



## San Francisco International Airport

February 20, 2024

Susy Kalkin  
ALUC Staff  
City/County Association of Governments of San Mateo County  
555 County Center, 5th Floor  
Redwood City, California 94063

**TRANSMITTED VIA EMAIL**

kkalkin@smcgov.org

***Subject: San Francisco International Airport's Comments on the City of Daly City's Proposed Zoning Amendment (2023-2031 Housing Element Update)***

Dear Susy:

Thank you for the opportunity for San Francisco International Airport (SFO or the Airport) to comment on the City of Daly City's (City) proposed zoning amendment, which would allow residential uses on specific development sites where residential uses are currently not permitted. We appreciate this opportunity to coordinate with the Airport Land Use Commission (ALUC) in evaluating the proposed rezoning.

The proposed rezoning would implement the goals, policies, and programs of the City's 2023-2031 Housing Element Update, which is currently undergoing review by the California Department of Housing and Community Development. As described in the City's application for the proposed rezoning and as shown in the table below, the City's General Plan land use designations and zoning controls would be amended to allow residential uses on the following development sites:

Assessor's Parcel Number	Existing GP Land Use Designation	Proposed GP Land Use Designation	Existing Zoning	Proposed Zoning
006-252-080	Residential Medium Low Density (R-MLD)	Residential High Density (R-HD)	Planned Development (Permitting Office)	Planned Development (Permitting Residential)
008-104-110	Public Facilities (PF)	Residential High Density (R-HD)	Hospital (HOSP)	Multiple Family (R-3)
008-104-120	Public Facilities (PF)	Residential High Density (R-HD)	Hospital (HOSP)	Multiple Family (R-3)
008-520-180	Public Facilities (PF)	Residential High Density (R-HD)	Hospital (HOSP)	Multiple Family (R-3)
008-520-190	Public Facilities (PF)	Residential High Density (R-HD)	Hospital (HOSP)	Multiple Family (R-3)
008-521-110	Commercial Office (C-O)	Residential High Density (R-HD)	Office Commercial (C-O)	Multiple Family (R-3)
091-247-080	Commercial Mixed-Use (C-MU)	Residential High Density (R-HD)	Planned Development (Permitting Hotel)	Planned Development (Permitting Residential)

In addition to amending the General Plan land use designations and zoning controls as shown above, the height limit would also be increased to 120 feet on the five development sites being rezoned to Multiple Family (R-3).

AIRPORT COMMISSION CITY AND COUNTY OF SAN FRANCISCO

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*Susy Kalkin, ALUC  
February 20, 2024  
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### **SFO ALUCP AIRPORT INFLUENCE AREAS**

The City is within two Airport Influence Areas: Area A – Real Estate Disclosure Area (all of San Mateo County) and Area B – Policy/Project Referral Area (a smaller subarea in the northern part of San Mateo County), as defined by the SFO ALUCP. Within Area A, the real estate disclosure requirements of state law apply (see **Attachment A**). A property owner offering a property for sale or lease must disclose the presence of planned or existing airports within two miles of the property. Within Area B, the Board of Directors of the City/County Association of Governments of San Mateo County (C/CAG), acting as the designated Airport Land Use Commission (ALUC), shall review proposed land use policy actions, including new general plans, specific plans, zoning ordinances, plan amendments and rezonings, and land development proposals (see **Attachment A**). The real estate disclosure requirements in Area A also apply in Area B.

As depicted on Exhibit IV-1 of the SFO ALUCP, the entire City is within Area A. As depicted on Exhibit IV-2, most of the City is within Area B except for some portions north of San Bruno Mountain. The real estate disclosure requirements would apply to all of the development sites identified above, and any future projects that are within Area B would be subject to review by the ALUC.

### **SFO ALUCP NOISE COMPATIBILITY POLICIES**

A small area of the City is within the Community Noise Equivalent Level (CNEL) 65 A-weighted decibel (dBA) noise contour (see **Attachment B**). Any future housing projects in this area would be conditionally compatible with the noise compatibility policies adopted in the SFO ALUCP, provided that such housing projects incorporate sound insulation to reduce interior noise levels from exterior sources to CNEL 45 dBA or lower and that an avigation easement is granted to the City and County of San Francisco as the operator of the Airport. Subject to these two conditions, the proposed rezoning would not appear to be inconsistent with the noise compatibility policies adopted in the SFO ALUCP.

Although the areas near Serramonte and Seton Medical Center are outside of the CNEL 65 dBA contour, many airport departure procedures are currently designed to ascend over these areas. New residential uses in these areas could experience noise disturbance from aircraft departures.

### **SFO ALUCP SAFETY COMPATIBILITY POLICIES**

The entire City is outside of the safety compatibility zones. Therefore, the proposed rezoning would not appear to be inconsistent with the safety compatibility policies adopted in the SFO ALUCP.

### **SFO ALUCP AIRSPACE PROTECTION POLICIES**

All proposed development within the City is subject to the airspace protection policies adopted in the SFO ALUCP (see **Attachment C**). Exhibit IV-17 of the SFO ALUCP shows the elevations of critical aeronautical surfaces throughout the City in feet above mean sea level as defined from the origin of the North American Vertical Datum of 1988.

The proposed rezoning would increase the height limit for the R-3 Zoning District to 120 feet. Depending on the specific locations of areas that are zoned R-3, 120-foot-tall buildings could exceed the elevations of the critical aeronautical surfaces given the City's hilly terrain. To avoid confusion, the proposed update should be amended to reflect that the maximum allowable height is the lower of 120 feet or the the critical aeronautical surfaces defined in the Airspace Protection Policies of the SFO ALUCP. As noted previously, land development proposals that are within Airport Influence Area B must be reviewed by the ALUC for consistency with the SFO ALUCP.

*Susy Kalkin, ALUC  
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In addition, for projects where 14 Code of Federal Regulations (CFR) Part 77 applies, a Determination of No Hazard to Air Navigation from the Federal Aviation Administration (FAA) is required for such proposals to be considered compatible with the SFO ALUCP. Project sponsors would be required to undergo FAA airspace review as described in 14 CFR Part 77 for both (1) the permanent structures and (2) any equipment taller than the permanent structures required to construct those structures.

Due to the proximity of the subject development sites to the Airport, Airspace Protection Policies AP-1 through AP-4 of the SFO ALUCP are attached as reminders of incompatible site characteristics, especially as they pertain to building materials or features that reflect and create bright lights or glare, which can pose serious safety hazard to pilots and aircraft. If any projects are constructed on the subject development sites, building materials and lighting should be selected and designed to minimize visual hazards to pilots.

\* \* \*

The Airport appreciates your consideration of these comments. If I can be of assistance, please do not hesitate to contact me at (650) 821-6678 or at [nupur.sinha@flysfo.com](mailto:nupur.sinha@flysfo.com).

Sincerely,

DocuSigned by:  
*Nupur Sinha*  
7D552AE6A4CE495...

Nupur Sinha  
Director of Planning and Environmental Affairs  
San Francisco International Airport

Attachments

- Attachment A – SFO ALUCP Airport Influence Areas
- Attachment B – SFO ALUCP Noise Compatibility Policies
- Attachment C – SFO ALUCP Airspace Protection Policies

cc: Audrey Park, SFO  
Chris DiPrima, SFO

**Attachment A:**  
**SFO ALUCP Airport Influence Areas**

## 4.2 Airport Influence Area (AIA)

The AIA for SFO includes two parts: Area A and Area B. Area A is the larger of the two areas and encompasses all of San Mateo County. Area B lies within Area A and includes land exposed to aircraft noise above CNEL 65 dB or lying below critical airspace.

Area A, depicted on **Exhibit IV-1**, includes the entire county, all of which is overflown by aircraft flying to and from SFO at least once per week at altitudes of 10,000 feet or less above mean sea level (MSL). (Appendix L explains the rationale for defining the AIA Area A boundary.)

