Norman Y. Mineta
San José International Airport

Master Plan Update Project
San José, CA

10th Addendum to the Environmental Impact Report

City of San José
October 2013

NORMAN Y. MINETA SAN JOSE INTERNATIONAL AIRPORT

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

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SECTION 1. INTRODUCTION

1.1 OVERVIEW

This document, drafted to comply with the California Environmental Quality Act (Pub. Res. Code § 21000 et seq.) ("CEQA"), is the Tenth Addendum to an Environmental Impact Report ("EIR") on the Master Plan Update (the "Airport Master Plan" or "Master Plan") for the Norman Y. Mineta San Jose International Airport ("SJC" or the "Airport"). The Airport Master Plan's EIR was certified in June 1997 ("SJC Master Plan EIR") and updated with a Supplemental EIR that was certified in January 2003 ("Supplemental EIR").

The purpose of this Addendum is to analyze the environmental impacts associated with a proposed project that would construct a new general aviation facility (the "Project") at SJC to meet the existing and projected demand for corporate jet aircraft services. The Project would be constructed on a 30-acre site located on the west side of the Airport on what is currently an unused paved surface parking lot. General aviation facilities to be constructed will include approximately 240,000 ft^2 of aircraft hangars, a 10,000 ft^2 terminal, an outdoor seating area, ground service equipment (GSE) shops, aircraft apron, fuel farm, automobile parking, and access taxiways.

Actions associated with the Project will include the City entering into a long-term ground lease and operating agreement with Signature Flight Support Corporation ("Signature"), the Project applicant. The City is also amending its zoning ordinance to allow for building heights at the Airport up to that allowed by the FAA, which will accommodate the Project. The City is also approving a Site Development Permit to construct the Project. This Addendum, along with the previous nine addenda, EIR, and Supplemental EIR, serve as the environmental review for these actions pursuant to CEQA.

1.2 CEQA REQUIREMENTS

CEQA requires local governments to conduct environmental review on public and private development projects. CEQA Guidelines Section 15164(a) states that the lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. Section 15164(c) states than an addendum does not need to be circulated for public review. Section 15164(d) provides that the decision-making body shall consider the addendum in conjunction with the EIR prior to making a decision on the project. Section 15164(e) requires documentation of the decision not to prepare a subsequent EIR pursuant to Section 15162.

CEQA Guidelines Section 15162(a) provides that once an EIR has been certified, no subsequent EIR shall be prepared unless the lead agency determines, on the basis of substantial evidence, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken, which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

- The project will have one or more significant effects not discussed in the previous EIR; or
- Significant effects previously examined will be substantially more severe than shown in the previous EIR; or
- Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

This Addendum has been prepared to satisfy the requirements of CEQA Guidelines Sections 15164(a), 15164(d), and 15164(e).

This is the tenth in a series of addenda that have been prepared to address various modifications to the Airport Master Plan and/or changes in environmental setting/impacts, which are incorporated herein by reference. Section 2.2 of this Addendum summarizes the prior modifications to the Airport Master Plan that have been approved by the San Jose City Council. At the time this Addendum was approved, the Eighth Addendum was being litigated in the Sixth Appellate District of the California Court of Appeal - Citizens against Airport Pollution v. City of San Jose, Case No. H038781. The Eighth Addendum moved the planning horizon of the Airport Master Plan from 2017 to 2027 and revised the Airport Master Plan. Because the outcome of this litigation is uncertain at this time, this Addendum analyzes the Project using both the 2017 horizon and the 2027 horizon.

SECTION 2. OVERVIEW OF THE AIRPORT MASTER PLAN

2.1 DEVELOPMENT AND APPROVAL OF THE MASTER PLAN

SJC is one of the three primary airports that serve the San Francisco Bay Area. The Airport, which is owned and operated by the City of San José, is located on a site of approximately 1,050 acres in Santa Clara County at the southerly end of San Francisco Bay. As shown on Figure 1, the Airport is generally bounded by U.S. 101 on the north, the Guadalupe River and State Route 87 on the east, Interstate 880 on the south, and Coleman Avenue and De la Cruz Boulevard on the west.

In 1988, the City initiated a planning process to update its 1980 Airport Master Plan for SJC. The City's aviation consultants prepared demand forecasts for SJC and evaluated a series of alternative development scenarios which would adequately accommodate some or all of the projected growth in passenger and air cargo traffic at the Airport through a year 2010 planning horizon. Between 1988 and 1995, numerous meetings, workshops, and hearings occurred for the purpose of determining the range and scope of alternatives to be formally evaluated in an EIR. The City began the formal preparation of the Draft EIR for the Master Plan Update in 1995. The Draft EIR, which evaluated four alternatives (including the CEQA-mandated No Project Alternative), was published and circulated in October of 1996. The Final EIR was certified in June of 1997. The SJC Master Plan Update was approved by the San José City Council on June 10, 1997. A Supplemental EIR, which updated the noise analysis and addressed the effects of an Automated People Mover (APM), was certified in 2003. A number of EIR Addenda have also been prepared, as listed in Table 1, to address changes to the environmental setting and/or various amendments to the Airport Master Plan that have been approved since 1997.

2.1.1 Approved Airport Master Plan

The approved Airport Master Plan consists of a comprehensive and integrated package of improvements to airside and landside facilities at SJC, such improved facilities having the design capacity to fully accommodate the 2027 forecast demand for air passenger, air cargo, and general aviation services in a comfortable and efficient manner. The approximately 70 capital improvement projects identified in the Master Plan include the reconstruction and lengthening of the Airport's two main runways, numerous taxiway improvements, new and reconstructed passenger terminals with up to 49 air carrier gates, new air cargo and general aviation facilities, several multi-story parking garages, and a new fuel storage facility. Table 2 summarizes the primary improvements contained in the approved Airport Master Plan.

The 1997 Master Plan EIR analyzed the environmental impacts of the Master Plan based on aviation demand forecasts for a horizon year of 2010. As shown in Table 3, for air passengers and air cargo, the forecasted 2010 activity level was 17.6 million annual passengers and 315,300 annual cargo tonnage, respectively. For general aviation the forecasted demand was for 630 based aircraft with 226,800 annual operations[1], but the Master Plan accommodated (and the EIR analyzed) only 320 based aircraft with 115,300 annual operations.

[1] An aircraft "operation" is defined as a takeoff or landing. Therefore, if an aircraft flies into the Airport and subsequently takes offs, two operations have occurred.

VICINITY MAP

FIGURE 1

TABLE 1
Approved Amendments to the 1997 SJC Master Plan [a]

Number	Description of Amendment	Type	Approval Date	CEQA Clearance
1	Interim off-Airport Office Space and Reuse of Vacated On-Airport Space for Air Carrier-related Uses	Minor	June 1998	Master Plan EIR Reuse
2	Expanded Fixed Base Operator (FBO) Leasehold for ACM Aviation	Minor	June 1999	Master Plan EIR Reuse
3	Interim Relocation of Federal Inspection Services (FIS) Facility	Minor	June 1999	Master Plan EIR Reuse
4	Interim Rental Car Ready/Return Facility Consolidation	Minor	April 2000	Master Plan EIR Reuse
5	Terminal Area Development Program Modifications (including terminal, parking garage, and roadway project revisions, as well as associated interim facility changes)	Minor	November 2001	Master Plan EIR Addendum #1
6	94th Aero Squadron Early Lease Termination/Removal and Interim Reuse for Runway Project Cement Plant	Minor	December 2001	Master Plan EIR Reuse
7	Relocation of Remote Transmitter/Receiver Facility to North Side of Control Tower & Reuse of Site for General Aviation	Minor	February 2002	Master Plan EIR Reuse
8	Automated People Mover (APM) between Airport and Metro/Airport LRT Station	Minor	March 2003	Master Plan Supplemental EIR
9	Additional General Aviation Facilities on west side of Airport & Designate Employee Parking as ultimate use in Terminal A Parking Garage	Major	April 2003	Master Plan EIR Addendum #2
10	Off-Airport Construction Staging & Change in Designated Location of Future Airline Maintenance/Equipment Storage Facilities	Minor	June 2003	Master Plan EIR Reuse
11	Lease of 52-acre off-Airport Site for the Temporary Relocation of Rental Cars & Employee Parking	Minor	November 2004	Master Plan EIR Addendum #4
12	Square Footage of Centralized Passenger Terminal increased to 1,700,000 square feet	Minor	March 2005	Master Plan EIR Addendum #4
13	Shifted the Master Plan Horizon Year from 2010 to 2017; Modified designs of Terminal Area Facilities; Modified range of interim uses on former-FMC Site	Major	June 2006	Master Plan EIR Addendum #6
14	Change in Eastside Non-Terminal Development Projects to provide flexibility in location, function, & development sequencing	Minor	May 2007	Master Plan EIR Reuse
15	Shifted the Master Plan Horizon Year from 2017 to 2027; Decrease size of air cargo/belly-freight facilities; Increase acreage for general aviation facilities; Modify Taxiways H and K	Major	June 2010	Master Plan EIR Addendum #8

[a] Per Section 25.02.300 of the San José Municipal Code, amendments to the Master Plan Update are classified as "minor" or "major". The criteria for defining minor and major amendments are set forth in that same section of the Municipal Code.

Notes:

EIR Addendum #3 addressed a modification to the Airport Noise Control Program that was approved on October 21, 2003. EIR Addendum #5 addressed the Airport's Gate Management Plan that was approved on November 15, 2005. EIR Addendum #7 addressed the impacts of the Master Plan with regard to its potential to increase terrorist attacks. EIR Addendum #9 evaluated the greenhouse gas impacts of the Master Plan. No Master Plan Amendment was involved with any of these EIR Addenda.

TABLE 2
Summary of Key Projects in the Approved SJC Master Plan [a]

Project Type	Description of Project
Airfield Improvements	- Reconstruct/lengthen Runway 12L/30R to 11,000 feet - Reconstruct/lengthen Runway 12R/30L to 11,000 feet
Passenger Terminals	- Modify existing terminals to create centralized passenger terminal with 49 air carrier gates and 1,700,000 square feet [b]
Public Parking Facilities	- Construct parking garages with 16,200 spaces [c]
Rental Car Facilities	- Construct consolidated parking garage with 6,000 spaces, including 2,000 ready/return spaces
Air Cargo Facilities	- Construct new all-cargo facilities totaling 1,165,100 square feet - Construct new belly-freight facilities totaling 92,400 square feet
Aviation Support Facilities	- Construct new fuel storage facility with capacity of 4,000,000 gallons
General Aviation Facilities	- Provide general aviation facilities on a total of 100 acres on the west side of the Airport
Transportation And Access	- Construct on-Airport APM - Upgrade/widen Terminal Drive - Construct grade separations on Airport Boulevard at Skyport Drive and Airport Boulevard - Construct APM between Airport and Metro/Airport LRT Station

[a] Section 2.3.1 (beginning on page 2-5) of the Final EIR contains a listing and description of all SJC Master Plan projects.

[b] Number of air carrier gates limited to 40 by Section 25.04.300(B)(1) of the San José Municipal Code.

[c] Number of public parking spaces limited to 12,700 by Section 25.04.300(B)(3) of the San José Municipal Code.

Source: SJC Master Plan, as amended through June 8, 2010.

2.2 IMPLEMENTATION OF THE AIRPORT MASTER PLAN 1997 – 2013

Subsequent to the approval of the Master Plan in 1997, many of the capital improvement projects have been constructed. This includes the majority of the airfield improvement projects such as the extension of the Airport's two main runways to 11,000 feet each and associated taxiway improvements. On the east side of SJC are new and remodeled passenger terminals, a customs facility for international flights, new/expanded parking lots and garages, and a new consolidated rental car facility. A new fuel storage facility has been constructed, as have numerous upgrades to the Airport's roadway system.

The remaining Master Plan capital projects include several taxiway upgrades/extensions, new air cargo facilities on the east side of the Airport, construction of the South Concourse of Terminal B, upgrades and expansion of various support facilities (e.g., maintenance, flight kitchen, rescue/firefighting, etc.), and the buildout of general aviation facilities on the west side of the Airport.

TABLE 3
Comparison of Airport Master Plan Activity Levels

	Actual Activity Level		Forecasted Level Used in CEQA Analyses		
Forecast Horizon Year →			**2010**	**2010**	**2027**
	Baseline Used in 1997 EIR (1993)	**Existing (2012)**	**1997 EIR**	**2003 Second EIR Addendum***	**2010 Eighth EIR Addendum**
Annual Air Passengers (millions)	7.0	8.3	17.6	17.6	17.6
Annual Air Cargo (tons)	81,237	41,817	315,300	315,300	189,700
General Aviation (based aircraft)	491	123	320	360	209
Annual Aircraft Operations					
Air Passenger	115,832	86,314	243,100	186,400	183,660
Air Cargo	5,044	1,540	13,300	13,100	6,830
General Aviation	176,581	31,324	115,300	129,700	73,200
Military	888	251	800	800	100
Total	298,345	119,429	372,500	330,000	263,790

*As compared to the 1997 EIR, these numbers reflected changes in the projected fleet mix at SJC based on industry practices and trends. These numbers did not change in 2006 when the City amended the Master Plan to extend the Master Plan horizon year from 2010 to 2017. For a discussion of the downturn in the economy and other factors that led to this extension, see Section 3.1 of the Sixth Addendum to the 1997 Master Plan EIR.

Sources:

- Table 2.3.1 of the 1997 Master Plan EIR
- 2nd Addendum to 1997 Master Plan EIR
- 6th Addendum to 1997 Master Plan EIR
- 8th Addendum to 1997 Master Plan EIR
- Summary of Aviation Demand Forecasts (Ricondo & Associates, 2009)
- Annual Status Report on the Airport Master Plan for 2012

2.2.1 Updates to Forecasts and Airport Master Plan Amendments

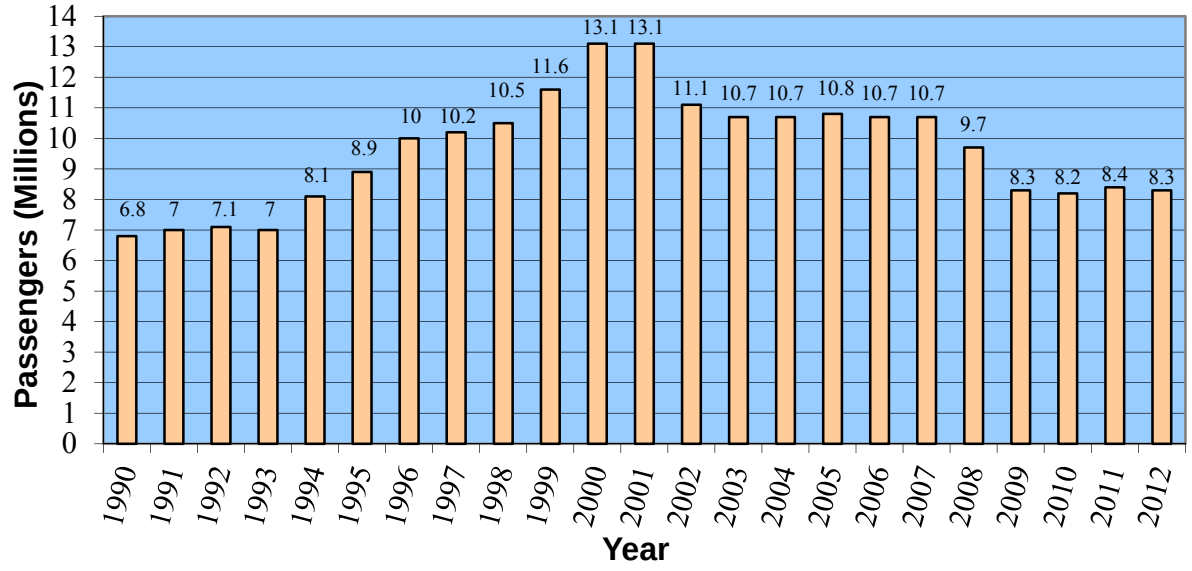
2.2.1.1 *Introduction and Background*

Similar to most master plans that contain numerous individual projects that are implemented over a multi-year period, the City has approved a number of Airport Master Plan amendments to reflect changed conditions in the aviation industry. The following paragraphs summarize the changed conditions and the factors that led to them.

