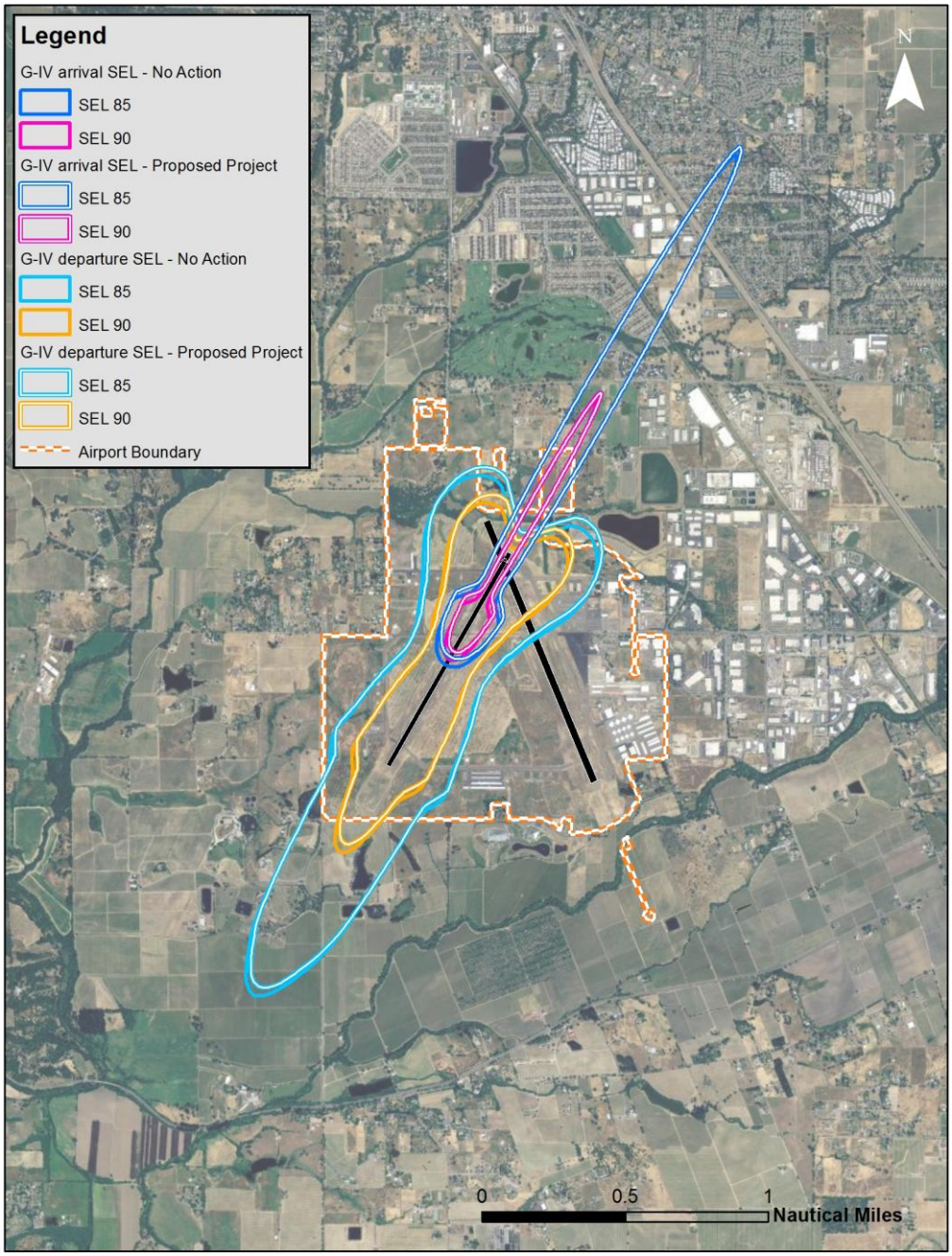
G-IV 85 dB and 90 dB SEL CONTOURS – Runway 14



SOURCE: MGA/L&B (2011)

Figure 6-4c

G-IV 85 dB and 90 dB SEL CONTOURS – Runway 19



SOURCE: MGA/L&B (2011)

6.1.2 Sleep Disturbance Analysis

Sleep disturbance is a function of the exposure to single event noise levels in terms of SEL during the nighttime hours. The Figures 6-1a,b and 6-2a,b above that correspond to the Q400 and C172 propeller aircraft show that SEL noise contours do not impact residential areas, and therefore, these aircraft types will not likely cause sleep disturbance. Figures 6-3a,b,c and 6-4 a,b,c above show that the SEL contours of the MU3001 and the G-IV aircraft extend into residential areas and may cause sleep disturbance given that the aircraft operations occurs during nighttime hours. Although the Airport runways are available for use 24 hour a day, the air traffic control tower is in operation from 7 a.m. to 8 p.m. By using FAA radar data for Airport operations during 2008 and consultation with ATCT personnel it is estimated that an average of 5% of General Aviation propeller aircraft and 2% of jet aircraft operations occur during the nighttime hours from 10 p.m. and 7 a.m. and less than 0.5% of jet aircraft operations occur between midnight and 6 a.m. Most of the scheduled airline operations are expected to occur during the day and evening hours and some departures are expected to occur between 6 a.m. and 7 a.m.

6.1.3 Proposed Project Impact on Sleep

The figure sets above show a potential shift in the location of the SEL contours for aircraft that use Runways 14 and 19 due to the proposed runway extensions relative to the No Project Alternative contour location. At the areas of greatest shift in contour location, the shift in noise may amount to approximately 1 dB SEL, which is discernible by the human hear. Therefore, no significant impacts on sleep disturbance would occur as a result of the implementation of the Proposed Project.

Figure 6-5
Bombardier Q400



SOURCE: Alaska Air (2011)

Figure 6-6
C172 – CESSNA 172



SOURCE: Cessna Corporation (2011)

Figure 6-7
MU3001 – BEECHJET 400



SOURCE: Hawker Beechcraft (2011)

Figure 6-8
G-IV – GULFSTREAM IV



SOURCE: Gulfstream (2011)

7.1 REFERENCES

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