Area B of the AIA, depicted on **Exhibit IV-2**, is based on a combination of the outer boundaries of the noise compatibility and safety zones, the 14 CFR Part 77 conical surface, and the TERPS approach and One-Engine Inoperative (OEI) departure surfaces.<sup>1</sup> As depicted on Exhibit IV-2, the Area B boundary has been adjusted to follow streets, highways, and corporate boundaries to make it easier to identify and implement. See **Exhibit IV-3** for a close-up view of the northwestern half of Area B and **Exhibit IV-4** for a close-up view of the southeastern half.

The following AIA policies (IP) shall apply to the ALUCP.

### **IP-1 AIRPORT INFLUENCE AREA A – REAL ESTATE DISCLOSURE AREA**

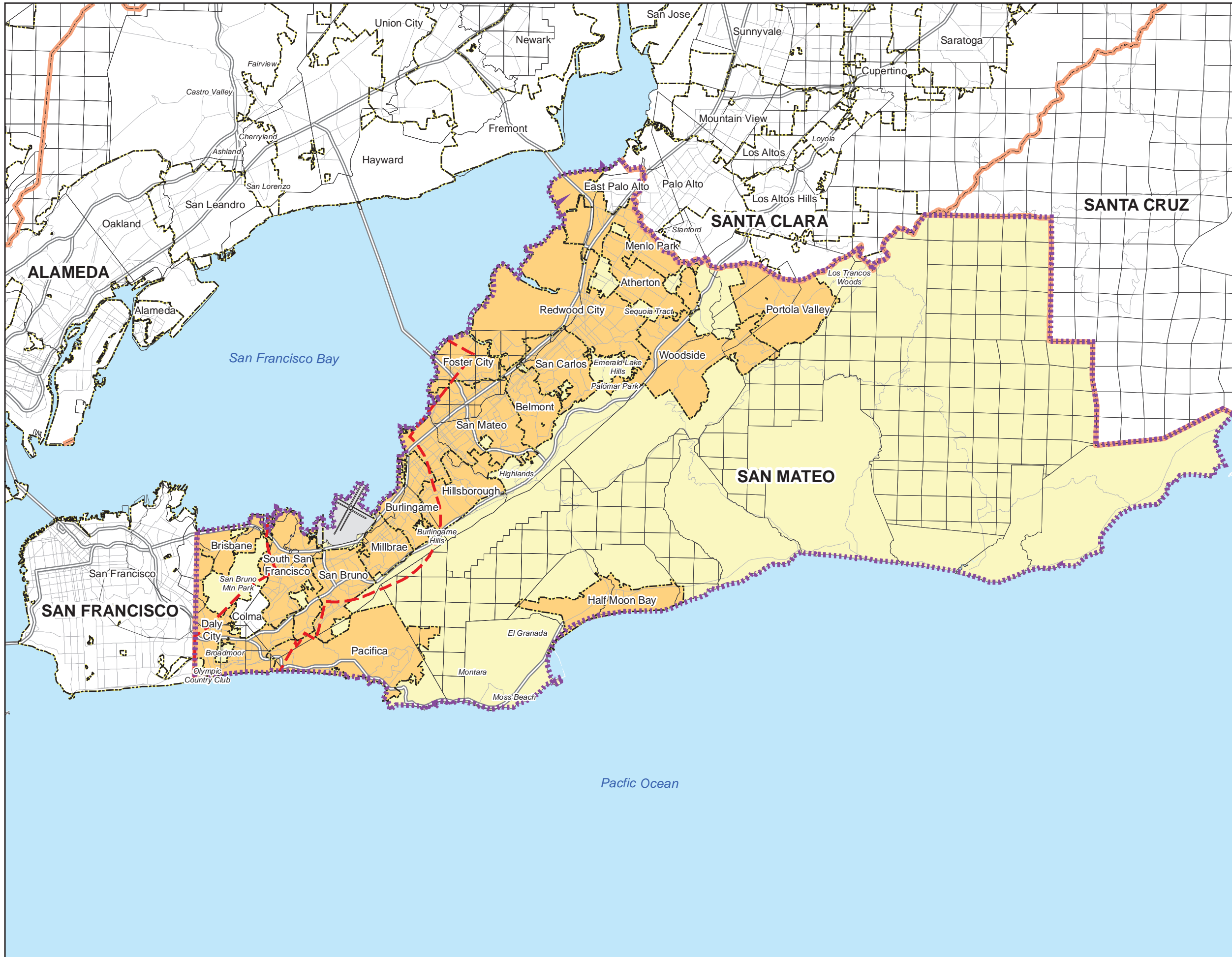
Within Area A, the real estate disclosure requirements of state law apply. Section 11010 of the Business and Professions Code requires people offering subdivided property for sale or lease to disclose the presence of all existing and planned airports within two miles of the property.<sup>2</sup> The law requires that, if the property is within an “airport influence area” designated by the airport land use commission, the following statement must be included in the notice of intention to offer the property for sale:

#### **NOTICE OF AIRPORT IN VICINITY**

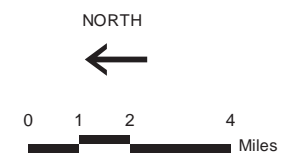
*This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.*

<sup>1</sup> On the northwest side, the Area B boundary corresponds to the 800-foot elevation line of the TERPS approach surface and the OEI departure surface. On the southeast side, the Area B boundary corresponds with the transitional surfaces rising from the flat, central portion of the TERPS surface having an elevation of 210 feet MSL. See Exhibits IV-17 and IV-18 for a detailed depiction of the airspace surfaces.

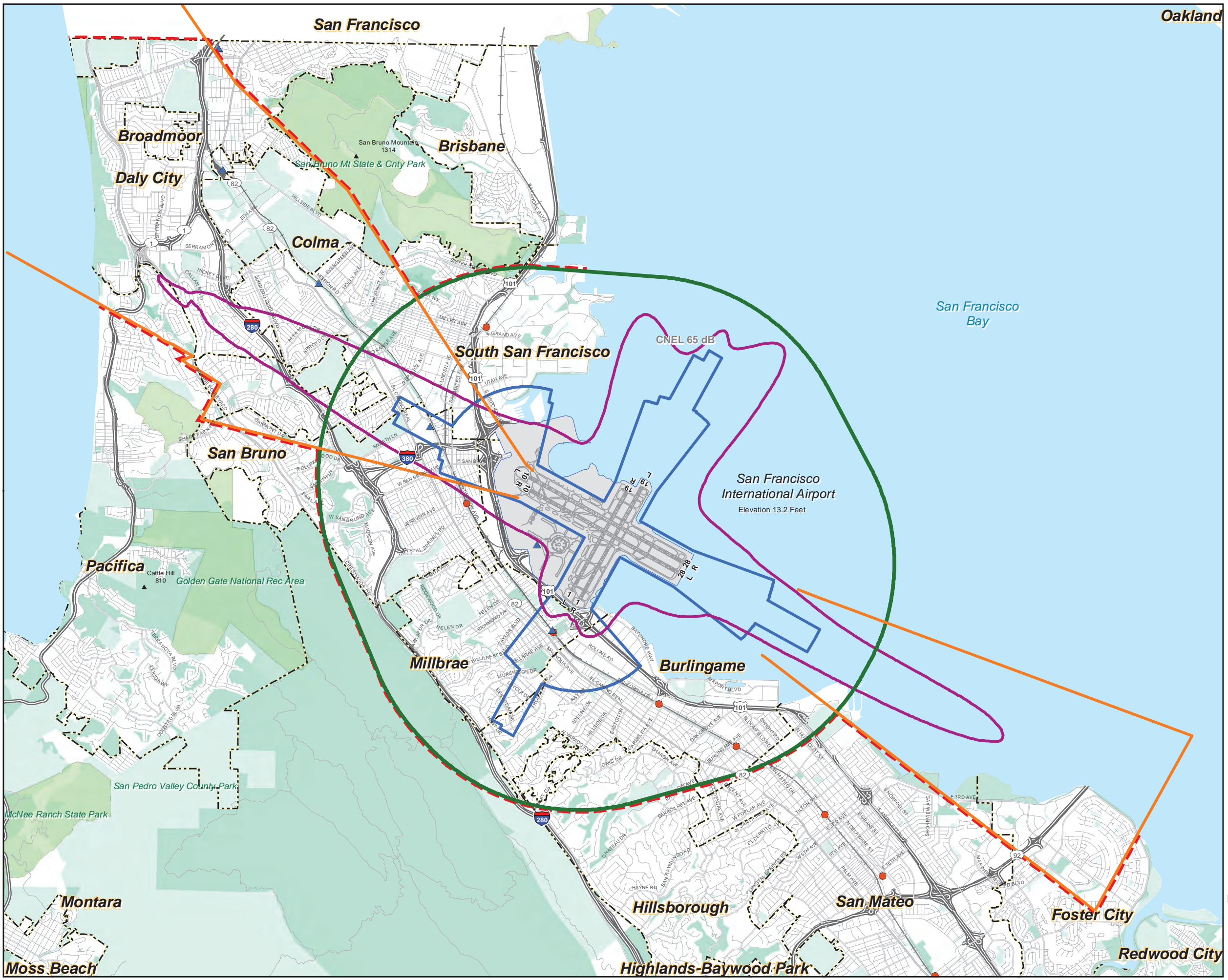
<sup>2</sup> California Business and Professions Code, Section 11010(b)(13).