At the time the original demand forecasts were undertaken in 1994, SJC was experiencing substantial annual growth in the number of air passengers using the airport. That substantial growth, which is summarized in Figure 2, was projected to continue through the year 2010. However, several unforeseen events subsequently transpired, which resulted in a major effect on the aviation industry and on activity levels at SJC: 1) terrorist attacks on September 11, 2001; 2) bursting of the high-tech

"dot com" bubble in Silicon Valley; 3) substantial increases in the price of aviation fuel; and 4) the widespread economic recession that began in 2008, the recovery from which is ongoing.

Figure 2:
Comparison of Annual Air Passenger Activity Levels at SJC



As a result of these events and other factors, the airline industry has been undergoing rapid and significant changes. For example, airlines are frequently modifying their route structure and the markets they serve in response to changes in economic and competitive conditions. In addition, airline start-ups, mergers, reorganizations, and bankruptcies are more common in today's aviation industry than in past years.

At SJC, the cumulative effect of all of these changes has been a decrease in airport activity in recent years. For example, as illustrated on Figure 1, the annual number of passengers using SJC has decreased from a high of 13.1 million in 2001 to 8.3 million in 2012, a decrease of 37%. This trend is projected to reverse as the economy recovers.

Such changes have necessitated updates to SJC's aviation forecasts, which in turn has resulted in various changes to the size, function, and location of some of the Airport's planned air passenger, air cargo, and general aviation facilities.

2.2.1.2 *1994 Forecasts*

The original Airport Master Plan horizon year of 2010 was based on aviation demand forecasts that were prepared in 1994. The forecasts, which were utilized throughout the 1997 Master Plan EIR, quantified the expected demand for air transportation services at SJC in 2010, based upon an analysis

of economic, employment, and demographic data. Based on those forecasts, a list of airport facility improvement projects to accommodate the projected demand was developed. These projects became the Airport Master Plan that was approved by the San José City Council in 1997.

2.2.1.3 *2003 Forecast Update and Master Plan Amendment*

In 2003, the 1994 assumptions for aircraft fleet mix and aircraft operations projected to occur by 2010 were revised to reflect the latest practices of the airlines, air cargo carriers, and owners/operators of general aviation aircraft. Also in 2003, the number of based general aviation aircraft at SJC was raised from 320 to 360 to reflect a Master Plan Amendment that allowed the expansion of Atlantic Aviation (formerly the San Jose Jet Center), an existing fixed base operator (FBO) at the Airport.[2] The Atlantic Aviation expansion project was evaluated in the Second EIR Addendum (2003).

2.2.1.4 *2005 Forecast Update and 2006 Master Plan Amendment*

As part of a 2005 financial feasibility analysis, the level of air passenger activity at SJC that was originally projected to be reached by year 2010, was projected not to be reached until year 2017. This updated forecast formed the basis for a decision in 2006 by the City to shift the horizon year for the Airport Master Plan from 2010 to 2017. The shift in horizon year from 2010 to 2017 was evaluated in the Sixth EIR Addendum (2006).

2.2.1.5 *2009 Forecasts and 2010 Master Plan Amendment*

In 2009, the City completed another update to the aviation demand forecasts for SJC. As shown in Table 3, the major findings of the 2009 updated forecast were as follows:

- The level of air passenger activity at SJC that was originally projected to be reached by year 2010 (i.e., 17.6 million annual passengers), and subsequently projected to be reached by 2017, is now projected not to be reached until year 2027.

- For air cargo, the 2009 updated forecast showed a much slower growth rate in future demand than previously projected. As shown in Table 3, the projected annual air cargo volume for year 2027 is 189,700 tons. This demand level is 40% less than the 315,300 tons that had been previously projected to occur by year 2010 and subsequently by 2017.

- For general aviation, the 2009 updated forecast showed a much lower growth rate in future demand than previously projected. As shown in Table 3, the projected demand for year 2027 is 209 based aircraft. This demand level is 42% less than the accommodated demand of 360 based aircraft that had been previously projected for year 2010 and subsequently 2017. In addition, the general aviation environment has changed, and is projected to continue to change, from a fleet comprised largely of single-engine piston aircraft to a fleet comprised largely of corporate jet aircraft. As an example, as shown in Table 4, the 1994 forecasts projected that

[2] A fixed base operator (FBO) is an aviation term that refers to an airport-based business that typically provides general aviation facilities and services such as aircraft parking, storage, maintenance, servicing, and fueling, as well as pilot/passenger facilities, restaurants, offices, meeting rooms, flight instruction, aircraft rental, pilot supplies, etc.

9% of all based aircraft in 2010 would be corporate jets, whereas the 2009 forecasts project that 67% of all based aircraft in 2027 will be corporate jets. Actual data, as shown in Table 4, comparing general aviation aircraft based at SJC in 1994 and 2012, confirms the projection and shows that there are fewer piston aircraft and more jets over time. This projected trend will continue based on industry-wide changes in general aviation.

TABLE 4
Existing and Projected Composition of Based General Aviation Aircraft Fleet Mix

	Projected		Actual	
Aircraft Category	**1994 Forecast for Horizon Year 2010**	**2009 Forecast for Horizon Year 2027**	**1994**	**2012**
Single-Engine Piston	67 %	23 %	73 %	48 %
Multi-Engine Piston	15 %	3 %	15 %	8 %
Turboprop	5 %	5 %	3 %	5 %
Turbojet	9 %	67 %	7 %	37 %
Helicopter	4 %	2 %	2 %	2 %
Total	100 %	100 %	100 %	100 %

Sources:
- San Jose International Airport Master Plan Update Final Report, 1999.
- Summary of Aviation Demand Forecasts for SJC, Ricondo & Associates, 2009.
- City of San Jose Airport Department (source for 2012 data)

These changes led the City to amend the Master Plan in 2010 to 1) shift the horizon year from 2017 to 2027, 2) relocate and decrease the size of planned air cargo facilities, 3) relocate and increase the size of planned general aviation facilities, and 4) modify two taxiways to accommodate the expanded general aviation facilities. These changes were evaluated in the Eighth EIR Addendum (2010).

2.2.1.6 *Summary*

When compared to the Master Plan in the 1997 EIR, the current data show:

- Air passenger growth is occurring far more slowly than originally projected;
- Total aircraft operations at SJC are lower than projected and are projected to be 29% lower in 2027 than what had been projected for 2010 and subsequently 2017;
- Air cargo volume, measured in tons per year, is lower than projected and is projected to be 40% lower in 2027 than what had been projected for 2010 and subsequently 2017; and
- General aviation activity, expressed as the number of based aircraft, is less than projected and is projected to be 42% lower in 2027 than what had been projected for 2010 and subsequently 2017.

SECTION 3. DESCRIPTION OF PROPOSED PROJECT

The Project that is being addressed in this Tenth EIR Addendum is the construction of a general aviation FBO on the west side of the Airport. The 30-acre Project site is designated for general aviation in the approved Airport Master Plan. Consistent with the objectives of the Master Plan, the Project will accommodate a portion of the existing and projected demand for general aviation air transportation services at SJC.

As shown on Figure 3, the Project site is currently an unused asphalt vehicle surface parking lot. The easterly side of the Project site borders the airfield. The FAA air traffic control tower, aviation communication equipment, and other existing general aviation facilities are located to the south of the Project site. Martin Avenue runs along the westerly side of the Project site. The existing unused vehicle surface parking lot within the Project site continues to the north and south of the Project site; those areas are designated for future general aviation facilities.

The general aviation facilities to be constructed as part of the Project will include approximately 240,000 ft^2 of aircraft hangars, an approximately 10,000 ft^2 terminal, an outdoor seating area, a ground service equipment (GSE) shop, an aircraft apron, a fuel farm, an automobile parking area, and aircraft taxiways. The Project will be constructed to meet LEED standards.[3] The Project's site plan is shown on Figure 4 and representative building elevations are shown on Figure 5. The following paragraphs provide additional detail regarding the proposed Project.

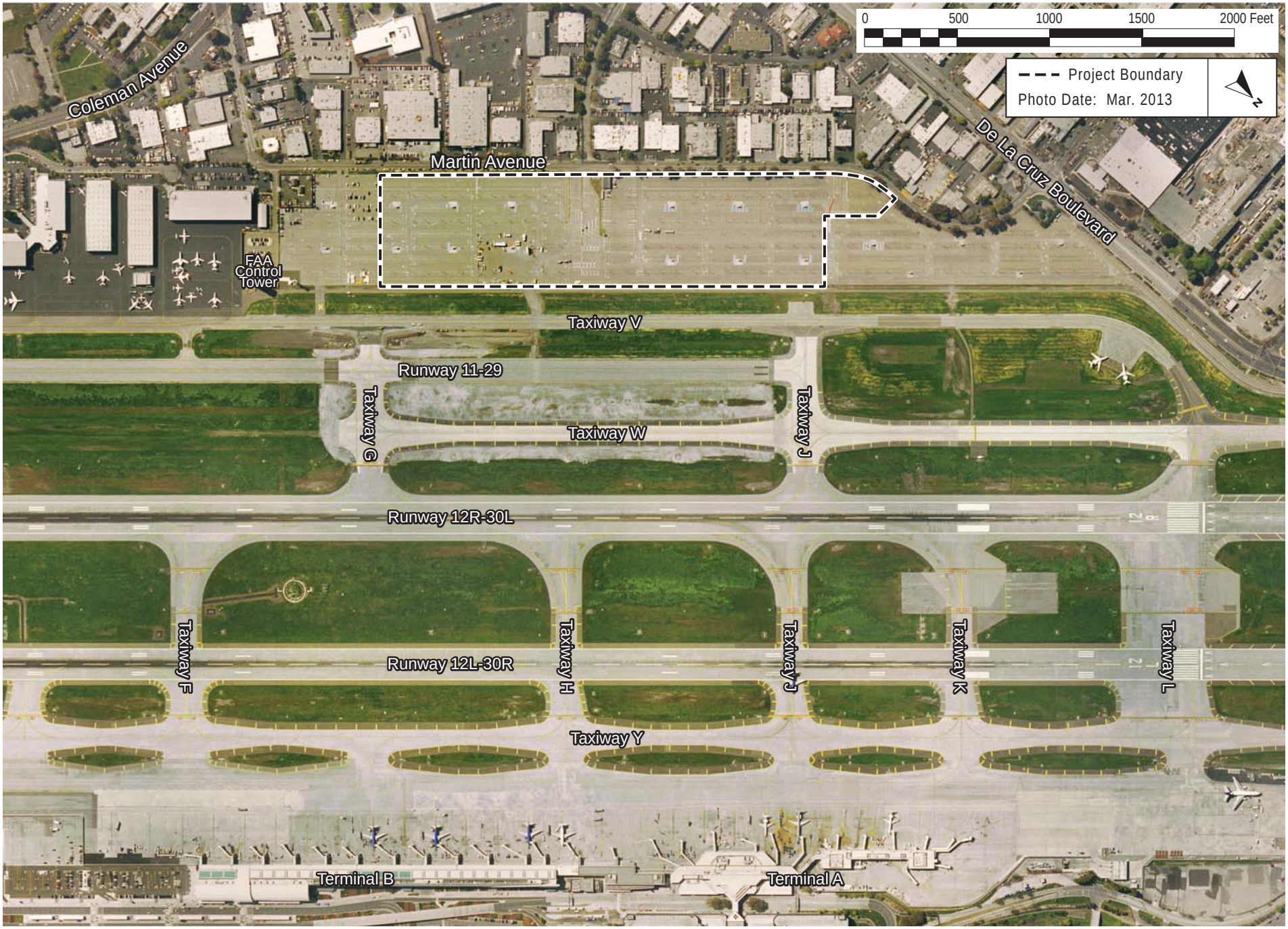
Terminal: The Project will construct a 10,000 ft^2 executive terminal that will be located between Hangars 2 and 3. The terminal will be used to provide the public with a wide range of general aviation support services and facilities including a pilot rest lounge, a flight planning area, a VIP lounge, offices, one or more conference rooms, restrooms, concierge services, and a food service area. An exterior open seating area, approximately 7,500 ft^2 in size, will be constructed adjacent to the terminal.

Aircraft Hangars: The Project will contain seven aircraft hangars. Six of the hangars will contain approximately 30,000 ft^2, including approximately 3,000 ft^2 of office/shop space. These six hangars will be designed to each accommodate three large cabin business jet aircraft of the types that are currently in common usage. The seventh hangar will be 60,000 ft^2, including approximately 6,000 ft^2 of office/shop space. The seventh hangar will be designed to accommodate up to one Boeing 767 and one Boeing 757 or similarly-sized aircraft.[4]

Aircraft Apron: The Project will include approximately 17 acres of concrete aircraft apron (sometimes referred to as "aircraft ramp") between the hangars and the airfield, as shown on Figure 4. The aircraft

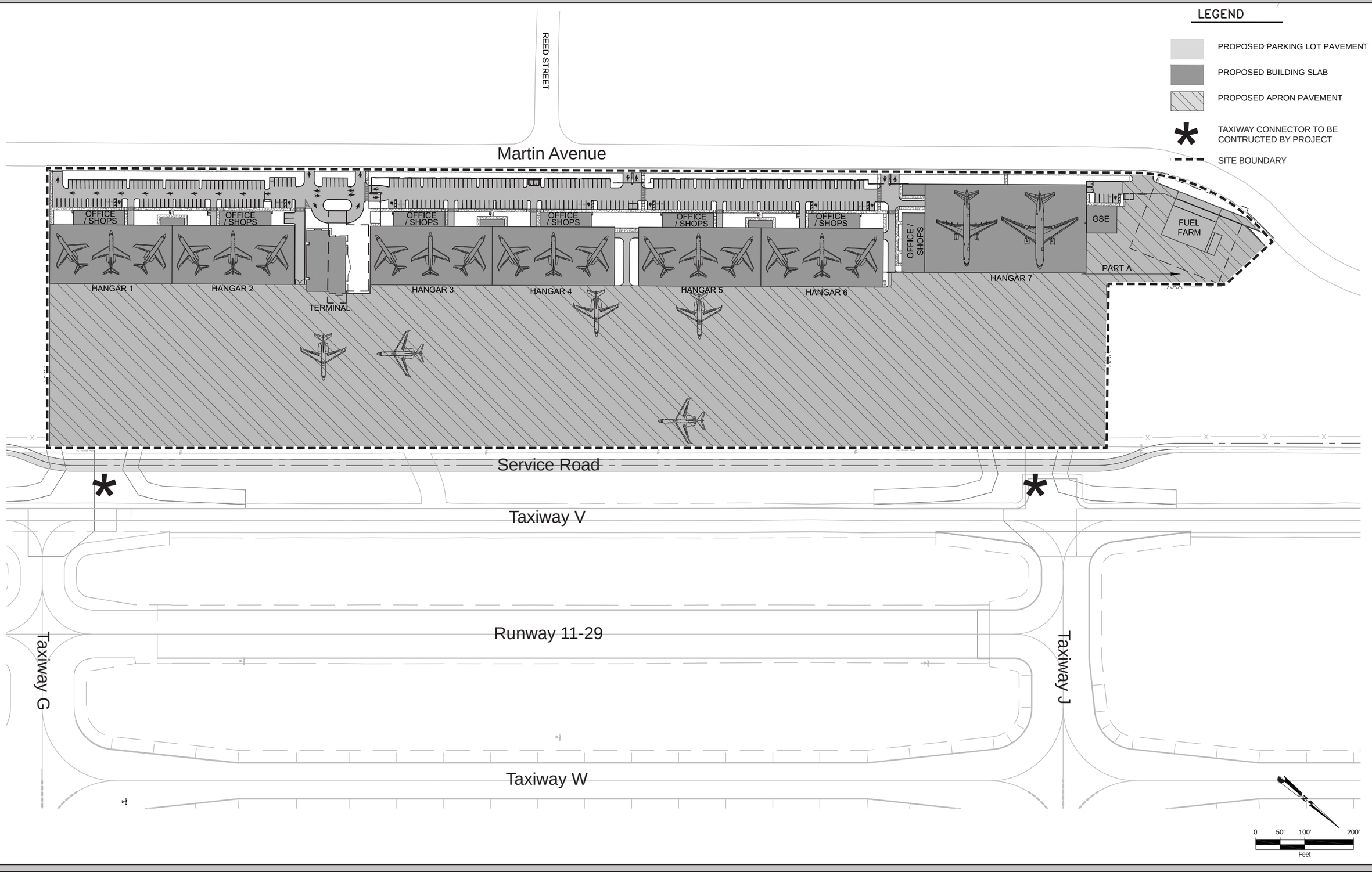
[3] Projects that meet these standards, which were developed by the U.S. Green Business Council, are typically more energy efficient and have fewer environmental effects when compared to projects that don't meet these standards. For more detail, please see Section 4.5.2.2 of this Addendum.

[4] Large aircraft such as the Boeing 717/727/737/747/757/767 and/or the Airbus 319/320/330 are in widespread use by passenger airlines and cargo carriers, but some of these aircraft types are configured and operate for business uses. These larger business aircraft currently operate at SJC, with servicing provided by Atlantic Aviation, an existing FBO at the Airport.



AERIAL OF PROJECT AREA

FIGURE 3



SITE PLAN

FIGURE 4

ENLARGED WEST ELEVATION - LANDSIDE

0 2 4 8 16
Feet

ENLARGED EAST ELEVATION - AIRSIDE

0 2 4 8 16
Feet

TARGETED MATERIAL LEGEND

1. CORRUGATED METAL PANELS
2. FLAT SEAMED METAL PANELS
3. ALUMINUM CURTAINWALL WINDOWS
4. METAL STRUCTURE CANOPY
5. HANGAR DOORS

PROPOSED BUILDING ELEVATIONS

FIGURE 5

apron is used for a variety of aircraft-related operations including taxiing, maneuvering, fueling, loading/unloading, staging, short-term parking, etc.

Fuel Farm: An above-ground fuel storage and dispensing facility will be constructed in the northwest corner of the Project site (see Figure 4). The fuel storage facility will include four approximately 20,000-gallon tanks for jet fuel, one approximately 15,000-gallon tank for aviation gas, one approximately 560-gallon tank for motor gas (i.e., regular unleaded gasoline used in motor vehicles), and one approximately 560-gallon tank for diesel fuel. The facility will be designed to comply with all applicable codes and requirements pertaining to safety and spill prevention; see Section 4.13, *Hazardous Materials*, for further details. Access to the facility for fuel deliveries will be via a driveway from Martin Avenue.

Ground Service Equipment Shop: The Project will include an approximately 3,600 ft^2 shop to be used for the storage and servicing of ground servicing equipment (i.e., aircraft tugs, baggage/cargo loaders, etc.).

Taxiway Connectors: The Project will connect with an adjacent Airport taxiway via two taxiway connectors that will provide access between the Project and the existing taxiway and runway infrastructure of the Airport. The connectors, each of which will be approximately 100 feet in length, will be located at the northerly and southerly ends of the Project site (see Figure 4). The design of the connectors includes a horizontal offset from the existing cross-taxiways per the latest version of FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*.

Access and Parking: As shown on Figure 4, access to the Project site will be via several driveways along Martin Avenue. On-site parking for employees, customers, and visitors will be provided. A total of approximately 288 parking spaces are proposed, consisting of the following: ADA (8), standard (160), limo (1), uniform (91), clean-air (22), and motorcycle (6).

Landscaping: The Project includes the installation of landscaping consisting of approximately 178 trees, as well as various shrubs, vines, grasses, and other groundcover. For additional discussion on tree removal and replacement, please see Section 4.9, *Biological Resources*.

Utilities and Services: Utilities will be provided to the Project via connections to the existing utility systems that are located on or adjacent to the Project site. Stormwater will be treated and discharged into the existing storm drainage system; please see Section 4.7, *Hydrology & Water Quality*, for additional discussion of stormwater treatment. Outdoor lighting will be provided for operational and security purposes; light fixtures will comply with applicable codes that are designed to prevent spillover and glare. The existing service road that parallels the easterly site boundary will be realigned approximately 22 feet from the east Project parcel boundary to the west edge of pavement of the service road to provide adequate separation between vehicles on the service road and aircraft on the apron.

Operations: Based on their experience in operating FBOs, taking into account the business aircraft environment in California and the Bay Area, Signature anticipates that there will be approximately 15,146 new annual aircraft operations when the proposed FBO is fully operational. According to Signature, this estimate is based on data from the FAA and Argus International, Inc. (a company that

collects and analyzes aviation data) for the four airports in California where Signature has existing operations (San Francisco, Santa Ana, Santa Barbara, and Van Nuys), as well as data from San Jose.

Signature also anticipates that there will be approximately 21 based aircraft at the FBO, taking into account its expected tenants and the aircraft owned and operated by those tenants. For additional discussion of the Project's capacity, as measured in number of based aircraft, please see Section 4.1.

SECTION 4. ENVIRONMENTAL IMPACTS OF THE PROJECT[5]

4.1 INTRODUCTION

In order to assess many of the environmental impacts of the Project, including ground traffic, air traffic, noise, and air quality, the first step is for the CEQA Lead Agency to independently determine the capacity of the facilities being constructed. This is a crucial step in the analysis of every type of project, whether residential, commercial, industrial, institutional, recreational, etc. For example, for residential projects, capacity is typically expressed as the number of dwelling units; for commercial, the amount of square footage; for hotels, the number of rooms; and so forth.

For general aviation, capacity is expressed in the number of based aircraft. Once that number is determined, then one is able to calculate the expected number of operations, expected number of vehicle trips, emissions of air pollutants, noise emissions, etc.

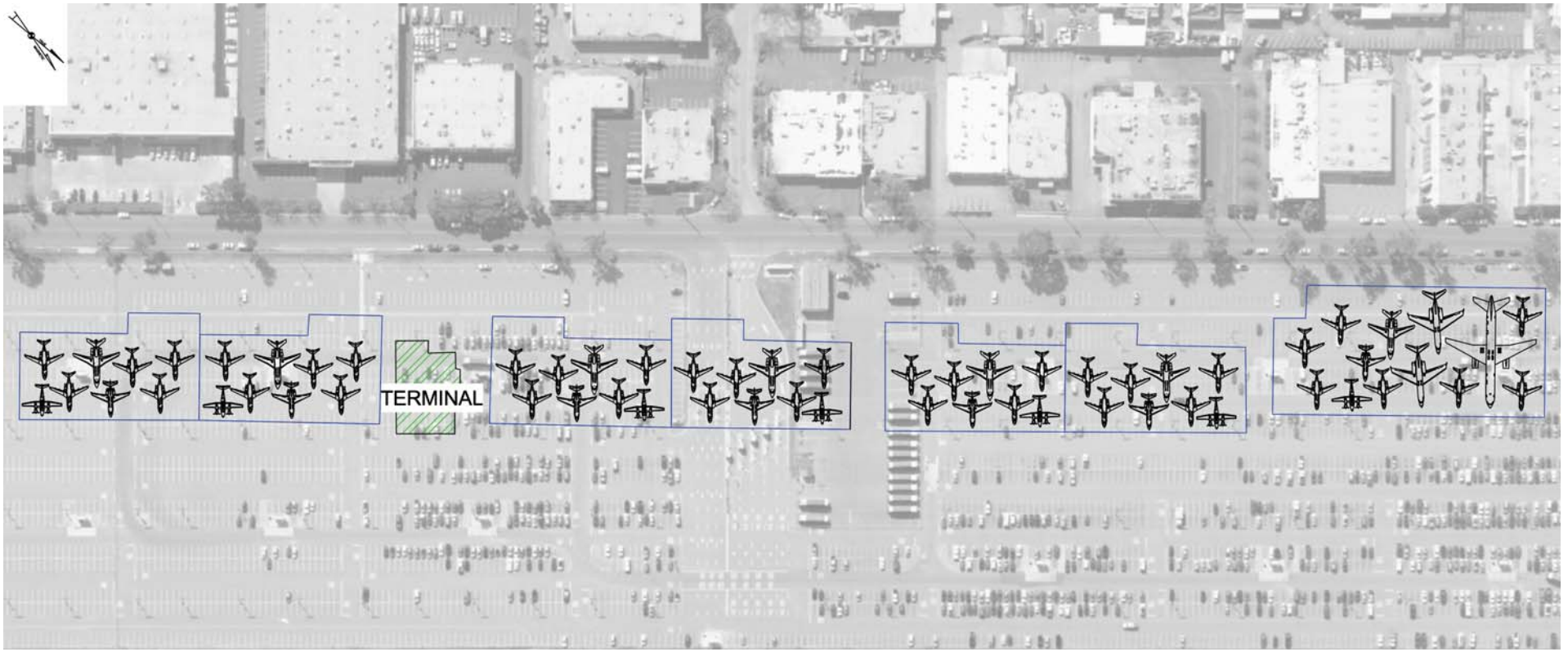
Signature, the project applicant, has indicated to the City that the facilities they propose to construct, taking into account the tenants and types of aircraft that they anticipate serving, will accommodate approximately 21 based aircraft. This number of aircraft reflects Signature's anticipation that their tenants will have large corporate jet aircraft in their fleet, including aircraft as large as a wide-body Boeing 767. Given Signature's anticipated tenants, a capacity of 21 based aircraft would not be unreasonable.

The City undertook an independent evaluation of the proposed facilities in terms of their capacity, taking into account the current and projected corporate general aviation fleet mix, as well as typical FBO operational practices at airports around the United States. This evaluation assumes that most FBOs will work to accommodate requests to base an aircraft at their facility if there is room to do so, because that is the essence of their business. The City's evaluation included two different methodologies:

Methodology #1 – Based Aircraft per Acre: The Project will occupy 30 acres of the approximately 100 acres designated for 209 based general aviation aircraft, as forecasted by year 2027 in the amended Master Plan. The 100 acres was based on a 2009 analysis prepared for SJC by Ricondo & Associates as part of the process to amend the Master Plan to reflect the latest forecasts.[6] Ricondo calculated that the Airport should designate 102 acres for general aviation to accommodate the forecast of 209 aircraft, taking into account the trend toward a higher percentage of larger corporate jets. [Note: Given land availability constraints at SJC, only 100 acres were available, just shy of the 102 acres calculated by Ricondo.] Assuming a rough proportionate distribution of the 209 aircraft across the 100 acres, the Project would accommodate approximately 63 based aircraft (30% of the total).

[5] The analysis of impacts in Section 4 follows the same order and addresses the same topics as those contained in Chapter 3 of the SJC Master Plan EIR.

[6] "Cargo and General Aviation Facility Requirements for Norman Y. Mineta San Jose International Airport", Ricondo & Associates, October 8, 2009.



NOTES: (1) HANGAR DIMENSIONS 120'X150', 180'X330".
(2) AIRCRAFT FLEET SHOWN: HAWKER 900, FALCON 900, CESSNA CITATION III, BEECHCRAFT SUPER KING AIR, GULFSTREAM IV, BOEING 757-200

SOURCES: (1) PROPOSED SIGNATURE FLIGHT SUPPORT DEVELOPMENT: AMERICAN INFRASTRUCTURE DEVELOPMENT, INC.
(2) BASE MAP: MINETA SAN JOSE INTERNATIONAL AIRPORT;

LEGEND	
	PROPOSED HANGARS
	PROPOSED TERMINAL

ESTIMATED BASED AIRCRAFT CAPACITY OF THE PROJECT FIGURE 6

Methodology #2 – Based Aircraft in Proposed Hangars: For this methodology, Jacobs Engineering, a firm that specializes in the design of airport facilities throughout the world, took the proposed Project plans and "placed" corporate aircraft into the hangars in a manner consistent with typical corporate FBO operations in the United States. This exercise utilized a mix of common corporate aircraft types consistent with the mix of aircraft expected to occupy a FBO. The results of that analysis shows that the Project could reasonably accommodate up to 61 based aircraft, as shown on Figure 6.

Based on the results of these two methodologies, all of the analyses throughout this Addendum will use the higher, and more conservative, number of 63 based aircraft as the maximum capacity of the Project.

There are currently 123 based general aviation aircraft at SJC.[7] If the 63 aircraft associated with the Project are added to the existing number, the total of 186 would be substantially below the 320 based aircraft analyzed in the 1997 Master Plan EIR and below the 209 based aircraft analyzed in the 2010 Eighth Addendum. Therefore, the number of based aircraft under "existing plus Project conditions" is less than the total number of based aircraft analyzed in the prior environmental analysis.

4.2 LAND USE

4.2.1 Background

Section 3.1 of the 1997 Master Plan EIR evaluated the land use impacts of the Master Plan in terms of 1) changes to on-Airport use, and 2) compatibility with adjacent land uses. The EIR concluded that all of the capital improvement projects that would be constructed under the Master Plan would not result in any significant on-Airport land use impacts because:

- Development would be consistent with all applicable FAA and Airport Land Use Commission (ALUC) safety zones, including runway protection zones and object free areas.
- Development would be consistent with the use of and plans for the Airport, namely, its safe and effective function as a major air transportation facility;
- Development would be consistent with the current uses at the Airport; and
- Conversion of prime farmland acreage to aviation uses would not be a significant impact.

The EIR also concluded that implementation of the Master Plan would not result in a significant land use impact in terms of inconsistency with adjacent land uses because 1) it would not displace a large

[7] Existing general aviation facilities occupy approximately 51 acres of the Airport. Under the "Based Aircraft per Acre" methodology, 51 acres of the approximately 100 acres designated for 209 based aircraft forecasted for year 2027 is assumed to accommodate 107 aircraft. The fact that the 51 acres presently accommodates 123 based aircraft does not invalidate this assumption because today's conditions represent a point in time along the projected trend toward larger aircraft. In other words, based on industry trends, some of today's smaller single-engine piston aircraft will be replaced with a fewer number of larger corporate jets, consistent with the historical and projected trends. For more background on this trend, see the discussion in Section 2.2.1.5 and the data in Table 4.

number of people, 2) would not conflict with established uses, and 3) would not disrupt or divide the physical arrangement of an established community.[8]

4.2.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

The Project proposes to construct general aviation facilities on a 30-acre site located on the west side of SJC, including two taxiway connectors that would provide access between the FBO and the airfield. The site was originally designated for future air cargo facilities in the 1997 Master Plan, but was redesignated for general aviation facilities when the Master Plan was amended in 2010 to reflect updated forecasts. Consistent with those forecasts, this Addendum is analyzing development of general aviation facilities on this 30-acre site. The FAA-approved Airport Layout Plan (ALP), which is the official document that sets forth the layout and development of SJC in accordance with FAA design standards, also designates the Project site for general aviation. Figure 7 shows the Project's footprint within the area designated for general aviation on the ALP.