- LEGEND**
- - - Boundary for Airport Influence Area B
  - - - - - Airport Influence Area A Boundary
  - - - - - County Boundary
  - - - - - City Boundary
  - - - - - Range/ Township/ Section and Rancho Lines
  - Freeways
  - Roads
  - Municipal Members of SFO/Community Roundtable
  - Unincorporated San Mateo County







- LEGEND**
- - - Boundary for Airport Influence Area B
  - Outer Boundary of Safety Zones
  - CNEL Contour, 2020 Forecast
  - 14 CFR Part 77 Conical Surface
  - Outer Boundary of TERPS Approach and OEI Departure Surfaces
  - Airport Property
  - ▲ BART Station
  - CALTRAIN Station
  - Municipal Boundary
  - Railroad
  - Freeway
  - Road
  - Local Park, Golf Course, Cemetery
  - Regional Park or Recreation Area
  - Open Space

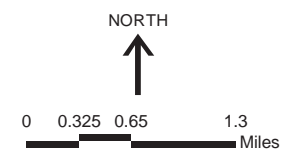
Sources:

100:1 FAA Notification Zone: Ricondo & Associates, Inc. and Jacobs Consultancy, based on 14 CFR Part 77, Subpart B, Section 77.9.

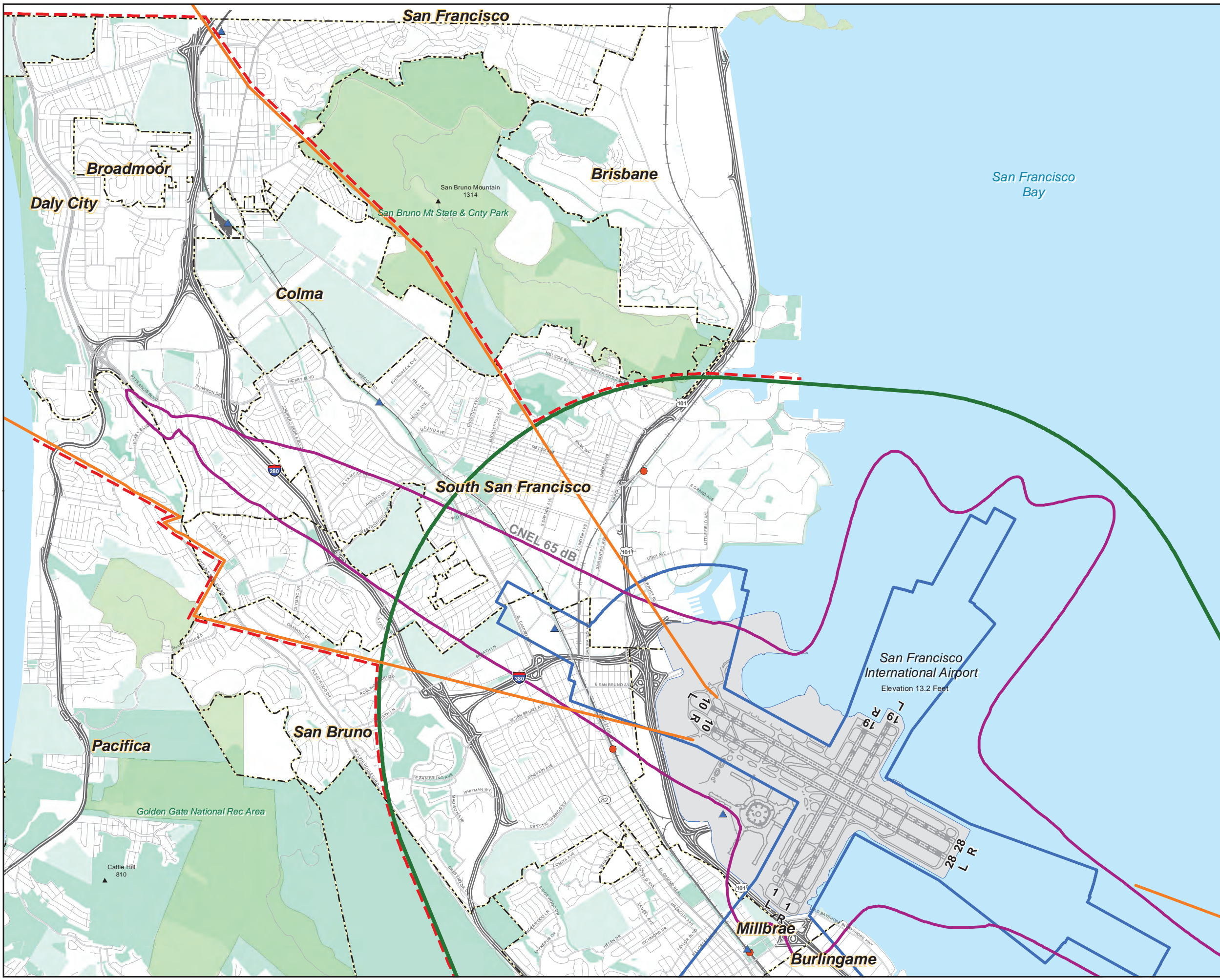
Outer Boundary of TERPS Approach and OEI Departure Surfaces: San Francisco International Airport, Jacobs Consultancy, and Planning Technology Inc., 2009

Safety Compatibility Zones: Jacobs Consultancy Team, 2009; Ricondo & Associates, Inc., 2011

Noise Contour: URS Corporation and BridgeNet International. Draft Environmental Assessment, San Francisco International Airport Proposed Runway Safety Area Program, June 2011







**LEGEND**

- Boundary for Airport Influence Area B
- Outer Boundary of Safety Zones
- CNEL Contour, 2020 Forecast
- 14 CFR Part 77 Conical Surface
- Outer Boundary of TERPS Approach and OEI Departure Surfaces
- Airport Property
- ▲ BART Station
- CALTRAIN Station
- Municipal Boundary
- Railroad
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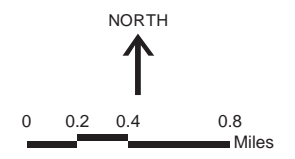
Sources:

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Noise Contour: URS Corporation and BridgeNet International. Draft Environmental Assessment, San Francisco International Airport Proposed Runway Safety Area Program, June 2011





**IP-2 AIRPORT INFLUENCE AREA B – POLICY/PROJECT REFERRAL AREA**

Within Area B, the Airport Land Use Commission (the C/CAG Board) shall exercise its statutory duties to review proposed land use policy actions, including new general plans, specific plans, zoning ordinances, plan amendments and rezonings, and land development proposals. The real estate disclosure requirements in Area A also apply in Area B. For the purposes of this policy, parcels along the edge of the Area B Boundary that are split by the boundary shall be considered as fully being within Area B.