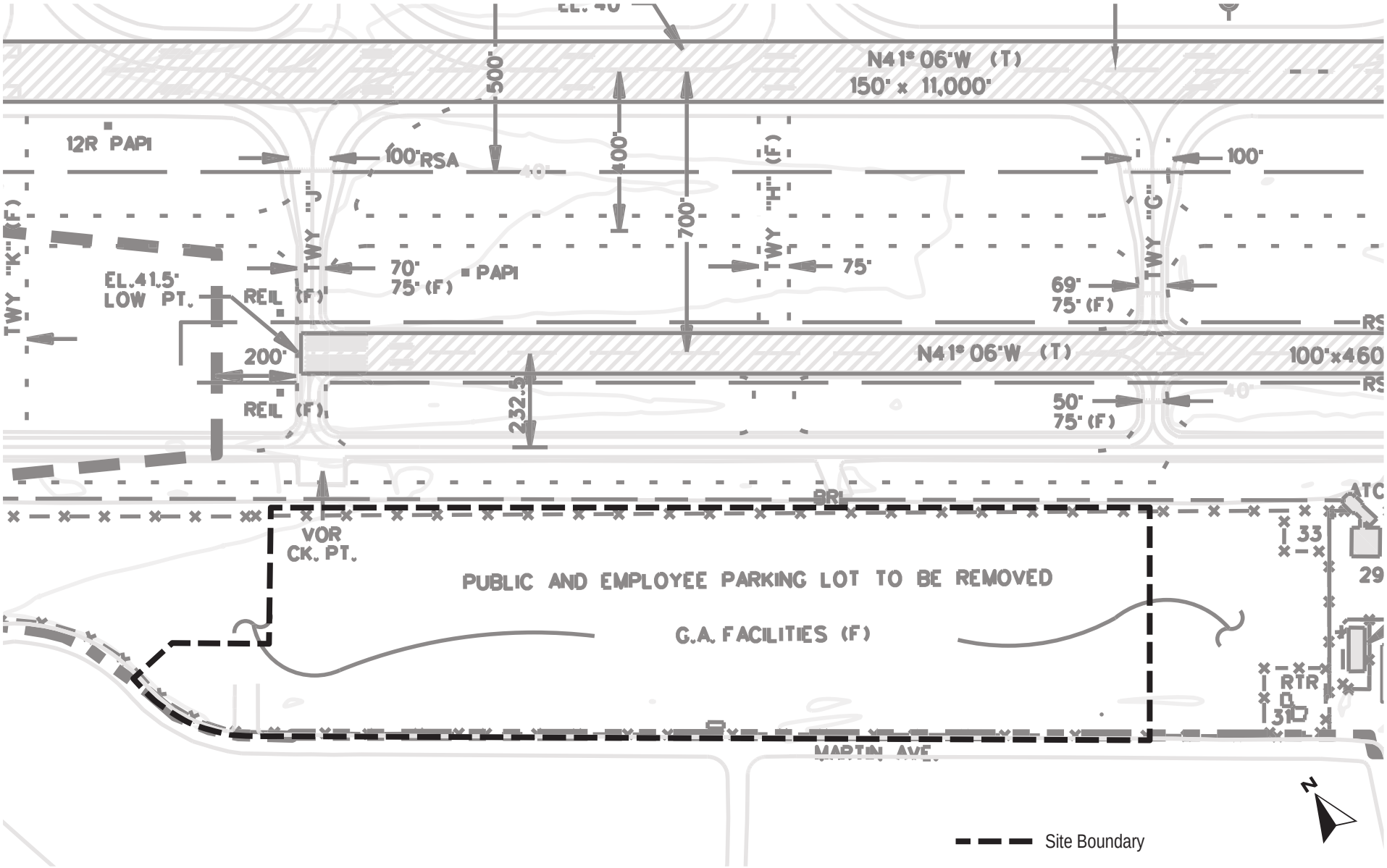
As shown on Figure 3, the Project site is currently an unused asphalt surface parking lot. The parking lot was formerly used for employee and public parking on an interim basis while new facilities were being constructed on the east side of the Airport. The easterly side of the site borders the airfield. The FAA control tower, aviation communication equipment, and general aviation facilities are located to the south of the site. Martin Avenue is along the westerly side of the site, with commercial and industrial uses located on the far side of Martin Avenue. The existing unused parking lot continues to the north of the site; that approximately 8-acre area is designated for future general aviation facilities. There are no nearby residences, schools, or other land uses that would be incompatible with the Project. From the Project site, the distances to closest school and closest residence are more than one-mile and more than one-half mile, respectively. As such, the Project is consistent with the current use of the Airport and the surrounding land uses.

Since the site is paved, the Project will not result in the loss of prime farmland.

As part of the preparation of this Addendum, the Project's site plan was independently reviewed by Jacobs Engineering, a consulting firm that specializes in Airport planning, design, and development. The purpose of the review was to determine if the Project would be compatible with relevant FAA policies and design standards that pertain to the safe operation of public-use airports in the United States, including SJC. The Jacobs' review took into account existing and proposed conditions at SJC, including the configuration of the taxiways and runways that comprise the airfield, the proximity and connection of the Project to the airfield, and existing data and reports relating to operational issues (e.g., incidents of runway incursions[9] and annual FAA Runway Safety Reports). The Jacobs assessment also included a review of an April 8, 2013 opinion paper by JDA Aviation Technology

[8] The 1997 EIR did determine that a proposed fuel storage facility on a separate parcel of land from the main Airport property (i.e., across U.S. 101 and adjacent to the Guadalupe River) would result in a significant land use compatibility impact because of the project's location and mitigation was required. That parcel, however, is not located near, and would not be affected by, the proposed Project, nor is that parcel near where the Project's fuel facility is proposed to be located.

[9] A "runway incursion" is defined as the unauthorized presence of an aircraft, vehicle or person on a surface designated for the landing and take-off of aircraft.



PROJECT LOCATION ON APPROVED ALP

FIGURE 7

Solutions, which raised concerns regarding the Project and its potential effects on aircraft operational safety. The Jacobs assessment, which is attached as Appendix A, concluded the following:

- The design of the Project is in conformance with the FAA-approved ALP, sponsor grant assurances, as well as pertinent FAA safety and security regulations, standards, and criteria, including current separation requirements from Runway 11/29 and the taxiways. This statement is true whether Runway 11/29 remains closed or is re-opened.
- There is no indication that the proposed Project will create unsafe conditions in the future or adversely impact existing airfield facilities and utilization.
- SJC operates in full compliance with FAA design and safety standards.
- FAA and Airport actions to reduce runway incursions at SJC are in accordance with FAA's nationwide Runway Incursion Avoidance Program, and based on data over the last three years, have resulted in a significant reduction in incursions at SJC.
- There is no factual data provided that supports a higher risk of runway incursions stemming from the Project or its operations.
- The Project is not proposing any improvements to, or extensions of, Taxiways H or K, nor will it construct a direct connection between the runways and the new apron. The only access to the airfield being constructed by the Project are two connectors between the apron and Taxiway V, and the two connectors will be offset from existing taxiways in compliance with the latest update to FAA's design standards. Therefore, the Project will not shift the runway incursion zone from the current low energy section of the runways to the high energy impact zone of the runways. In short, there will be no shift because there will be no new runway access points.
- Existing issues associated with the separation between existing tenants and Runway 11/29 and Taxiway V have nothing to do with the proposed Project. Any potential future resolution of those existing issues is independent of, and will not affect, the Project.

In addition, the FAA reviewed the buildings to be constructed by the Project in accordance with the requirements of Part 77 of the Federal Aviation Regulations (FAR). Part 77 of the FAR establishes imaginary surfaces for airports and runways as a means to identify objects that are obstructions to air navigation, including buildings. The imaginary surfaces radiate out several miles from the airport and are defined as a certain altitude above mean sea level (msl).

In a series of letters dated September 10, 2013, the FAA concluded that none of the buildings proposed to be constructed by the Project would be a hazard to air navigation. The FAA found that one building, Hangar #7 with a height of 86 feet above ground level, would penetrate the Part 77 imaginary surface but would not be a hazard to air navigation. This determination assumed that standard red obstruction lighting would be installed on the building, which will be the case. The FAA's letters are attached as Appendix B.

For a discussion of the fuel storage facility that is proposed by the Project, please see Section 4.13, *Hazardous Materials*.

4.2.3 Conclusion

The Project is compatible with the Airport Master Plan and the FAA-approved ALP, both of which designate the Project site for general aviation facilities. The Project would comply with all relevant

FAA safety policies and, therefore, would be compatible with the operation of the Airport as a major air transportation facility. The Project would be compatible with the adjacent land uses.

The Project will not result in any new significant land use impacts and/or land use impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant land use impacts than were previously analyzed.

4.3 CULTURAL RESOURCES

4.3.1 Background

Section 3.2 of the 1997 Master Plan EIR included an assessment of the potential for development at the Airport to impact buried archaeological resources. The assessment, which was based largely on the results of a comprehensive on-Airport archaeological testing program, determined that certain areas of the Airport were archaeologically-sensitive, as shown on Figure 3.2.1 in the EIR. The EIR concluded that construction at such locations could encounter and disturb archaeological resources, which would be a significant impact. Therefore, mitigation was required for all projects within the archaeologically-sensitive areas, consisting of the monitoring of all subsurface construction activity by a qualified archaeologist. The archaeologist has the authority to stop work within the vicinity of any archaeological find so that the resource can be evaluated. This measure has been implemented, as applicable, on all capital improvement projects at the Airport that have been completed to date.

4.3.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

The Project proposes to construct general aviation facilities on a 30-acre site located on the west side of SJC. There are no buildings located on the site. Most of the site is located within an area designated as archaeologically-sensitive in the 1997 EIR. Although the site was paved as a parking lot subsequent to the completion of the EIR and no resources were found during its construction, there is still the potential for the Project to encounter archaeological resources because deeper subsurface work will be required for building foundations, utilities, foundation to support aircraft parking, etc. Therefore, the Project will implement the EIR mitigation measure that requires all subsurface work to be monitoring by a qualified archaeologist. Per the EIR Mitigation Measure 1 and SEIR Mitigation Measure 1, if archaeological resources are encountered, the archaeologist will stop work within a 100-foot radius of the find. The archaeologist will evaluate the find and identify appropriate mitigation. In addition, if human remains are encountered, the archaeologist will immediately notify the County Coroner and, if the remains are determined to be Native Americans, the Native American Heritage Commission will also be contacted.

4.3.3 Conclusion

The Project will result in the construction of facilities at a location already identified for construction in the Master Plan and accompanying EIR. The Project will not result in any new significant cultural resources impacts and/or cultural resources impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant cultural resources impacts than were previously analyzed.

4.4 TRANSPORTATION AND CIRCULATION

4.4.1 Ground Transportation

4.4.1.1 *Background*

The volume of ground traffic associated with SJC is directly related to the level of activity that occurs at the Airport. Each of the three major components of air transportation (i.e., air passengers, air cargo, and general aviation) contributes to the total volume of ground traffic at SJC.

The traffic impacts disclosed in Section 3.3 of the 1997 Master Plan EIR were based on the volume of traffic that was projected to occur under forecasted activity levels, as summarized in Table 5. The data in Table 5 also show the effect on PM peak-hour traffic volumes resulting from two Master Plan amendments that occurred subsequent to the completion of the 1997 Master Plan EIR:

- A 2003 amendment to increase the number of based general aviation aircraft from 320 to 360 to accommodate an expansion of general aviation facilities by Atlantic Aviation (formerly known as the San Jose Jet Center).

- A 2010 amendment to reflect updated forecasts, specifically a decrease in the projected number of based general aviation aircraft from 360 to 209 and a decrease in the projected annual volume of air cargo from 315,300 tons to 189,700 tons.

As shown in Table 5, traffic volumes under the amended Master Plan are projected to be 5.6% lower than the levels disclosed in the traffic analysis contained in the 1997 EIR.

For the Master Plan as a whole, the 1997 EIR disclosed that all of the traffic to be generated at the Airport would result in significant impacts at various intersections and on various freeways located in the surrounding area. Mitigation measures were incorporated into the Master Plan for these impacts. For the following locations where significant impacts were disclosed that are in the vicinity of the Project on the westerly side of the Airport (measures related to the easterly side of the Airport are too remote to be affected by the Project), the required mitigation has already been implemented:

TABLE 5
SJC Master Plan Weekday PM Peak-Hour Traffic Volumes

		1997 Master Plan, as Disclosed in 1997 EIR		Master Plan, as amended in 2003 for Atlantic Aviation Expansion Project		Master Plan, as amended in 2010 to Reflect Updated Forecasts	
Category	**Weekday PM Peak-Hour Trip Rate**	**Activity Level**	**# of Weekday PM Peak-Hour Trips**	**Activity Level**	**# of Weekday PM Peak-Hour Trips**	**Activity Level**	**# of Weekday PM Peak-Hour Trips**
Airlines	0.33/1,000 passengers	17,600,000 annual passengers	5,822	17,600,000 annual passengers	5,822	17,600,000 annual passengers	5,822
Air Cargo	2.51/1,000 tons	315,300 annual tons	792	315,300 annual tons	792	189,700 annual tons	477
General Aviation	0.69/based aircraft	320 based aircraft	222	360 based aircraft	249	209 based aircraft	145
Misc			113		113		113
Totals			6,949		6,976		6,557
% Change from Volume Disclosed in 1997 EIR					**+ 0.39%**		**- 5.64%**

Notes:
- Trip rates are rounded to the nearest hundredth.
- For this analysis, PM peak-hour trips are used because the 1997 EIR determined that SJC generates more trips in the PM peak-hour than the AM peak-hour and, therefore, is a more conservative analysis.

Sources:
- Appendix 3.3.A of the 1997 Master Plan EIR
- 2nd Addendum to 1997 Master Plan EIR
- 8th Addendum to 1997 Master Plan EIR

- I-880 Ramps at Coleman Avenue [EIR Intersection #27]: Interchange has been reconstructed and Coleman Avenue has been widened.
- Airport Boulevard at Coleman Avenue [EIR Intersection #28]: Intersection reconfigured as part of the I-880/Coleman Avenue Interchange Reconstruction Project.
- Coleman Avenue at Brokaw Road [EIR Intersection #29]: Mitigation consisting of the restriping of the westbound approach on Brokaw Road to include an exclusive left-turn lane and one shared left/through/right-turn lane has been implemented.
- De La Cruz Boulevard at Martin Avenue [EIR Intersection #31]: Mitigation consisting of no left-turns was needed only on an interim basis while west side long-term and employee parking lots were operational; these lots have since been relocated to the eastside of the Airport.
- De La Cruz Boulevard at Central Expressway [EIR Intersection #32]: Mitigation consisting of the addition of a third left-turn lane from eastbound Central to northbound De La Cruz has been implemented.

Finally, as required mitigation, the Airport operates a comprehensive Transportation System Management (TSM) Program that has the effect of reducing the number of peak-hour trips made in single-occupancy vehicles. Elements of the TSM Program include flexible work hours, bicycle parking, free transit passes to employees, and operation of a free shuttle bus to/from the Airport and the Santa Clara Caltrain and Metro/Airport Light Rail Stations. These elements have been, and continue to be, implemented by the Airport. In addition, all capital improvement projects at SJC, which will include the Project, implement traffic management plans during construction, which specify procedures to be followed for temporary lane or roadway closures.

4.4.1.2 *Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended*

Vehicles Trips to be Generated by the Project

As described above in Section 4.1, the Project could accommodate up to approximately 63 aircraft. In turn, these aircraft would generate approximately 43 PM peak-hour trips per the trip generation rate of 0.69 per based aircraft in Table 5. This is a conservatively high number because the Institute of Transportation Engineers Trip Generation Manual (9th Edition) lists the average weekday PM peak-hour trip rate per based aircraft as 0.52, with the range of rates being 0.33 to 0.67.

To put 43 trips into context, projects that generate fewer than 100 peak-hour trips are not required by the Santa Clara County Congestion Management Program to prepare a traffic impact analysis because that volume is deemed too low to cause potential traffic impacts.[10] The 43 PM peak-hour trips to be generated by the Project are less than half this threshold. Moreover, this volume equates to 0.6% of the trips assumed (and accounted for) in the 1997 Master Plan EIR and 0.7% of the trips projected in the amended Master Plan.