Portions of unincorporated San Mateo County and the following municipalities are located within Area B:

- Daly City – small part of the city in the Serramonte area
- Colma –the entire town
- Pacifica – north and northeast of the city
- South San Francisco – all but north and west sides of the city
- San Bruno – all but northwest corner of the city
- Millbrae – the entire city
- Burlingame – the entire city
- Hillsborough – the northern part of the town, north of Chateau Drive
- San Mateo – a few blocks in the City of San Mateo
- Foster City – the northern part of the City
- Unincorporated San Mateo County: California Golf Club, Country Club Park, Burlingame Hills, and San Francisco International Airport

The following special districts are located within Area B of the AIA:

- North San Mateo County Sanitation District
- Peninsula Health Care District
- San Mateo County Flood Control District
- San Mateo County Harbor District
- San Mateo County Mosquito & Vector Control District
- Westborough County Water District

The following school districts and community college district are located within Area B:

- Bayshore Elementary School District
- Brisbane Elementary School District
- Burlingame Elementary School District

- Hillsborough City Elementary School District
- Jefferson Elementary School District
- Jefferson Union High School District
- Millbrae Elementary School District
- Pacifica School District
- San Bruno Park Elementary School District
- San Mateo County Community College District
- San Mateo Foster City Elementary School District
- San Mateo Union High School District
- South San Francisco Elementary School District

## 4.3 Noise Compatibility Policies

The airport noise compatibility policies described in this section have a two-fold purpose:

1. To protect the public health, safety, and welfare by minimizing the exposure of residents and occupants of future noise-sensitive development to excessive noise.
2. To protect the public interest in providing for the orderly development of SFO by ensuring that new development in the Airport environs complies with all requirements necessary to ensure compatibility with aircraft noise in the area. The intent is to avoid the introduction of new incompatible land uses into the Airport's "noise impact area" so that the Airport will continue to be in compliance with the State Noise Standards for airports (California Code of Regulations, Title 21, Sections 5012 and 5014).<sup>3</sup>

The following noise compatibility policies (NP) shall apply to the ALUCP.

### NP-1 NOISE COMPATIBILITY ZONES

For the purposes of this ALUCP, the projected 2020 CNEL noise contour map from the Draft Environmental Assessment for the Proposed Runway Safety Area Program shall define the boundaries within which noise compatibility policies described in this Section shall apply.<sup>4</sup> **Exhibit IV-5** depicts the noise compatibility zones. More detail is provided on **Exhibit IV-6**. The zones are defined by the CNEL 65, 70 and 75 dB contours.

<sup>3</sup> In 2002, the San Mateo County Board of Supervisors declared that the Airport had eliminated its "noise impact area," as defined under state law -- California Code of Regulations, Title 21, Sections 5012 and 5014.

<sup>4</sup> URS Corporation and BridgeNet International. *Draft Environmental Assessment, Proposed Runway Safety Area Program, San Francisco International Airport*, June 2011.

**Attachment B:**  
**SFO ALUCP Noise Compatibility Policies**



- Hillsborough City Elementary School District
- Jefferson Elementary School District
- Jefferson Union High School District
- Millbrae Elementary School District
- Pacifica School District
- San Bruno Park Elementary School District
- San Mateo County Community College District
- San Mateo Foster City Elementary School District
- San Mateo Union High School District
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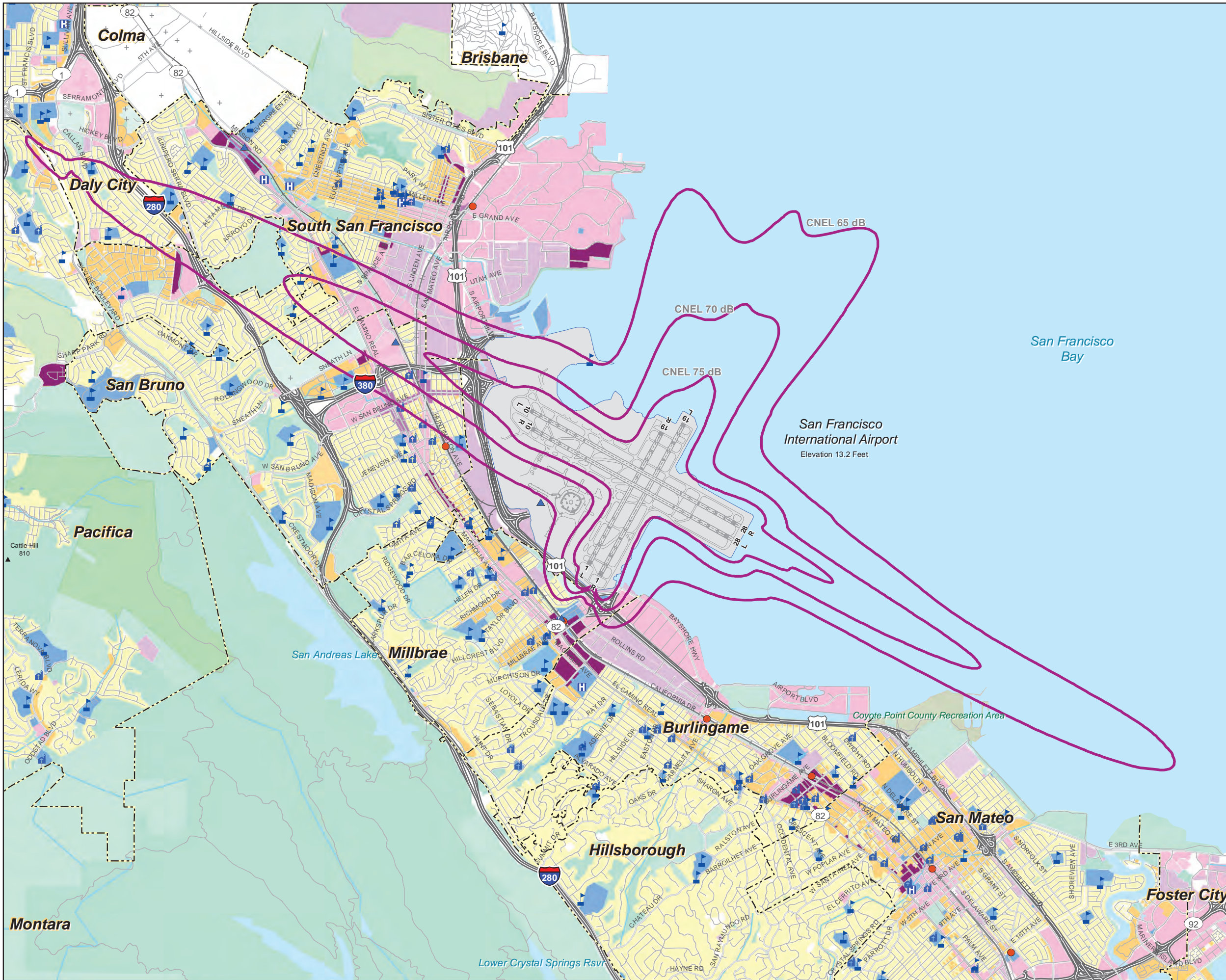
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<sup>4</sup> URS Corporation and BridgeNet International. *Draft Environmental Assessment, Proposed Runway Safety Area Program, San Francisco International Airport*, June 2011.





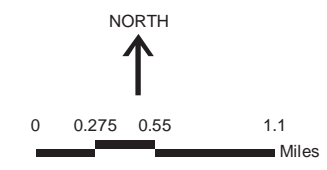
**LEGEND**

- CNEL Contour, 2020 Forecast
- Airport Property
- BART Station
- CALTRAIN Station
- School
- Place of Worship
- Hospital
- Municipal Boundary
- Railroad
- Freeway
- Road

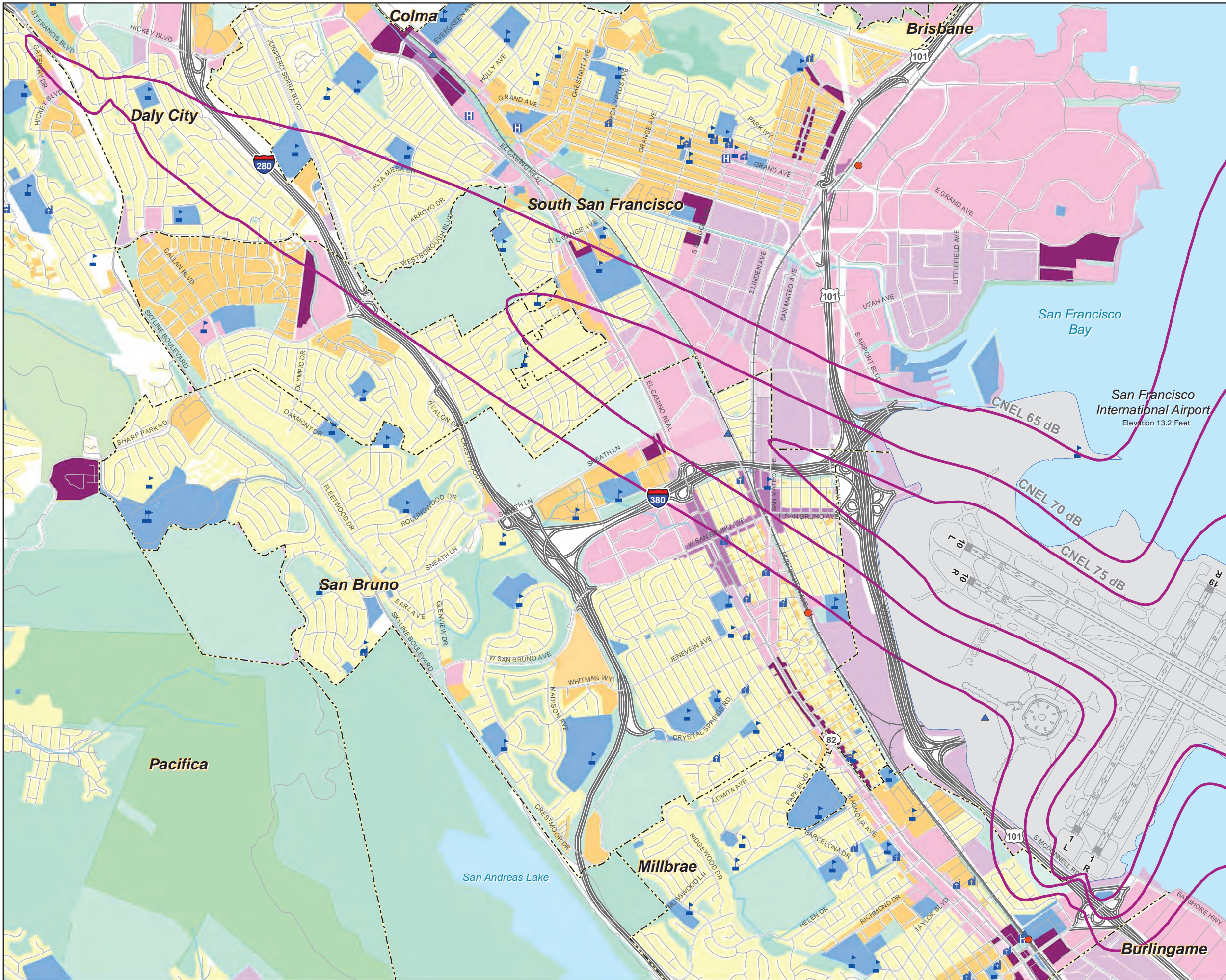
Planned Land Use Per General Plans:

- Public
- Multi-Family Residential
- Single Family Residential
- Mixed Use
- Transit Oriented Development
- Commercial
- Industrial, Transportation, and Utilities
- Local Park, Golf Course, Cemetery
- Regional Park or Recreation Area
- Open Space
- Planned use not mapped

- Sources:**
- Noise Contour Data:
- Draft Environmental Assessment, Proposed Runway Safety Area Program, San Francisco International Airport. URS Corporation and BridgeNet International, June 2011
- County Base Maps:
- San Mateo County Planning & Building Department, 2007
- Local Plans:
- Burlingame Bayfront Specific Area Plan, August 2006
  - Burlingame Downtown Specific Plan, January 2009
  - Burlingame General Map, September 1984
  - North Burlingame/ Rollins Road Specific Plan, February 2007
  - Colma Municipal Code Zoning Maps, December 2003
  - Daly City General Plan Land Use Map, 1987
  - Hillsborough General Plan, March 2005
  - Millbrae Land Use Plan, November 1998
  - Pacifica General Plan, August 1996
  - San Bruno General Plan, December 2008
  - San Mateo City Land Use Plan, March 2007
  - San Mateo County Zoning Map, 1992
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**LEGEND**

- CNEL Contour, 2020 Forecast
- Airport Property
- ▲ BART Station
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- Ⓜ Place of Worship
- Ⓜ Hospital
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**Planned Land Use Per General Plans:**

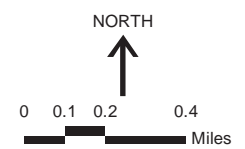
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 - San Bruno General Plan, December 2008  
 - San Mateo City Land Use Plan, March 2007  
 - San Mateo County Zoning Map, 1992  
 - South San Francisco General Plan, 1998





The CNEL noise contours presented in Exhibit IV-6 designate the area where noise exposure is great enough to warrant land use controls to promote noise compatibility. It is acknowledged that aircraft noise at levels below CNEL 65 dB can be disturbing to some people.

Although the contours were established using the best available information at the time, noise contours are subject to changes that can be difficult to predict over long periods of time. The primary causes of change in the noise contours at SFO are most likely to be changes in the numbers of operations (arrivals and departures) and in the mix of aircraft using the airport. The patterns of runway use and flight tracks are unlikely to change substantially due to the nature of local weather patterns, topography, and the presence of other airports and air traffic in the metropolitan area.

#### **NP-2 AIRPORT NOISE/LAND USE COMPATIBILITY CRITERIA**

The compatibility of proposed land uses located in the Airport noise compatibility zones shall be determined according to the noise/land use compatibility criteria shown in **Table IV-1**. The criteria indicate the maximum acceptable airport noise levels, described in terms of Community Noise Equivalent Level (CNEL), for the indicated land uses. The compatibility criteria indicate whether a proposed land use is “compatible,” “conditionally compatible,” or “not compatible” within each zone, designated by the identified CNEL ranges.

- “Compatible” means that the proposed land use is compatible with the CNEL level indicated in the table and may be permitted without any special requirements related to the attenuation of aircraft noise.
- “Conditionally compatible” means that the proposed land use is compatible if the conditions described in Table IV-1 are met.
- “Not compatible” means that the proposed land use is incompatible with aircraft noise at the indicated CNEL level.

**Table IV-1 Noise/Land Use Compatibility Criteria**

LAND USE	COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)			
	BELOW 65 dB	65-70 dB	70-75 dB	75 dB AND OVER
<b>Residential</b>				
Residential, single family detached	Y	C	N (a)	N
Residential, multi-family and single family attached	Y	C	N (a)	N
Transient lodgings	Y	C	C	N
<b>Public/Institutional</b>				
Public and Private Schools	Y	C	N	N
Hospitals and nursing homes	Y	C	N	N
Places of public assembly, including places of worship	Y	C	N	N
Auditoriums, and concert halls	Y	C	C	N
Libraries	Y	C	C	N
Outdoor music shells, amphitheaters	Y	N	N	N
<b>Recreational</b>				
Outdoor sports arenas and spectator sports	Y	Y	Y	N
Nature exhibits and zoos	Y	Y	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N
Golf courses, riding stables, and water recreation	Y	Y	Y	Y
<b>Commercial</b>				
Offices, business and professional, general retail	Y	Y	Y	Y
Wholesale; retail building materials, hardware, farm equipment	Y	Y	Y	Y
<b>Industrial and Production</b>				
Manufacturing	Y	Y	Y	Y
Utilities	Y	Y	Y	Y
Agriculture and forestry	Y	Y (b)	Y (c)	Y (c)
Mining and fishing, resource production and extraction	Y	Y	Y	Y

## Notes:

CNEL = Community Noise Equivalent Level, in A-weighted decibels.