To validate that there are no changed conditions that would imply that the vehicle traffic associated with the Project would cause general aviation traffic to exceed that accounted for in the EIR, such traffic was assessed in relation to current conditions at SJC. As shown in Table 6, if traffic associated with the Project is added to existing traffic, the total of 128 PM peak-hour trips would be well below the level of traffic analyzed in both the 1997 EIR and the 8th EIR Addendum.

TABLE 6
Weekday Pm Peak-Hour General Aviation Traffic Volumes

Scenario	# PM Peak-Hour Trips
Existing (2012): 123 based aircraft @ 0.69 trips/based aircraft	85
Project: 63 based aircraft @ 0.69 trips/based aircraft	43
Existing + Project	128
Analyzed in 1997 Master Plan EIR	222
Analyzed in 8th EIR Addendum for Amended Master Plan	145

[10] Transportation Impact Analysis Guidelines, Santa Clara Valley Transportation Authority, March 2009; City of San Jose Traffic Impact Analysis Handbook, Volume 1, Methods and requirements.

Project Access and Circulation

Access to the Project will be via multiple driveways located along Martin Avenue. Martin Avenue will also serve as the access for trucks making deliveries to the fuel storage facility to be located at the northerly end of the Project site. Martin Avenue is a 2-lane roadway with on-street parking that serves commercial, industrial, and Airport-related land uses. It connects to Brokaw Road and Coleman Avenue on the south and De La Cruz Boulevard on the north, which are major arterials. De La Cruz Boulevard connects to U.S. 101 approximately 4,000 feet from its intersection with Martin Avenue, providing nearby freeway access to the Project site.

Signature anticipates that there will be one fuel delivery to the Project site each day. The fuel trucks will travel northbound on Martin Avenue, enter the fuel farm via its south driveway and exit via its north driveway. After exiting, the truck will continue northbound on Martin Avenue to De La Cruz Boulevard, with nearby access to U.S. 101. No truck traffic will occur on residential roadways.

4.4.2 Air Transportation

4.4.2.1 *Background*

The projected level of air traffic at SJC is calculated from the aviation demand forecasts that are prepared in accordance with industry standards and FAA-approved methodologies. Once the demand for air passenger, air cargo, and general aviation services is calculated, the next step involves the determination of the types of aircraft, as well as the number of operations (i.e., takeoffs and landings) by such aircraft that will serve the demand. Determining aircraft types and the volume of aircraft operations is critical in airport planning because it allows airport operators to design and construct adequately-sized facilities to accommodate the demand. It is also important because it allows for operators to calculate and disclose the environmental effects (e.g., noise, air quality) of those aircraft operations.

The volume of aircraft operations contained in the 1997 Master Plan EIR was based on the demand forecasts prepared in 1994, as summarized in Table 7. The data in Table 7 also show the change in aircraft operations resulting from two Master Plan amendments that occurred subsequent to the completion of the 1997 Master Plan EIR:

- A 2003 amendment to increase the number of based general aviation aircraft from 320 to 360 to accommodate an expansion of general aviation facilities by Atlantic Aviation. During that amendment, the demand forecasts were not changed, but an updated aircraft fleet mix was used to reflect the latest data on aircraft purchases and phase-outs and industry trends.

- A 2010 amendment to reflect updated forecasts prepared in 2009, which translated into a further decrease in the projected number of annual aircraft operations because of changes to the general aviation industry.

TABLE 7
Comparison of SJC Master Plan Annual Aircraft Operations

[Expressed as Total Annual Takeoffs & Landings]

	Existing (2012)	1997 Master Plan, as Disclosed in 1997 EIR	Master Plan, as amended in 2003 for Atlantic Aviation Expansion Project*	Master Plan, as amended in 2010 to Reflect Updated Forecasts
Air Passenger	86,314	243,100	186,400	183,660
Air Cargo	1,540	13,300	13,100	6,830
General Aviation	31,324	115,300	129,700	73,200
Military	251	800	800	100
Totals[1]	119,400	372,500	330,000	263,800
% Change from Volume Disclosed in 1997 EIR	**- 68%**	------	**- 11%**	**- 29%**

*As compared to the 1997 EIR, these numbers reflected changes in the projected fleet mix at SJC based on industry practices and trends. These numbers did not change in 2006 when the City amended the Master Plan to extend the Master Plan horizon year from 2010 to 2017. For a discussion of the downturn in the economy and changes to the aviation industry that led to this extension, see Section 3.1 of the 6th Addendum to the 1997 Master Plan EIR.

[1]Totals rounded to the nearest 100.

Sources:

- Table 2.3.1 of the 1997 Master Plan EIR
- 2nd Addendum to 1997 Master Plan EIR
- 6th Addendum to 1997 Master Plan EIR
- 8th Addendum to 1997 Master Plan EIR
- Summary of Aviation Demand Forecasts (Ricondo & Associates, 2009)
- Annual Status Report on the Airport Master Plan for 2012

As shown in Table 7, total aircraft operations at SJC under the amended Master Plan are projected to be 29% lower than the levels disclosed in, and utilized throughout, the 1997 EIR.

Table 8 presents the data contained in Table 7 in terms of average daily operations by aircraft type. The purpose of Table 8 is to show how the Airport has tracked and analyzed the changes in the aircraft fleet mix since the 1990s and to compare those changes to that disclosed in the 1997 Master Plan EIR.

TABLE 8
Aircraft Operations at SJC by Aircraft Type

	Average Daily Aircraft Operations		
Aircraft Type	**1997 Master Plan, as Disclosed in 1997 EIR**	**Master Plan, as amended in 2003 for Atlantic Aviation Expansion Project[1]**	**Master Plan, as amended in 2010 to Reflect Updated Forecasts**
Business Corporate Jets	57.25	135.80	134.70
Single Engine Piston	162.22	158.40	46.00
Twin Engine Piston	34.99	30.30	6.10
Twin Engine Turboprop	34.99	37.00	10.10
Helicopter	28.63	10.00	4.10
Airbus 318/319/320	12.05	40.00	94.30
Airbus 300/310 (air cargo)	3.28	3.00	8.40
Boeing 727-100/200	0.36	4.40	0
Boeing 737-100/200	0	5.00	0
Boeing 737-300/400/500/700/800/900	253.97	257.60	296.60
Boeing 757	61.56	51.00	7.90
Boeing 767	13.32	12.00	19.80
Boeing 777 and 787	8.33	14.00	1.80
DC-8/9	0.36	0.60	0
DC-10/MD-11	9.93	2.00	2.10
MD-80/81/82/83/87/88/90	130.50	81.00	2.00
Regional Jets	30.12	56.00	83.30
Regional Turboprops	178.69	6.00	5.30
Air Cargo Turboprops	0	0	0.20
Total Average Daily Operations	1,020.55	904.1	722.70
Total Annual Operations[2]	372,500	330,000	263,800
% Change from Volume Disclosed in 1997 EIR		**-11%**	**-29%**

[1]As compared to the 1997 EIR, these numbers reflected changes in the projected fleet mix at SJC based on industry practices and trends. These numbers did not change in 2006 when the City amended the Master Plan to extend the Master Plan horizon year from 2010 to 2017. For a discussion of the downturn in the economy and changes to the aviation industry that led to this extension, see Section 3.1 of the 6th Addendum to the 1997 Master Plan EIR.

[2]Rounded to the nearest 100.

Sources:
- Appendix 3.5.A of the 1997 Master Plan EIR
- Summary of Aviation Demand Forecasts (Ricondo & Associates, 2009)

All of this information regarding the number and types of aircraft operations were input into the EIR's environmental analyses related to the effects of the operations, namely noise and air quality. See Sections 4.5 and 4.6 of this Addendum for discussions of air quality and noise, respectively.

4.4.2.2 *Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended*

As described in Section 4.1, the Project could accommodate approximately 63 based aircraft. From Table 7, each based general aviation aircraft is projected to result in approximately 350 operations per year (i.e., 73,200 total annual general aviation operations ÷ 209 based aircraft = 350 annual operations per based aircraft). Applying this assumption to the number of annual general aviation operations shown in Table 7, the Project would result in 22,050 additional operations at SJC each year, which is equivalent to an average of 60 operations each day. This volume equates to 5.9% of the aircraft operations assumed (and accounted for) in the 1997 Master Plan EIR and 8.3% of the aircraft operations projected in the amended Master Plan.

The calculated 22,050 annual Project-generated aircraft operations used in the analyses in this Addendum is conservative when compared to the estimated 15,146 annual operations anticipated by Signature. See Section 3, *Project Description*, for more information on Signature's estimate.

To validate that there are no changed conditions that would imply that the aircraft operations associated with the Project would cause general aviation operations to exceed that accounted for in the EIR, such operations were assessed in relation to current conditions at SJC. The actual number of general aviation operations in 2012 was 31,324. As shown in Table 9, if operations associated with the Project are added to existing operations, the total of 53,374 would be well below the level of operations analyzed in both the 1997 EIR and the 8th EIR Addendum.

In addition, there are currently 123 based general aviation aircraft at SJC, and under the projected 350 annual operations per based aircraft, there would be 123 x 350 = 43,050 annual operations. Were the current 123 based aircraft to increase their operations to this projected level, and adding in the annual 22,050 operations from the Project, the total of 65,100 annual operations would still be below the total operations analyzed in the 1997 Master Plan EIR and the Eighth EIR Addendum.

TABLE 9
Annual General Aviation Aircraft Operations

Scenario	# of Annual Operations
Existing (2012)	31,324
Project	22,050
Existing + Project	53,374
Analyzed in 1997 Master Plan EIR	115,300
Analyzed in 8th EIR Addendum for Amended Master Plan	73,200

Aircraft Types to be accommodated by the Project

As described in Section 3 of this Addendum, and consistent with the Airport Master Plan, the Project will focus on serving the business/corporate jet sector of the general aviation demand. Based on information provided to the City by Signature, the aircraft that are anticipated to be served by the Project will include many of the corporate general aviation aircraft types that are in widespread use in the United States. Examples include aircraft manufactured by Gulfstream, Cessna, Learjet, Bombardier, Dassault, Embraer, Hawker Beechcraft, Fairchild, Canadair, Piper, and Boeing. Aircraft sizes vary from small (e.g., four passengers) to large (e.g., Boeing 757 and 767).

The aircraft types that would be served by the Project currently operate at SJC, either as a based aircraft (i.e., the airplane's home is SJC) or as a transient aircraft (i.e., the plane flies into and out of SJC but is based elsewhere). This is also true for large aircraft such as the Boeing 717/727/737/747/757/767 and/or the Airbus 319/320/330, which are used by the passenger airlines, but some of which are configured as corporate planes. These larger corporate aircraft currently operate as transient general aviation aircraft at SJC, with servicing provided by existing FBOs at the Airport.

Most important, all of the aircraft types that would be served by the Project were accounted for in the EIR as shown in Table 8 and were evaluated in the various analyses (e.g., air quality and noise) undertaken for the Master Plan EIR, as supplemented and addended. This is discussed below in Section 4.5, *Air Quality*, and Section 4.6, *Noise*.

4.4.3 Conclusion

The Project will result in the construction of facilities in areas already identified for construction in the Master Plan and accompanying EIR. As discussed above, the Project will not result in 1) an increase in activity levels at the Airport beyond that identified in the approved Master Plan, or 2) an increase in the capacity of the Airport beyond that identified in the approved Master Plan.

The Project will not result in any new significant transportation impacts and/or transportation impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant transportation impacts than were previously analyzed.

4.5 AIR QUALITY

4.5.1 Background

Section 3.4 of the 1997 Master Plan EIR quantified the emissions of air pollutants that would result from the implementation of the Master Plan. The analysis accounted for all aspects of activity at the Airport including aircraft operations, motor vehicle trips, the use of ground support equipment, fueling, building heating and cooling, and construction activities. For aircraft operations and motor vehicle

trips, the quantification of emissions was based on the projected volumes of those activities, as described above in Section 4.4, *Transportation and Circulation*.

The 1997 EIR concluded that the implementation of the Master Plan would result in a significant increase in emissions of reactive organic gases (ROGs), oxides of nitrogen (NO_X) and particulate matter (PM_{10}). The EIR also concluded that concentration of NO_x due aircraft operations could exceed the State 1-hour standard in commercial areas north and south of the Airport (near the runways). As mitigation, the City adopted the following measures[11] to be used, as applicable, during the construction phase of all on-Airport capital improvement projects:

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials or require trucks to maintain at least two feet of freeboard;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites;
- Sweep daily all paved access roads, parking areas, and staging sites using wet power vacuum sweepers;
- Sweep streets daily, using wet power vacuum sweepers, if visible soil material is carried onto public streets;
- Hydroseed or apply soil stabilizers to inactive construction areas;
- Enclose, cover, water twice daily, or apply soil stabilizers to exposed stockpiles;
- Limit traffic speeds on unpaved roads to 15 mph;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible;
- Suspend excavation and grading activities when wind gusts exceed 25 mph;
- Provide rideshare and transit incentives or construction personnel;
- Install wheel washers for trucks or wash off the tires of trucks and equipment leaving the construction site;
- Install wind breaks, where feasible, at windward side(s) of construction areas;
- Designate a person or persons to oversee the implementation of the dust control program;
- Maintain and operate equipment so as to minimize particulates from exhaust emissions; and
- Prohibit trucks and equipment to idle without purpose for long periods.

As listed in Section 3.4.3.1 of the EIR, the City also agreed, as mitigation for air quality impacts, to the following:

- Encourage operators of vans, shuttles, rental cars, and cargo trucks to convert their vehicles to alternative fuels (e.g., electric or compressed natural gas [CNG]);
- Adopt a TSM Program to reduce trips made by single-occupant vehicles;
- Construct new/modified stationary sources (i.e., buildings and fueling facilities) to comply with latest rules and regulations of the Bay Area Air Quality Management District (BAAQMD); and
- Support the use of single- or reduced-engine taxiing by air carriers.

[11] These measures are listed in Section 3.4.3.1 of the 1997 EIR.

All of the above-listed measures have been, and continue to be, implemented and will be implemented by the Project since the Project will be required to comply with all mitigation measures in the Master Plan EIR and Addenda. In addition, beyond the above measures that were required mitigation from the 1997 EIR, the City has implemented a substantial number of additional measures and programs that have significantly reduced Airport-related emissions. These additional emission reduction measures are listed in Table 10 and, where applicable, will be implemented by the Project as described below in Section 4.5.2.

4.5.1.1 Motor Vehicle Emissions at SJC: Amended Master Plan versus 1997 Master Plan

As shown in Table 5 in Section 4.4, based on updated forecasts prepared in 2009, the volume of motor vehicle trips from all Airport-related activities is now projected to be 5.6% lower than that disclosed in the 1997 EIR. Since such emissions are directly tied to the number of vehicle trips, it can be inferred that motor vehicle-related emissions will be proportionately lower than that shown in the 1997 EIR. In addition, other changes that have occurred since 1997, such as the conversion of the entire Airport Shuttle Bus System from diesel-powered to CNG-powered buses, has further reduced ground transportation emissions from that originally projected.

4.5.1.2 Aircraft Emissions at SJC: Amended Master Plan versus 1997 Master Plan

As shown in Table 7 in Section 4.4, based on updated forecasts prepared in 2009, the number of aircraft operations under the approved Master Plan is now projected to be 29% lower than that disclosed in the 1997 EIR. Specifically, there will be 108,710 fewer aircraft takeoffs and landings at SJC each year, as compared to the assumptions contained in the EIR. Since such emissions are directly tied to the number of aircraft operations, it can be inferred that aircraft-related emissions will be proportionately lower than that shown in the 1997 EIR, all other factors being equal.

The above paragraph notwithstanding, it is recognized that the current and projected composition of the general aviation fleet is different from that analyzed in the 1997 EIR. Specifically, there is a substantially higher percentage of larger corporate jets and a substantially lower percentage of small piston-powered aircraft than originally analyzed. Therefore, to verify the conclusion of the previous paragraph, the emissions from the updated general aviation aircraft fleet mix and level of operations were calculated and compared what was assumed in the 1997 EIR. The results of these calculations are shown in Table 11.