Y (Yes) = Land use and related structures compatible without restrictions.

C (conditionally compatible) = Land use and related structures are permitted, provided that sound insulation is provided to reduce interior noise levels from exterior sources to CNEL 45 dB or lower and that an avigation easement is granted to the City and County of San Francisco as operator of SFO. See Policy NP-3.

N (No) = Land use and related structures are not compatible..

- (a) Use is conditionally compatible only on an existing lot of record zoned only for residential use as of the effective date of the ALUCP. Use must be sound-insulated to achieve an indoor noise level of CNEL 45 dB or less from exterior sources. The property owners shall grant an avigation easement to the City and County of San Francisco prior to issuance of a building permit for the proposed building or structure. If the proposed development is not built, then, upon notice by the local permitting authority, SFO shall record a notice of termination of the avigation easement.
- (b) Residential buildings must be sound-insulated to achieve an indoor noise level of CNEL 45 dB or less from exterior sources.
- (c) Accessory dwelling units are not compatible.

SOURCES: Jacobs Consultancy Team 2010. Based on State of California General Plan Guidelines for noise elements of general plans; California Code of Regulations, Title 21, Division 2.5, Chapter 6, Section 5006; and 14 CFR Part 150, Appendix A, Table I.

PREPARED BY: Ricondo & Associates, Inc., June 2012.

**NP-3 GRANT OF AVIGATION EASEMENT**

Any action that would either permit or result in the development or construction of a land use considered to be conditionally compatible with aircraft noise of CNEL 65 dB or greater shall be subject to this easement requirement. The determination of conditional compatibility shall be based on the criteria presented in Table IV-1 “Noise/Land Use Compatibility Criteria.”

The San Mateo County Airport Land Use Commission (the C/CAG Board) deems it necessary to: (1) ensure the unimpeded use of airspace in the vicinity of SFO; (2) to ensure that new noise-sensitive land uses within the CNEL 65 dB contour are made compatible with aircraft noise, in accordance with California Code of Regulations, Title 21, Section 5014; and (3) to provide notice to owners of real property near the Airport of the proximity to SFO and of the potential impacts that could occur on the property from airport/aircraft operations. Thus, C/CAG shall condition its approval of proposed development upon the owner of the subject property granting an avigation easement to the City and County of San Francisco, as the proprietor of SFO. The local government with the ultimate permitting and approval authority over the proposed development shall ensure that this condition is implemented prior to final approval of the proposed development. If the approval action for the proposed development includes construction of a building(s) and/or other structures, the local permitting authority shall require the grant of an avigation easement to the City and County of San Francisco prior to issuance of a building permit(s) for the proposed building or structure. If the proposed development is not built, then, upon notice by the local permitting authority, SFO shall record a notice of termination of the avigation easement.

The avigation easement to be used in fulfilling this condition is presented in **Appendix G**.

**NP-4 RESIDENTIAL USES WITHIN CNEL 70 dB CONTOUR**

As described in Table IV-1, residential uses are not compatible in areas exposed to noise above CNEL 70 dB and typically should not be allowed in these high noise areas. .

**NP-4.1 Situations Where Residential Use Is Conditionally Compatible**

Residential uses are considered conditionally compatible in areas exposed to noise above CNEL 70 dB only if the proposed use is on a lot of record zoned exclusively for residential use as of the effective date of the ALUCP. In such a case, the residential use must be sound-insulated to achieve an indoor noise level of CNEL 45 dB or less from exterior sources. The property owner also shall grant an avigation easement to the City and County of San Francisco in accordance with Policy NP-3 prior to issuance of a building permit for the proposed building or structure.

**NP-4.2 Construction of Additional Dwellings on Lots Occupied by Residential Uses is Incompatible within CNEL 70 dB Contour**

The construction of second homes on lots occupied by residential uses and the creation of additional housing units in existing buildings within the CNEL 70 dB contour shall be incompatible and inconsistent with this ALUCP.



**NP-4.3 Residential Subdivisions and Lot Splits are Incompatible within CNEL 70 dB Contour**

The subdivision of land and the splitting of lots to enable the construction of additional housing within the CNEL 70 dB contour shall be incompatible and inconsistent with this ALUCP.

**NP-4.4 Residential Rezonings are Incompatible Within CNEL 70 dB Contour**

The rezoning of land for residential use within the CNEL 70 dB contour shall be considered incompatible and inconsistent with this ALUCP.

## 4.4 Safety Compatibility Policies

The safety compatibility policies are established with a twofold purpose:

1. To protect the public health, safety, and welfare by minimizing the public's exposure to the risk associated with potential aircraft accidents in the Airport vicinity.
2. To protect the public interest in providing for the orderly development of SFO by preventing the creation of new safety problems in the Airport environs.

Compared to noise, safety is a much more difficult concern to address in airport/land use compatibility policies. A major reason is that safety policies address uncertain events that may occasionally occur with aircraft operations, whereas noise policies deal with known, more or less predictable, events that occur with every aircraft operation.

Because aircraft accidents happen infrequently, and the time, place, and consequences of their occurrence cannot be accurately predicted, the concept of risk is central to the assessment of safety compatibility. In terms of airport/land use compatibility planning, two questions must be addressed to determine the relative degree of risk posed by potential aircraft accidents in various locations:

- Accident Frequency – Where and when do aircraft accidents typically occur in the vicinity of an airport?
- Accident Severity – What aircraft and land use characteristics contribute to the consequences of an accident when one occurs?

The overall objective of safety compatibility guidelines is to minimize the risks associated with potential aircraft accidents. There are two components to this objective:

- Safety of Persons on the Ground – The most fundamental safety compatibility component is to provide for the safety of people and property on the ground in the event of an aircraft accident near an airport.
- Safety of Aircraft Occupants – The other safety compatibility component is to enhance the chances of survival of the occupants of an aircraft involved in an accident that occurs beyond the runway environment.

**Attachment C**  
**SFO ALUCP Airspace Protection Policies**

and associated with human disease of varying severity.

- b. Biosafety Level 3 practices, safety equipment, and facility design and construction are applicable to clinical, diagnostic, teaching, research, or production facilities in which work is done with indigenous or exotic agents with a potential for respiratory transmission, and which may cause serious and potentially lethal infection.
- c. Biosafety Level 4 practices, safety equipment, and facility design and construction are applicable for work with dangerous and exotic agents that pose a high individual risk of life-threatening disease, which may be transmitted via the aerosol route and for which there is no available vaccine or therapy.

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## 4.5 Airspace Protection

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The compatibility of proposed land uses with respect to airspace protection shall be evaluated in accordance with the policies set forth in this section. These policies are established with a twofold purpose:

1. To protect the public health, safety, and welfare by minimizing the public's exposure to potential safety hazards that could be created through the construction of tall structures.
2. To protect the public interest in providing for the orderly development of SFO by ensuring that new development in the Airport environs avoids compromising the airspace in the Airport vicinity. This avoids the degradation in the safety, utility, efficiency, and air service capability of the Airport that could be caused by the attendant need to raise visibility minimums, increase minimum rates of climb, or cancel, restrict, or redesign flight procedures.

### 4.5.1 FEDERAL REGULATIONS REGARDING TALL STRUCTURES

14 Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace*, governs the FAA's review of proposed construction exceeding certain height limits, defines airspace obstruction criteria, and provides for FAA aeronautical studies of proposed construction. **Appendix F** describes the FAA airspace review process and the extent of FAA authority related to airspace protection.

### 4.5.2 PART 77, SUBPART B, NOTIFICATION PROCESS

Federal regulations require any person proposing to build a new structure or alter an existing structure with a height that would exceed the elevations described in CFR Part 77, Subpart B, Section 77.9, to prepare an FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, and submit the notice to the FAA. The regulations apply to buildings and other structures or portions of structures, such as mechanical equipment, flag poles, and other projections that may exceed the aforementioned elevations.

**Exhibit IV-10** depicts the approximate elevations at which the 14 CFR Part 77 notification requirements would be triggered; see **Exhibit IV-11** for a close-up view of the northern half and **Exhibit IV-12** for a close-up view of the southern half of the area. These exhibits are provided for informational purposes only. Official determinations of the areas and elevations within which the federal notification requirements apply are subject to the authority of the FAA. The FAA is empowered to require the filing of notices for proposed construction based on considerations other than height. For example, in some areas of complex airspace and high air traffic volumes, the FAA may be concerned about the potential for new construction of any height to interfere with electronic navigation aids. In these areas, the FAA will want to review all proposed construction projects.

The FAA has developed an on-line tool for project sponsors to use in determining whether they are required to file a Notice of Proposed Construction or Alteration. Sponsors of proposed projects are urged to refer to this website to determine whether they are required to file Form 7460-1 with the FAA:

<https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showNoNoticeRequiredToolForm>

### 4.5.3 AIRSPACE MAPPING

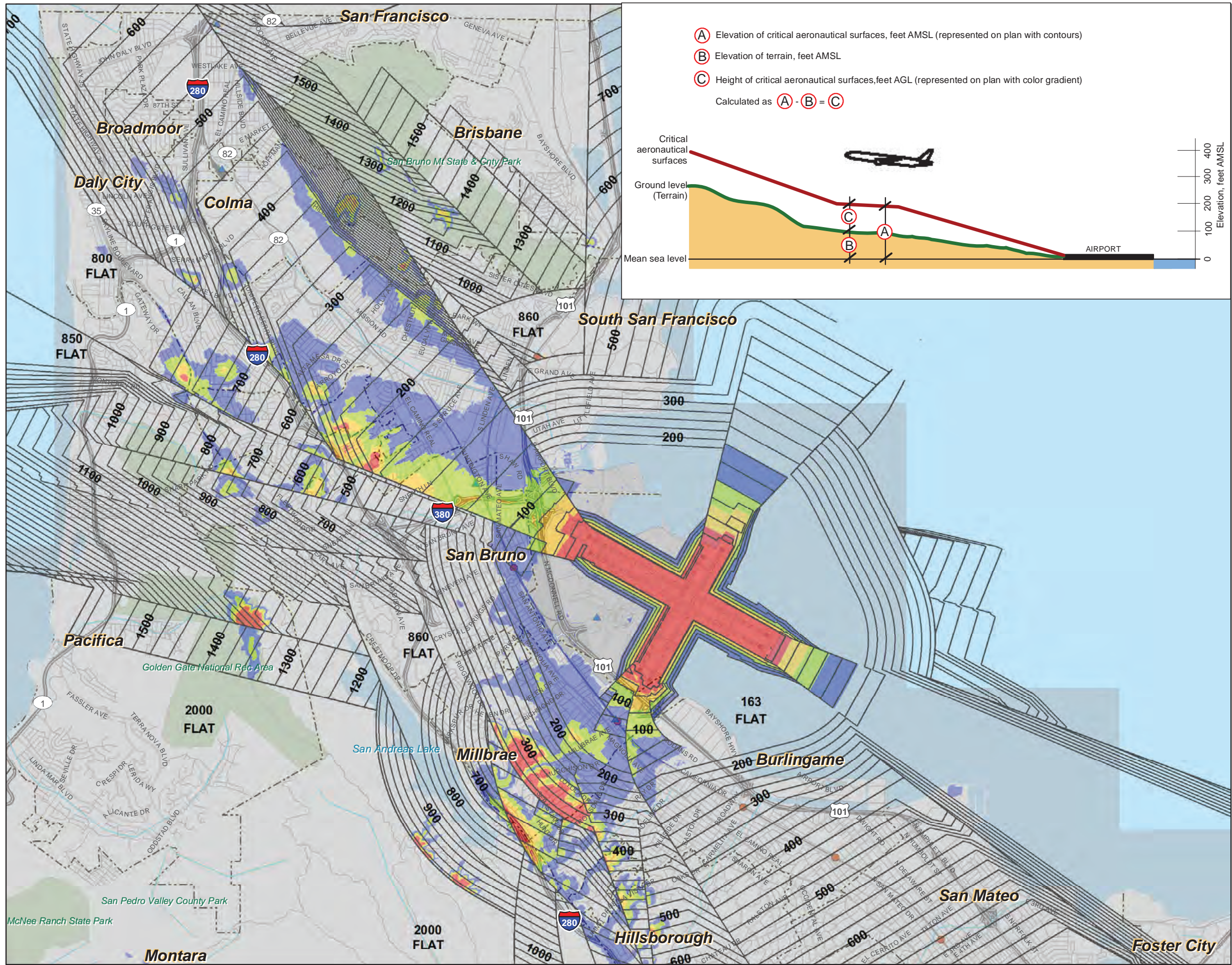
Part 77, Subpart C, establishes obstruction standards for the airspace around airports including approach zones, conical zones, transitional zones, and horizontal zones known as “imaginary surfaces.” **Exhibit IV-13** depicts the Part 77 Civil Airport Imaginary Surfaces at SFO. The imaginary surfaces rise from the primary surface, which is at ground level immediately around the runways. The surfaces rise gradually along the approach slopes associated with each runway end and somewhat more steeply off the sides of the runways. The FAA considers any objects penetrating these surfaces, whether buildings, trees or vehicles travelling on roads and railroads, as obstructions to air navigation. Obstructions may occur without compromising safe air navigation, but they must be marked, lighted, and noted on aeronautical publications to ensure that pilots can see and avoid them.

Close-up views of the north and south sides of the Part 77 surfaces are provided in **Exhibit IV-14** and **Exhibit IV-15**, respectively. Additionally, **Exhibit IV-16** provides an illustration of the outer approach and transitional surfaces located on the southeast side of the Part 77 surfaces.

Together with its tenant airlines, SFO has undertaken a mapping effort to illustrate the critical aeronautical surfaces that protect the airspace required for multiple types of flight procedures such as those typically factored into FAA aeronautical studies, as shown on **Exhibit IV-17** and **Exhibit IV-18**. These aeronautical surfaces include those established in accordance with FAA Order 8260.3B, *U.S. Standard for Terminal Instrument Procedures (TERPS)*, and a surface representing the airspace required for One-Engine Inoperative (OEI) departures from Runway 28L (to the west through the San Bruno Gap).<sup>16</sup> The exhibits depict the lowest elevations from the combination of the OEI procedure surface and all TERPS surfaces. The surfaces are defined with Required Obstacle Clearance (ROC) criteria to ensure safe separation of aircraft using the procedures from the underlying obstacles. Any proposed structures penetrating these surfaces are likely to receive Determinations of Hazard (DOH) from the FAA through the 7460-1 aeronautical study process. These surfaces indicate the maximum height at which structures can be considered compatible with Airport operations.

<sup>16</sup> See Appendix F, Section F.3.2 for a discussion of one-engine inoperative procedures.