The data in Table 11 show that general aviation aircraft emissions will in fact be lower under the amended Master Plan and with the Project, for all criteria pollutants, as compared to the emissions disclosed in Section 3.4 of the 1997 EIR.

Similarly, toxic air contaminant (TAC) emissions from the updated SJC aircraft fleet mix and level of operations were calculated and compared to what was assumed in the 1997 EIR. The results of this comparison are shown in Table 12. The data show that TAC emissions will be lower under the amended Master Plan and with the Project, as compared to the TAC emissions disclosed in Section 3.4 of the 1997 EIR.

TABLE 10

SJC Air Pollutant & GHG Emissions Reduction Measures

Measure	Description and Benefits	Status
Free Shuttle Bus connecting SJC with VTA LRT Station and Santa Clara Caltrain Station	Encourages transit use - buses running every 10-15 minutes from 5:30 a.m. to midnight daily	Commenced in 1998 and is ongoing
Free Bus/Rail Passes: allows unlimited use of VTA bus & light rail transit (LRT) systems	Encourages transit use by all 3,500+ employees at SJC, including City, airline, rental car company, passenger terminal concessionaire, and other Airport tenant employees.	Commenced in 1998 and is ongoing
Reduced/Single-Engine Taxiing by Aircraft	All airlines encouraged to perform single or reduced engine taxiing to the extent determined safe and efficient, thus lowering emissions.	Commenced in 1998 and is ongoing
Airport Operations & Maintenance Vehicle Fleet: purchase only alternate-fuel vehicles	The Airport's current service fleet includes 10 CNG-powered and 15 electric-powered vehicles, which avoids gasoline & diesel emissions	Commenced in 2000 and is ongoing
Second Air Carrier Runway: extend Runway 12L/30R from 4,400 feet to 11,000 feet	Reduces delays, idling, queuing.	Completed in 2001
Electric Vehicle Public Charging Stations	Provided in Terminal A Garage.	Completed in 2001
On-Airport CNG Fueling Station	Services CNG shuttle buses, commercial vehicles, and is open for public use.	Completed in 2003
Alternative Fuels Program: Requires at least 25% of all taxi/van trips to/from SJC to be by low- or zero-emission vehicles; program facilitated by SJC and VTA grants.	Currently, out of 300 taxis permitted at SJC, 119 are CNG-powered and 3 are hybrids.	Commenced in 2005 and is ongoing
Cell Phone Waiting Lot	Designated free parking area to discourage drivers picking up passengers from circling around the Airport	Completed in 2007
Replace all Airport Diesel Shuttle Buses with 34 New CNG Buses	Substantially reduces the Airport's total diesel and other pollutant emissions.[12]	Completed in 2008
New Fuel Storage & Fuel Dispensing Facilities	Reduces emissions associated with fuel storage & handling equipment, as well as fuel truck movement on Airport roadways	Completed in 2009
Relocation/Consolidation of Rental Car Operations in new facility constructed adjacent to Terminal B.	Significantly reduces rental car vehicle movements and shuttle bus service to/from existing facility	Completed in 2010

[12] According to the U.S. Department of Energy's Energy Efficiency & Renewable Energy website, CNG-powered buses produce significantly less CO_2 emissions than diesel-powered buses. See www.afdc.energy.gov.

TABLE 10 (continued)		
Measure	**Description and Benefits**	**Status**
Photovoltaic System	1.12 megawatt photovoltaic solar electric system on roof of rental car garage.[13]	Completed in 2010
Upgrade on-Airport Roadways and Access: includes new I-880/Coleman interchange, new SR-87/Skyport interchange, Airport Blvd. improvements at Coleman, Skyport Dr., & Airport Pkwy entrances, and elimination of traffic signals	Substantially improve access, roadway capacity, and intersection levels of service	Completed in 2010
Ground Power, Battery Recharge Facilities, and Preconditioned Air at all Terminal Gates	Promotes airline conversion of GSE to electric power & phase-out of diesel APUs/GPUs	Completed in 2010
Construct New and Upgraded Terminal Buildings to achieve Leadership in Energy and Environmental Design (LEED) standards	Reduces emissions from building heating & cooling, hot water heating, etc.; lower electricity use will reduce offsite emissions	Completed in 2010 for Terminal B
Recycled Water System	South Bay Water Recycling system extended to passenger terminal area with dual plumbing in new terminal.	Underway
Commercial Vehicle Trip Fee: a fee is charged for each trip to the Airport	Reduces unnecessary vehicle trips	Ongoing
Taxi Dispatch System: requires taxis to park in designated areas until dispatched	Reduces engine idling	Ongoing
Public Transit Information: provided on Airport website and in Airport terminals	Encourages transit use	Ongoing
Construction Project Pollutant Emissions Abatement Program	Requires measures be included in all construction plans/specs to minimize emissions from construction vehicles and equipment	Ongoing
Lighting Replacement	Replace indoor & outdoor lights with energy-efficient bulbs & fixtures	Ongoing
Automated People Mover: will connect SJC to nearby LRT, Caltrain and future BART Systems	Would encourage additional transit usage	Future. Project design and funding to be determined.
CNG = compressed natural gas GSE = ground service equipment APU = auxiliary power unit	LRT = light rail transit GPU = ground power unit	

[13] According to the project's fact sheet, the annual production of the system is projected to be 1.7 million kilowatt hours of electricity, which will avoid 1,284 tons of CO_2 annually.

TABLE 11
Criteria Pollutant Emissions from Projected General Aviation Aircraft Operations

[Expressed in Average Pounds per Day]

	Aircraft Type					Total	% Change from Volume Disclosed in 1997 EIR
	Single-Engine Piston	**Multi-Engine Piston**	**Turbo-props**	**Turbo-jets**	**Heli-copters**		
1997 Master Plan, as disclosed in the 1997 EIR	[162.22 avg. daily operations]	[34.99 avg. daily operations]	[34.99 avg. daily operations]	[57.25 avg. daily operations]	[28.63 avg. daily operations]		
Carbon Monoxide	1,248	613	162	159	106	2,287	----
Hydrocarbons	14	20	136	51	48	269	----
Nitrogen Oxides (NO_x)	2	2	9	29	40	84	----
Sulfur Oxides (SO_x)	1,150	664	2,281	4,445	5,940	14,480	----
Master Plan, as amended in 2003 for Atlantic Aviation Expansion	[158.40 avg. daily operations]	[30.30 avg. daily operations]	[37.00 avg. daily operations]	[135.80 avg. daily operations]	[10.00 avg. daily operations]		
Carbon Monoxide	1,218	531	171	376	37	2,333	+ 2%
Hydrocarbons	13	17	144	121	17	312	+ 16%
Nitrogen Oxides (NO_x)	2	2	9	70	14	98	+ 17%
Sulfur Oxides (SO_x)	1,123	575	2,412	10,544	2,075	16,728	+16 %
Master Plan, as amended in 2010 to Reflect Updated Forecasts for Year 2027	[46.00 avg. daily operations]	[6.10 avg. daily operations]	[10.10 avg. daily operations]	[134.70 avg. daily operations]	[4.10 avg. daily operations]		
Carbon Monoxide	354	107	47	373	15	896	- 61%
Hydrocarbons	4	4	39	120	7	173	- 35%
Nitrogen Oxides (NO_x)	1	0	3	69	6	79	- 6%
Sulfur Oxides (SO_x)	326	116	658	10,458	851	12,409	- 14%

Notes:

- Emissions calculated using aircraft emission factors per landing-takeoff (LTO) cycle, as contained in Appendix 3.4.A of the 1997 EIR, such factors published by the U.S. EPA.
- Numbers in [ ] are the average daily operations by each aircraft type under a given scenario.
- Daily emissions data are rounded to the nearest pound.
- Numbers may not total due to rounding.

Sources:

- Appendix 3.5.A of the 1997 Master Plan EIR
- Summary of Aviation Demand Forecasts (Ricondo & Associates, 2009)

TABLE 12

Toxic Air Contaminant Emissions from Projected Aircraft Operations

[Expressed in Pounds per Year]

Contaminant	1997 Master Plan, As Disclosed in 1997 EIR	Master Plan, as Amended in 2010 to Reflect Updated Forecasts	% Change from Impact Disclosed in the 1997 EIR
Acetaldehyde	220	56	- 75 %
Acrolein	0	0	0
Benzene	2,290	1,719	- 25 %
1, 3 Butadiene	0	0	0
Chlorobenzene	0	0	0
Formaldehyde	330	84	- 75 %
PAH	0	0	0
Propylene	998	254	- 75 %
Toluene	1,312	334	- 75 %
Xylenes	41,831	35,898	- 14 %

Sources:
- Appendix 3.5.A of the 1997 Master Plan EIR
- Summary of Aviation Demand Forecasts (Ricondo & Associates, 2009)

4.5.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

4.5.2.1 *Emissions during Construction*

The Project site is located on the westerly side of the Airport. Surrounding land uses are industrial and commercial. The closest residences are more than one-half mile from the site.

The construction phase of the Project will involve the clearing of the site, which will consist of the removal of the existing asphalt surface parking lot formerly used for employee and public parking. After the site is cleared and graded, construction of the improvements (i.e., buildings, parking, landscaping, aircraft apron, fueling facilities, etc.) will commence. Similar to all construction projects, these activities will generate air pollutants in the form of dust, emissions from construction equipment, emissions from vehicles driven by construction workers, emissions from solvents, etc.

These emissions were disclosed and accounted for in the 1997 EIR. The Project site itself was assumed in the EIR to be developed for air cargo facilities, the construction of which would be the same as those proposed by the Project with respect to construction-generated emissions. As with the construction of all capital improvement projects at the Airport, the Project will implement all mitigation measures listed in the 1997 EIR that will reduce emissions, all of which are described above in Section 4.5.1.

4.5.2.2 *Emissions from Stationary Sources*

The Project is being designed to be certified as a "LEED Gold" facility. The Leadership in Energy and Environmental Design (LEED) Program was established by the U.S. Green Building Council to support the development of environmentally responsible and resource-efficient projects. Projects that received LEED certification are typically more energy-efficient and have fewer environmental effects (e.g., emissions) than those projects that simply meet the minimum standards of most building codes. LEED-related measures to be included in the Project will include the following:

- development density and community connectivity;
- public transportation access;
- bicycle storage and changing rooms;
- low-emitting and fuel efficient vehicles;
- water efficient landscaping; water use reduction;
- optimizing energy performance;
- green power;
- construction waste management;
- indoor environmental quality measures; and
- exemplary construction waste diversion and green power.

For example, a LEED-certified building will use a combination of building orientation, design, materials, and efficient heating/cooling systems to reduce energy costs. Low-flow plumbing fixtures will be installed, as will energy-efficient lighting fixtures and bulbs. Each energy-conserving feature incorporated into the Project earns points under the LEED rating system, with the point system taking into account the degree to which a measure saves energy and/or implements specified environmental goals and objectives.

LEED certification was not assumed in the 1997 EIR. Therefore, emissions associated with the stationary sources to be constructed by the Project will be less than that disclosed and accounted for in the EIR.

The Project includes a fuel storage and dispensing facility and such a facility was planned for and analyzed in the 1997 EIR. The fuel storage and dispensing facilities to be constructed as part of the Project will comply with all current standards and requirements with regard to the control of fuel vapor emissions. The Project will comply with the EIR mitigation measure that requires such facilities to obtain a permit from the BAAQMD, the process and approval of which will ensure that the design includes all applicable emissions control features. All air quality impacts from the fuel facility will be the same as those analyzed in the 1997 EIR.

4.5.2.3 *Emissions from Motor Vehicles*

As described above in Section 4.4, the Project will generate traffic trips in an amount less than considered in the 1997 EIR and Eighth EIR Addendum. The total traffic generated is equivalent to 0.6% of the trips assumed (and accounted for) in the 1997 Master Plan. The emissions associated with all Airport-generated traffic (both baseline and projected) were quantified and disclosed in the 1997

EIR. The 1997 EIR found that there would be no carbon monoxide "hot spot" caused by development of the Master Plan and the Project's traffic is less than analyzed in the 1997 EIR.

The Project will comply with the above-description TSM Program, a mitigation measure included in the EIR for the purpose of reducing trips (and therefore emissions). Further, all employees of the Project will be provided with free transit passes (known as VTA ECO Passes). In addition, the Project will be LEED Gold certified and will further reduce mobile emissions due to low-emission and fuel-efficient vehicles to be used at the FBO.

4.5.2.4 *Emissions from Aircraft*

As described above in Section 4.4, the Project will result in additional aircraft operations in an amount equivalent to 5.9 % of the operations assumed (and accounted for) in the 1997 Master Plan. The emissions associated with all aircraft emissions (both baseline and projected) were quantified and disclosed in the 1997 EIR. Further, although the general aviation aircraft fleet mix has evolved since the 1997 EIR to where there is now a substantially higher percentage of corporate jets versus piston aircraft, the data in Table 11 show that emissions of criteria air pollutants would still be within the total shown in the EIR. Similarly, the date in Table 12 show that TAC emissions from all aircraft operations at SJC would still be within the total shown in the EIR. Therefore, aircraft operations emissions from the Project will be consistent with the 1997 EIR.

To validate that there are no changed conditions, see Table 9, which shows that existing (calendar year 2012) general aviation operations, in combination with the additional operations that will result from the Project, will be less than half that assumed and analyzed in the 1997 EIR.

The City notes that the Project includes a hangar large enough to accommodate a Boeing 767. Although the number of Boeing 767s that are configured as corporate jets is very small when compared to the existing corporate fleet mix as a whole, corporate 767s (and similarly-sized corporate jets such as Boeing 747s and 737s, as well as Airbus A319s and A320s) currently operate at SJC. Emissions from such aircraft were accounted for in the air quality analysis contained in the 1997 EIR.

4.5.3 Conclusion

The Project will result in the construction of facilities in areas already identified for construction in the Master Plan and accompanying EIR. As discussed above, the Project will not result in 1) an increase in emissions levels at the Airport beyond that identified in the approved Master Plan, or 2) an increase in the capacity of the Airport beyond that identified in the approved Master Plan.

The Project will not result in any new significant air quality impacts and/or air quality impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant air quality impacts than were previously analyzed.

4.6 NOISE

4.6.1 Background

Section 3.5 of the 1997 EIR presented an extensive analysis of the noise impacts of the Master Plan, with a focus on the noise impacts to the community from aircraft operations. The noise analysis was based on the projected number of takeoffs and landings at build-out of the Master Plan (see list in Table 8 of this Addendum), which at the time was projected to occur by year 2010. The analysis was undertaken per FAA guidelines and methodology and included the use of FAA's Integrated Noise Model (INM). The analysis accounted for aircraft types, flight patterns, aircraft destinations, and time of day. Per FAA methodology, each aircraft operation occurring between 7 pm and 10 pm was counted as three operations, and each aircraft operation occurring between 10 pm and 7 am was counted as ten operations. This weighting accounts for the fact that noise occurring during evening and nighttime hours has a greater potential for disturbance than that occurring during daytime hours.

The 1997 EIR concluded that aircraft noise due to implementation of the Master Plan would result in significant noise impacts. Exterior noise impacts were determined to be unavoidable. Interior noise impacts were mitigated through the implementation of the Airport's Noise Control Program. The Noise Control Program includes:

- Airport Curfew: Restricts takeoffs and landings between 11:30 pm and 6:30 am to aircraft with FAA-certified composite noise levels of 89 decibels or less.[14]

- Acoustical Treatment Program: This program, which was completed in 2009, provided soundproofing to 2,675 residences and four schools in the Airport vicinity.

- Jet Aircraft Training: Jet aircraft training is prohibited at SJC.