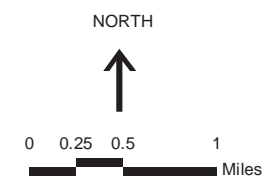
**LEGEND**

- (A) — 100 — Elevation of critical aeronautical surfaces, feet Above Mean Sea Level (AMSL), North American Vertical Datum of 1988 (NAVD88)
- (C) **Height of Critical Aeronautical Surfaces, Feet Above Ground Level (AGL)**
  - 35 and lower
  - 35- 65
  - 65 - 100
  - 100 - 150
  - 150 and more
- Airport Property
- ▲ BART Station
- CALTRAIN Station
- Regional Park or Recreation Area
- Municipal Boundary
- Railroad
- Freeway
- Road

**Notes:**

- This map is intended for informational and conceptual planning purposes, generally representing the aeronautical surfaces considered most critical by San Francisco International Airport (SFO) and its constituent airlines. It does not represent actual survey data, nor should it be used as the sole source of information regarding compatibility with airspace clearance requirements in the development of data for an FAA Form 7460-1, Notice of Proposed Construction or Alteration. SFO does not certify its accuracy, information, or title to the properties contained in this plan. SFO does make any warrants of any kind, express or implied, in fact or by law, with respect to boundaries, easements, restrictions, claims, overlaps, or other encumbrances affecting such properties.
- This map does not replace the FAA's obstruction evaluation / airport airspace analysis (OE/AAA) review process. Proposing construction at elevations and heights that are lower than the critical aeronautical surfaces shown on this map, (a) does not relieve the construction sponsor of the obligation to file an FAA Form 7460-1, and (b) does not ensure that the proposal will be acceptable to the FAA, SFO, air carriers, or other agencies or stakeholders. SFO, San Mateo County, and local authorities having jurisdiction reserve the right to re-assess, review, and seek modifications to projects that may be consistent with this critical aeronautical surfaces map but that through the FAA OE/AAA process are found to have unexpected impacts to the safety or efficiency of operations at SFO.

Sources: San Francisco International Airport, Jacobs Consultancy, and Planning Technology Inc., 2009





**Exhibit IV-19**, which is provided for information purposes only, depicts a profile view of the lowest critical airspace surfaces along the extended centerline of Runway 10L-28R – the TERPS Obstacle Departure Procedure (ODP) surface, representing standard all-engines departures, and the approximate OEI surface developed by SFO through independent study in consultation with the airlines serving SFO. The exhibit also shows the terrain elevation beneath the airspace surfaces and various aircraft approach and departure profiles, based on varying operating assumptions. The exhibit illustrates a fundamental principle related to the design of airspace protection surfaces. The surfaces are always designed below the actual aircraft flight profile which they are designed to protect, thus providing a margin of safety. Note that the ODP climb profile is above the ODP airspace surface, and the OEI climb profile is above the OEI airspace surface.

#### 4.5.4 AIRSPACE PROTECTION POLICIES

The following airspace protection policies (AP) shall apply to the ALUCP.

##### **AP-1 COMPLIANCE WITH 14 CFR PART 77, SUBPART B, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION**

###### **AP-1.1 Local Government Responsibility to Notify Project Sponsors**

Local governments should notify sponsors of proposed projects at the earliest opportunity to file Form 7460-1, *Notice of Proposed Construction or Alteration*, with the FAA for any proposed project that would exceed the FAA notification heights, as shown approximately on Exhibit IV-10. Under Federal law, it is the responsibility of the project sponsor to comply with all notification and other requirements described in 14 CFR Part 77. This requirement applies independent of this ALUCP.

###### **AP-1.2 FAA Aeronautical Study Findings Required Before Processing Development Application**

The sponsor of a proposed project that would exceed the FAA notification heights, as shown approximately on Exhibit IV-10, shall present to the local government permitting agency with his or her application for a development permit, a copy of the findings of the FAA's aeronautical study, or evidence demonstrating that he or she is exempt from having to file an FAA Form 7460-1. It is the responsibility of the local agency to consider the FAA determination study findings as part of its review and decision on the proposed project.

##### **AP-2 COMPLIANCE WITH FINDINGS OF FAA AERONAUTICAL STUDIES**

Project sponsors shall be required to comply with the findings of FAA aeronautical studies with respect to any recommended alterations in the building design and height and any recommended marking and lighting of their structures for their proposed projects to be deemed consistent with this ALUCP.

**AP-3 MAXIMUM COMPATIBLE BUILDING HEIGHT**

In order to be deemed consistent with the ALUCP, the maximum height of a new building must be the lower of (1) the height shown on the SFO critical aeronautical surfaces map (Exhibits IV-17 and IV-18), or (2) the maximum height determined not to be a “hazard to air navigation” by the FAA in an aeronautical study prepared pursuant to the filing of Form 7460-1.

For the vast majority of parcels, the height limits established in local zoning ordinances are lower than the critical airspace surfaces. In those cases, the zoning district height regulations will control. Compliance with the zoning district height and the SFO critical aeronautical surfaces map, however, does not relieve the construction sponsor of the obligation to file a FAA Form 7460-1 *Notice of Proposed Construction or Alteration*, if required, and to comply with the determinations resulting from the FAA’s aeronautical study.

For a project to be consistent with this ALUCP, no local agency development permits shall be issued for any proposed structure that would penetrate the aeronautical surfaces shown on Exhibits IV-17 and IV-18 or the construction of which **has not** received a Determination of No Hazard from the FAA, or which would cause the FAA to increase the minimum visibility requirements for any instrument approach or departure procedure at the Airport.

**AP-4 OTHER FLIGHT HAZARDS ARE INCOMPATIBLE**

Proposed land uses with characteristics that may cause visual, electronic, or wildlife hazards, particularly bird strike hazards, to aircraft taking off or landing at the Airport or in flight are incompatible in Area B of the Airport Influence Area. They may be permitted only if the uses are consistent with FAA rules and regulations. Proof of consistency with FAA rules and regulations and with any performance standards cited below must be provided to the Airport Land Use Commission (C/CAG Board) by the sponsor of the proposed land use action.

Specific characteristics that may create hazards to aircraft in flight and which are incompatible include:

- (a) Sources of glare, such as highly reflective buildings or building features, or bright lights, including search lights or laser displays, which would interfere with the vision of pilots making approaches to the Airport.
- (b) Distracting lights that that could be mistaken by pilots on approach to the Airport for airport identification lighting, runway edge lighting, runway end identification lighting, or runway approach lighting.
- (c) Sources of dust, smoke, or water vapor that may impair the vision of pilots making approaches to the Airport.
- (d) Sources of electrical interference with aircraft or air traffic control communications or navigation equipment, including radar.
- (e) Land uses that, as a regular byproduct of their operations, produce thermal plumes with the potential to rise high enough and at sufficient velocities to interfere with the control of aircraft in

flight. Upward velocities of 4.3 meters (14.1 feet) per second at altitudes above 200 feet above the ground shall be considered as potentially interfering with the control of aircraft in flight.<sup>17</sup>

(f) Any use that creates an increased attraction for wildlife, particularly large flocks of birds, that is inconsistent with FAA rules and regulations, including, but not limited to, FAA Order 5200.5A, *Waste Disposal Sites On or Near Airports*, FAA Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports*, and any successor or replacement orders or advisory circulars. Exceptions to this policy are acceptable for wetlands or other environmental mitigation projects required by ordinance, statute, court order, or Record of Decision issued by a federal agency under the National Environmental Policy Act.

#### 4.5.5 iALP AIRSPACE TOOL

In consultation with C/CAG, SFO developed the iALP Airspace Tool, a web-based, interactive tool to evaluate the relationship of proposed buildings with the Airport's critical airspace surfaces. The iALP Airspace Tool is designed to assist planners, developers, and other interested persons with the implementation of the airspace protection policies of the SFO ALUCP. The tool helps users determine: (1) the maximum allowable building height at a given site, and/or (2) whether a building penetrates a critical airspace surface, and by how much, given the proposed building height.

A more detailed description of the iALP Airspace Tool and a tutorial explaining how to use it is presented in **Appendix J**. Use of this tool, however, does not relieve a project sponsor of the duty to comply with all federal regulations, including the obligation to file Form 7460-1, Notice of Proposed Construction or Alteration, with the FAA.

<sup>17</sup> This is a threshold established by the California Energy Commission in its review of power plant licensing applications. See *Blythe Solar Power Project: Supplemental Staff Assessment, Part 2*, CEC-700-2010-004-REVI-SUP-PT2, July 2010. California Energy Commission. Docket Number 09-AFC-6, p. 25. This criterion is based on guidance established by the Australian Government Civil Aviation Authority (Advisory Circular AC 139-05(0), June 2004). The FAA's Airport Obstructions Standards Committee (AOSC) is studying this matter but has not yet issued specific guidance.