- Engine Run-Ups: High power testing of jet engines (known as run-ups) during curfew hours is restricted.

In 2003, the City completed a Supplemental EIR for the Master Plan because it was determined, based on data collected subsequent to 1997, that noise impacts would be substantially greater than that disclosed in the 1997 EIR. The 2003 Supplemental EIR reached the same conclusions and included the same mitigation as the 1997 EIR; the difference between the two documents was that the "noise footprint" of the Airport on the community was substantially larger in 2003 (see Table 13). A minor update to the 2003 Supplemental EIR noise analysis also took place in 2003 to account for a 6-acre expansion of general aviation facilities by Atlantic Aviation.

[14] Curfew originally restricted operations based on the weight of an aircraft, which assumed that the larger the aircraft, the more noise it produces. With current technology, the correlation between size and noise level is no longer accurate. Therefore, in 2003, with FAA approval, the City revised the curfew criteria from one that was weight-based to one that is noise-based. The 89.0-decibel level was chosen because it duplicated the weight-based criterion as closely as possible. Details are contained in the Third EIR Addendum (October 2003).

In 2010, the City amended the Master Plan to reflect the revised aviation forecasts, as summarized in Section 4.4 of this Addendum. Prior to approving the amendment the City prepared the Eighth EIR Addendum, which included a revised noise analysis. The noise analysis was updated because the revised forecasts revealed substantial changes in both the aircraft fleet mix and the projected number of operations by each aircraft type; these changes are shown in Table 7 of this Addendum. As shown in Table 13, the revised noise analysis in the Eighth EIR Addendum calculated a substantial decrease in the size of the Airport's noise footprint, as compared to that shown in the 2003 Supplemental EIR, as amended. This decrease was due to the combination of 1) fewer total operations and 2) the greater use of newer/quieter aircraft.

TABLE 13
Comparison of Airport's Noise Footprint
[Expressed in Acres]

	1997 Master Plan, as Disclosed in 1997 EIR	**2003 Supplemental EIR, as amended for Atlantic Aviation Expansion Project**	**Master Plan, as amended in 2010 to Reflect Updated Forecasts**	**% Change from Impact Disclosed in 2003 Supplemental EIR, as amended**
Area within 65 dB Noise Contour	2,409	3,632	2,615	**- 28%**
Area within 60 dB Noise Contour	5,653	9,422	6,428	**- 32%**

Sources:
- Section 3.5 of the 1997 Master Plan EIR
- Section 2.2 of 2003 Master Plan Supplemental EIR
- Section 4.5 of 2nd Addendum to 1997 Master Plan EIR
- Section 4.5 of 8th Addendum to 1997 Master Plan EIR

In addition to aircraft noise, the 1997 Master Plan EIR evaluated noise impacts associated with the projected increase in motor vehicle traffic. The evaluation concluded that such impacts would not be significant because increase in traffic noise would not exceed 0.1 decibels. Therefore, no mitigation for traffic-generated noise was proposed or required.

The 1997 Master Plan EIR also evaluated the impacts of construction noise. The analysis concluded that construction noise would not be significant because of the distance between any location on the Airport and the closest residences would be a minimum of 800 feet.[15] Therefore, no mitigation for construction-generated noise was proposed or required.

[15] The closest neighborhood is Rosemary Gardens, which is located on the far side of the Guadalupe River and the SR 87 freeway from the easterly boundary of the Airport.

4.6.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

4.6.2.1 *Noise during Construction*

The Project site is located on the westerly side of the Airport. Surrounding land uses are industrial and commercial, as well as the airfield. The closest residences are more than one-half mile west of the site. In addition, there are numerous intervening buildings and other structures between the Project site and the closest residences, which would further reduce noise. Therefore, noise impacts during the construction phase of the Project would not be significant.

4.6.2.2 *Noise from Stationary Sources and Ground Operations*

The Project will generate noise associated with the taxiing, servicing, fueling, and maintenance of aircraft. Noise will also be emitted from equipment used to heat and cool the buildings and hangars. This noise would be compatible with the adjacent commercial and industrial uses, as well as the airfield itself. Such noise would have the potential to create impacts if there were nearby noise-sensitive land uses such as residences. As noted above, however, there are no such uses nearby; the closest residences are more than one-half mile to the west of the Project site, with numerous intervening buildings and structures.

Trucks that will deliver fuel to the Project's fuel storage tanks will utilize the following City roadways that are not located in residential or other noise-sensitive areas: Martin Avenue, Coleman Avenue, De La Cruz Boulevard, and Brokaw Road.

It is also important to note that the Project site was originally designated in the Master Plan for air cargo facilities. The noise from air cargo facilities would be comparable to that associated with the Project because the air cargo operations would involve the taxiing, servicing, and fueling of large commercial jet aircraft, as well as the loading, unloading, and transport of cargo.

Therefore, noise from the Project's stationary sources and ground operations would not be significant and would be consistent with that disclosed in the 1997 EIR.

4.6.2.3 *Noise from Motor Vehicles*

As described above in Section 4.4, the Project will generate additional traffic in an amount the same as projected in the 1997 EIR, which is equivalent to 0.6% of the trips assumed (and accounted for) in the 1997 Master Plan. Since the 1997 EIR concluded that all Airport-generated traffic combined would not result in a significant noise increase, the Project's noise increase from traffic would result in an impact consistent with the prior environmental review.

4.6.2.4 *Noise from Aircraft*

As described above in Section 4.4, the Project will result in additional aircraft operations in an amount equivalent to 5.9% of the operations assumed and accounted for in the 1997 Master Plan EIR and 8.3% of the aircraft operations assumed and accounted for in the amended Master Plan/Eighth EIR

Addendum. The noise impacts associated with all aircraft operations (both baseline and projected) were quantified and disclosed in the 2003 Supplemental EIR, as amended.

With regard to aircraft types that would be based at, and serviced by, the facilities to be constructed by the Project, most will be business corporate jets, which is consistent with the Master Plan forecasts (see Section 2.2.1.5). Signature Flight Support, the Project applicant, has indicated that the aircraft that are anticipated to be served by the Project will include many of the corporate aircraft types that are in widespread use in the United States. Signature has designed the proposed facilities to cater to this segment of the market. Examples of aircraft to be served by the Project include those manufactured by Gulfstream, Cessna, Learjet, Bombardier, Dassault, Embraer, Hawker Beechcraft, Fairchild, Canadair, Piper, and Boeing. Aircraft sizes vary from small (e.g., four passengers) to large (e.g., Boeing 767).

The aircraft types that would be served by the Project currently operate at SJC, either as a based aircraft (i.e., the airplane's home is SJC) or as a transient aircraft (i.e., the plane flies into and out of SJC but is based elsewhere). This is also true for large aircraft such as the Boeing 717/727/737/747/757/767 and/or the Airbus 319/320/330, which are used by the airlines, but some of which are configured as corporate planes. These larger corporate aircraft currently operate at SJC as general aviation aircraft, with servicing provided by existing FBOs at the Airport.

The fact that most of the aircraft associated with the Project would be corporate jets is consistent with the latest fleet mix forecasts for general aviation, which were reflected in the updated noise analysis contained in the Eighth EIR Addendum (2010). This greater percentage of corporate aircraft in the latest forecasts is reflected in the data in Table 8.

Most important, all of the aircraft types that would be served by the Project were accounted for in the noise analyses undertaken for the Master Plan EIR, as supplemented and addended. See letter in Appendix C from Brown-Buntin Associates, Inc., the Airport's noise consultant.

Aircraft Operations during the Curfew

The City adopted a Noise Control Program for SJC in 1984, a key component of which are time-of-day restrictions on certain aircraft operations, commonly referred to as the "curfew."[16] The Project does not propose to modify the curfew. It is important to note, however, that some of the corporate jets that currently operate at SJC, which would also be served by the Project, are permitted to operate during SJC's curfew hours (11:30 pm to 6:30 am) because their FAA-certified composite noise level is 89 dB or less (see Section 4.5.1, above, for details).[17] Such operations are accounted for in all of the noise analyses undertaken for the EIR, Supplemental EIR and EIR Addenda. Specifically, curfew operations are input to the noise model as a "night operation," wherein each operation is counted/weighted as 10 operations. Such weighting is in accordance with FAA procedures and accounts for the increased sensitivity of noise occurring during such time periods.

[16] For an extensive background discussion on the curfew, including a 2003 revision to the criteria under which certain aircraft are permitted to operate during the curfew, please see Section 3 of the Third Addendum to the Master Plan EIR (October 2003).

[17] The list of such aircraft is published on the Airport's website. The list is also available via publications and notices provided to all pilots and aircraft operators as part of standard flight planning procedures.

From Table 8, the data indicate that the average number of daily operations by corporate jets at SJC in 2027 is projected to be 134.7. Of this total, the projected breakdown by time-of-day is as follows:

- 80% daytime (7 am to 7 pm)
- 10% evening (7 pm to 10 pm) - each operated counted/weighted as three operations
- 10% night (10 pm to 7 am) - each operated counted/weighted as ten operations

As noted above, these assumptions were input into the noise analysis (Brown-Buntin Associates, 2010).

Consistent with existing requirements, all aircraft operators and pilots associated with the Project will be mandated to comply with the provisions of the Airport's curfew. The Project's lease does not include an eviction remedy for curfew violations and consequently other FBOs at the Airport will also no longer have an eviction remedy. The City will still enforce its curfew through fines as well as other litigation remedies which it has used in the past. The noise analysis assumed compliance with the noise ordinance and compliance is still assumed as the noise ordinance will contain the same restrictions and will be enforced. Therefore, the nighttime levels of noise caused by the Project are the same as previously analyzed.

To summarize, some aircraft that will likely be based at the Project's facilities, or will likely be served by the Project's facilities, may operate during the curfew because they meet the 89-decibel noise criterion. Such aircraft do so under existing conditions at SJC, but the frequency of such operations will likely increase under the Project by virtue of the fact that the Project is intended to serve more of the general aviation demand. These aircraft operations and the associated noise impacts are accounted for in the noise analyses undertaken in the 1997 EIR, 2003 Supplemental EIR, and various EIR Addenda.

4.6.3 Conclusion

The Project will result in the construction of facilities in areas already identified for construction in the Master Plan and accompanying EIR. As discussed above, the Project will not result in 1) an increase in noise levels at the Airport beyond that identified in the approved Master Plan, or 2) an increase in the capacity of the Airport beyond that identified in the approved Master Plan.

The Project will not result in any new significant noise impacts and/or noise impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant noise impacts than were previously analyzed.

4.7 HYDROLOGY AND WATER QUALITY

4.7.1 Background

Section 3.6 of the 1997 Master Plan EIR disclosed that portions of the Airport were within a 100-year floodplain and, therefore, construction within such areas could result in flooding impacts until such time as a planned flood control project along the Guadalupe River was constructed. The flood control project was subsequently completed by the Santa Clara Valley Water District and U.S. Army Corps of Engineers.

The 1997 EIR also disclosed that the capital improvement projects to be constructed under the Master Plan, which included the temporary paved parking lot on the Project site, would increase the acreage of paved surfaces at SJC. The additional paved areas would result in an increase in the volume of stormwater runoff, which in turn could result in localized flooding. In addition, the increased stormwater runoff would likely contain pollutants that would degrade the water quality of the Guadalupe River since the City's storm drainage system discharges into the river. Mitigation was identified for these impacts, consisting of increasing the capacity of on-Airport stormwater storage areas (i.e., open areas between the runways and taxiways) and the continued implementation of the Airport's Stormwater Pollution Prevention Plan (SWPPP) in accordance with the City's National Pollution Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board (RWQCB).

The 1997 EIR noted that during the construction phase of capital improvement projects at the Airport, there was a potential for sediment and other pollutants to enter storm drains, which could degrade water quality. The EIR noted that projects would, however, be required by City's NPDES permit to utilize best management practices (BMPs) during construction. The BMPs would serve to minimize the potential for pollutants to enter storm drainage systems.

Subsequent to the completion of the 1997 EIR, the regulations pertaining to the control of both the volume and content of stormwater runoff have become substantially more stringent in an effort to improve water quality in California streams and bodies of water. The latest NPDES permit issued by the RWQCB requires San Jose and other municipalities to reduce stormwater pollution through source control measures and stormwater treatment measures. City Policy 6-29 mandates compliance with the NPDES permit for all projects meeting certain criteria. Currently, projects that create or replace 10,000 square feet or more of impervious surface, which includes the Project, are required to use site design and source control measures and numerically-sized low impact development (LID) stormwater treatment measures.

To summarize, the current stormwater pollution control requirements constitute mitigation beyond that identified in the 1997 EIR, so the net effect is that stormwater runoff from new projects is now having less impact than projects that would have complied with the mitigation required in 1997. As described in the following section, the Project will implement the current (and more stringent) stormwater pollution control measures that are part of the latest NPDES permit.

4.7.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

The Project will construct general aviation facilities, including buildings/hangars, an aircraft parking apron, taxiways, fuel facilities, and vehicle parking on a 29.6-acre site. All but approximately two acres of the site are currently paved as a surface parking lot. When the parking lot was constructed, the provisions of the NPDES permit in effect at the time were implemented. The Project will also construct two taxiway connectors and relocate an existing service road adjacent to the site.

The Project site is not located within a 100-year floodplain.

During both the construction and operational phases, the Project will implement the Airport's SWPPP, which includes BMPs that are designed to prevent sediment and other pollutants from entering storm drainage systems. This is the water quality mitigation identified in the 1997 EIR, as summarized above in Section 4.7.1.

Table 14 compares existing and post-Project impervious and pervious surfaces on the Project site, including an adjacent 2.8-acre unpaved area that will be used for stormwater treatment. The data in Table 14 show that the overall percentage of impervious surfaces on the site will not change due to the Project. Per the current NPDES requirements described above, and as described in the Project's Site Development Permit application, the Project will treat stormwater runoff as follows:

TABLE 14
Pervious and Impervious Surfaces on the Project Site

Site Surface	Existing/Pre-Construction (sf)	%	Project/Post-Construction (sf)	%	Difference (sf)	%
Impervious Surfaces						
Buildings	2,683	0.2	288,254	20.4	+ 285,571	+ 20.2
Hardscape	1,192,024	84.4	913,721	64.7	- 278,303	- 19.7
Subtotal	1,194,707	84.6	1,201,975	85.1	+ 7,268	+ 0.5
Pervious Surfaces						
Landscaping	217,933	15.4	210,665	14.9	- 7,268	- 0.5
Other Pervious	0	0	0	0	0	0
Subtotal	217,933	15.4	210,665	14.9	- 7,268	- 0.5
Totals:	1,412,640	100.0	1,412,640	100.0		

The numbers in this table include the 29.6-acre Project site plus 2.8 acres between the Project site and Taxiway V that will be utilized for stormwater treatment.

Percentages in this table are rounded to the nearest tenth.

- The landside portion of the Project (i.e., the open public areas such as the parking lot, driveways, and pedestrian areas) will drain to landscaped islands within the parking lot, as well

as to landscaped buffers. Roof runoff will also drain to these landscaped areas. A perimeter bioswale (along Martin Avenue) will collect and treat the runoff. The bioswale will connect to the Airport's existing underground storm drainage system. The bioswale will be sized and designed to provide treatment of the drainage from the entire landside portion of the Project.

- The airside portion of the Project (i.e., aircraft apron and taxiway connectors) will drain toward the grassy depressions located between the proposed apron and existing Taxiway V. These depressions will serve as treatment and conveyance bioswales that will connect to the Airport's existing underground storm drainage system. These bioswales will be sized and designed to provide treatment of the drainage from the entire airside portion of the Project.

To summarize, as described above, the Project will comply with current stormwater pollution treatment requirements. Such requirements are more stringent than the stormwater treatment mitigation measures contained in the 1997 Master Plan EIR. Therefore, the stormwater runoff impacts of the Project will be less than that described in the 1997 EIR.

For a discussion of the water pollution prevention measures incorporated into the design of the proposed fuel storage and handling facility, please see Section 4.13, *Hazardous Materials*.

4.7.3 Conclusion

The Project will result in the construction of facilities at a location already constructed as a parking lot under the Master Plan and accompanying EIR. The Project will also construct two taxiway connectors and relocate an existing service road adjacent to the site. The Project will not result in any new significant hydrologic or water quality impacts and/or hydrologic or water quality impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. In fact, current requirements pertaining to the treatment of stormwater that will be implemented by the Project will exceed the stormwater mitigation measures contained in the Master Plan EIR. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant hydrologic or water quality impacts than were previously analyzed.

4.8 GEOLOGY AND SEISMICITY

4.8.1 Background

Section 3.7 of the 1997 Master Plan EIR disclosed that 1) there are weak and/or expansive soils at SJC, and 2) the entire area is subject to strong groundshaking in the event of a major earthquake on one of the region's active faults. The EIR concluded that these conditions represent hazards that could lead to substantial property damage and/or harm to humans if buildings and other facilities (e.g., fuel storage) were not designed to account for these hazards. Mitigation listed in the EIR stated that all facilities will adhere to applicable building codes, consistent with standard engineering practice to achieve an acceptable level of risk. For fuel storage facilities, the mitigation states that their design

will comply with the Above-Ground Petroleum Storage Act, National Fire Protection Association standards, the California Pipeline Safety Act, and other applicable statutes.

4.8.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

According to a geotechnical hazards map prepared for the City of San Jose, the Project site contains soils with "high" expansive properties (Cooper-Clark Associates, 1974). In addition, the Project site, similar to the entire region, will be subject to strong groundshaking in the event of a major earthquake on an active fault. Thus, the geologic and seismic conditions at the Project site are as described in the 1997 Master Plan EIR.

As required by the mitigation listed in the EIR, the buildings that will be constructed by the Project will comply with current building and seismic safety codes. Consistent with the 1997 EIR's findings, these mitigation measures will reduce the impact to less-than-significant.

The Project's fuel storage facility with also comply with the above-listed requirements. For further discussion, please see Section 4.13, *Hazardous Materials*.

4.8.3 Conclusion

The Project will result in the construction of facilities at a location already identified for construction in the Master Plan and accompanying EIR. The Project will not result in any new significant geologic or seismic impacts and/or geologic or seismic impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant geologic or seismic impacts than were previously analyzed.

4.9 BIOLOGICAL RESOURCES

4.9.1 Background

Section 3.8 of the 1997 EIR disclosed the impacts of the Master Plan on biological resources. The analysis found two key areas where significant impacts would occur:

- Impacts to the biological habitat along the Guadalupe River due to construction of a new bridge over the river and due to the proximity of a new fuel storage facility adjacent to the river.
- Impacts to the burrowing owl (a California species of special concern) and its habitat due to construction of capital improvement projects at the Airport.

With regard to the first area, the Guadalupe River is located on the opposite side of the Airport from the Project site and will not be affected by the Project. Therefore, the remainder of this discussion will focus on the burrowing owl as it is germane to the Project site.

Since the construction of the capital improvement projects identified in the Master Plan would result in the net loss of approximately 38 acres of potential owl nesting habitat at the Airport, the 1997 EIR concluded this impact would be significant. As mitigation identified in the EIR, the City developed and adopted a comprehensive Burrowing Owl Management Plan (BOMP), which avoids harm to individual owls by moving them out of construction impact zones and by keeping them out of runway safety areas. The BOMP includes areas set aside at the Airport for the owls to nest and forage, which are designated as burrowing owl management areas. The BOMP also includes measures for monitoring and the replacement of natural burrows with artificial burrows at the Airport. All of the required actions listed in the BOMP have been implemented on an ongoing basis since 1997 under the direction of a qualified biologist. This includes preconstruction surveys, owl relocations, artificial burrow construction, habitat enhancement, banding, monitoring, and reporting. The Airport currently employs a full-time biologist to oversee the BOMP and to undertake other duties related to wildlife.

4.9.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

4.9.2.1 *Tree Removal*

The Project will be constructed on a site that is almost entirely paved. The exception is a narrow unpaved strip along the westerly edge of the site, adjacent to the curb of Martin Avenue. Within this unpaved strip, toward the northerly end of the site, there are 16 eucalyptus trees. These trees will be removed by the project, which would not be a significant impact to biological resources because eucalyptus are a non-native and invasive species. The 16 trees will be replaced with approximately 87 trees along the edge of the site adjacent to Martin Avenue. In addition to the 87 trees, the Project proposes to plant approximately 91 trees on the site. The tree species proposed for planting are as follows: river birch, coast live oak, sycamore, 'purple robe' black locust, Chinese elm, and burgundy desert willow.

4.9.2.2 *Impact to Unpaved Area Adjacent to Taxiway V*

Between the Project site and existing Taxiway V, there is an unpaved area, approximately 4.4 acres in size. This area includes both natural burrows (i.e., those excavated by California ground squirrels) and artificial burrows (i.e., those installed by the Airport's biologists), both of which are used by burrowing owls for shelter and nesting. The Project will impact this area as follows: 1) a portion will be paved to accommodate a slight shifting of the alignment of the existing service road to the east; 2) a portion will be paved to construct two new taxiway connectors; and 3) the remainder will become a stormwater treatment bioswale (as described in Section 4.7, *Hydrology and Water Quality*). The net effect of these changes will be that the area will no longer function as burrowing owl habitat. This loss of habitat was anticipated and accounted for in the 1997 EIR because this site was originally planned for development with air cargo facilities.

Construction activities associated could harm individual owls if they are present within the impact area. Accordingly, the Project will implement the mitigation identified in the EIR to protect owls, as contained in the BOMP. Specifically, the areas to be disturbed will be surveyed by a biologist prior to the commencement of construction. Natural and artificial burrows located within the construction impact zone will be identified and closed. One-way doors will be installed for at least 48 hours prior

to the closing of any natural burrows so as to avoid trapping any owls. To avoid impacts during the nesting season, the burrows will be closed prior to February 15th of the year in which ground disturbance is scheduled to take place. In addition, the artificial burrows impacted by the Project will be installed elsewhere on the Airport.

4.9.3 Conclusion

The Project will result in the construction of facilities at a location already identified for construction in the Master Plan and accompanying EIR. The Project will not result in any new significant biological resources impacts and/or biological resources impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant biological resources impacts than were previously analyzed.

4.10 ENERGY SUPPLY AND NATURAL RESOURCES

4.10.1 Background

Section 3.9 of the 1997 EIR evaluated the effects of the Master Plan with regard to energy consumption and the use of non-renewable resources. The analysis concluded that the use of energy and natural resources would not be "wasteful" and therefore the impact would not be significant. This conclusion took into account the fact that all new and renovated buildings at the Airport would comply with the energy efficiency standards contained in Title 24 of the *California Code of Regulations*. Based on this conclusion, no mitigation was identified.

4.10.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

The Project will construct various buildings (including a terminal and seven aircraft hangars), a fuel facility, and an equipment shop. There will also be parking areas for both motor vehicles and aircraft, which will include nighttime lighting. These facilities will utilize energy in various forms for heating, cooling, lighting, equipment operation, aircraft servicing and fueling, etc. All of these facilities will comply with the energy efficiency standards of Title 24, consistent with the assumption used in the 1997 EIR.

In addition, the Project is being designed to be certified as a "LEED Gold" facility. The Leadership in Energy and Environmental Design (LEED) Program was established by the U.S. Green Building Council to support the development of environmentally responsible and resource-efficient projects. Projects that received LEED certification are typically more energy-efficient than those projects that simply meet the minimum standards contained in Title 24. Section 4.5.2.2 of this Addendum lists the LEED-related, energy-reducing, measures that are part of the Project.

LEED certification was not assumed in the 1997 EIR. Therefore, energy usage associated with the facilities to be constructed by the Project will be less than that disclosed and accounted for in the EIR.

As discussed in Section 4.4, *Transportation and Circulation*, the Project will not result in an increase in ground traffic and/or air traffic beyond that identified in the 1997 Master Plan EIR, nor will the Project increase the capacity of SJC beyond that identified in the 1997 EIR. Therefore, energy consumption associated with these activities will not exceed the levels disclosed in the 1997 EIR.

4.10.3 Conclusion

The Project will not result in any new significant energy impacts and/or energy impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant energy impacts than were previously analyzed.

4.11 AESTHETICS

4.11.1 Background

Section 3.10 of the 1997 EIR analyzed the visual and aesthetic impacts of the projects to be constructed as part of the Master Plan. The EIR assessed the effects of a variety of new structures including terminals, hangars, 8-story parking garages, jet blast fences at the ends of the runways, lighting, and an above-ground fuel storage facility. The purpose of the analysis was to determine if the masses and heights of these facilities would block scenic views, substantially alter the visual character of the area, and/or be incompatible with the surrounding land uses. This analysis took into account the fact that the land uses adjacent to SJC are commercial and industrial, as well as the presence of three major freeways (U.S. 101, SR 87, and I-880).

With regard to the Project site on the west side of the Airport, the 1997 EIR assumed it would be developed with new air cargo facilities. The air cargo facilities would have included buildings with heights of approximately 80-90 feet in order to service the wide-body jet aircraft commonly used by the Airport's all-cargo carriers (e.g., Fedex and UPS). These wide-body cargo aircraft include the Airbus A-300, the McDonnell-Douglas DC-10 and MD-11, and Boeing 767.

The analysis in the Master Plan EIR concluded that only the above-ground fuel storage facility, consisting of eight 500,000-gallon above-ground tanks, would result in a significant aesthetic effect. This conclusion was based on the fact that the tanks would be located next to (and easily visible from) U.S. 101, a designated scenic highway. Mitigation in the form of screening between the tanks and the freeway was identified.

4.11.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

The Project site is located on the west side of SJC and is currently an unused surface parking lot. The site is bordered by the airfield, the FAA air traffic control tower (height = 109 feet), five FAA communication towers (height = 90 feet), an existing FBO, and commercial uses. The closest residences are more than one-half mile from the site. Except for 16 eucalyptus trees located adjacent to Martin Avenue, the site is devoid of vegetation. The existing visual/aesthetic character is typical of a developed, urban environment. See Figure 3 (aerial photo) and Photos 1 and 2.

The Project proposes to demolish the existing parking lot and replace it with a FBO to serve general aviation aircraft. The FBO will include seven aircraft hangars (six with a height of 48 feet and one with a height of 86 feet), equipment shops (height of 20 feet), and a terminal (height of 40 feet). Typical elevations are shown on Figure 5.

The buildings to be constructed would be compatible with the adjacent commercial and aviation uses, which includes an existing FBO. The tallest building, Hangar #7 at 86 feet, would be lower than the adjacent FAA air traffic control tower (height = 109 feet) and the five adjacent communication towers (height = 90 feet). The proposed buildings are not adjacent to a designated scenic highway and there would be no substantial adverse effect on any scenic vistas. While the Project site would be transformed from a surface parking lot to a site with multiple buildings and structures, the existing character of the area would remain as it is today, which is a developed, urban environment.

The 16 eucalyptus trees along Martin Avenue would be replaced with approximately 87 trees along the site's border with Martin Avenue. In addition to the 87 trees, the Project proposes to plant approximately 91 trees on the site. See also Section 4.9, *Biological Resources*.

Finally, as noted above, the Project site was originally designated for air cargo facilities and was analyzed as such in the Master Plan EIR. The size and heights of the buildings that would have been constructed for air cargo aircraft (i.e., 80-90 feet) would be similar to the largest of the buildings to be constructed by Signature (i.e., 86 feet).

To summarize, the Project would not result in any significant visual/aesthetic impacts. In addition, the visual/aesthetic effects of the Project would be similar to those described in the 1997 EIR.

4.11.3 Conclusion

The Project will result in the construction of facilities at a location already identified for construction in the Master Plan and accompanying EIR. The Project will not result in any new significant aesthetic/visual impacts and/or aesthetic/visual impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant aesthetic/visual impacts than were previously analyzed.

Photo 1: View of Project site looking to the north from the southerly border.

Photo 2: View of Project site from Martin Avenue, looking to the north. Eucalyptus trees on right (east) side of Martin Avenue will be removed and replaced.

4.12 PUBLIC SERVICES AND UTILITIES

4.12.1 Background

Section 3.11 of the 1997 EIR analyzed the effects of the Master Plan on the demand for public services (e.g., police and fire) and utilities (e.g., gas, electricity, water, wastewater, etc.). The EIR concluded that while the capital improvement projects and increased aviation activity associated with the Master Plan would increase the demand for services and utilities, such demand would be accommodated by existing services and utility infrastructure. No mitigation was required.

4.12.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

As discussed in Section 4.4, *Transportation and Circulation*, the Project will not result in an increase in aviation activity beyond that identified in the 1997 Master Plan EIR, nor will the Project increase the capacity of SJC beyond that identified in the 1997 EIR. Therefore, the demand for public services and utilities associated with these activities will not exceed the levels disclosed in the 1997 EIR.

The Project site is served by existing utility systems, including electric, natural gas, cable, phone, storm drain, and sanitary sewer. The existing systems are located along Martin Avenue and on the Airport. The on-site utilities to be constructed by the Project would connect to these existing systems. The Project would not require the extension or expansion of utility systems to serve the FBO.

Police, fire, and emergency services are provided to the Airport, including the Project site by the City of San Jose Police and Fire Departments. The San Jose Police Department includes an Airport Division, which is based on-site. Station 20 of the San Jose Fire Department, which is located on the east side of the Airport, is dedicated for Airport fire protection and other emergency services. Station 20 includes multiple aircraft rescue and firefighting vehicles, as required at air carrier airports per Part 139 of the Federal Aviation Regulations. The San Jose Police and Fire Departments would serve the Signature FBO.

4.12.3 Conclusion

The Project will not result in any new significant utility/services impacts and/or utility/services impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant utility/services impacts than were previously analyzed.

4.13 HAZARDOUS MATERIALS

4.13.1 Background

Section 3.12 of the 1997 EIR assessed the impacts of the Master Plan with regard to hazardous materials. The analysis addressed the use, storage, and transport of hazardous materials, as well as

potential environmental effects associated with sites known to be contaminated with hazardous materials. The EIR noted that there are a number of on-Airport locations where contamination had occurred as a result of fuels leaking from storage tanks. Per Tables 3.12.A.8 and 3.12.A.9 of Appendix 3.12.A of the EIR, all of these locations are on the east side of the Airport. None of these locations are on or immediately adjacent to the Project site.

The EIR concluded that hazardous materials impacts would be significant with regard to the following:

- An accidental release at the proposed fuel storage facility (8 tanks of 500,000 gallons each) adjacent to U.S. 101 and the Guadalupe River could expose the public to hazardous materials and could result in harm to the ecology of the Guadalupe River. Mitigation in the EIR consisted of a requirement to design, construct, and maintain the fuel storage facility in compliance with all applicable regulations, including on-site containment and a 100-foot setback from the River.

- Construction at sites with contaminated soils and/or work on buildings containing asbestos could expose construction workers to hazardous materials. Mitigation in the EIR requires the Airport to investigate potentially contaminated sites before construction and, based on the results of the investigation, to implement the appropriate measures identified to protect workers.

4.13.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

4.13.2.1 *Impacts of Existing Conditions on the Project*

The Project site was historically used for farming until 1995. The site was converted to an interim surface parking lot while construction of new parking and passenger terminal facilities occurred on the east side of the Airport. According to the 1997 EIR, there were no above-ground or underground fuel storage tanks located on the site.

In 2012, a Phase I and Limited Phase II Environmental Site Assessment (ESA) was prepared for the Project site to determine if are likely to be any hazardous materials present or any conditions that would indicate potential contamination from such materials (URS, 2012). The ESA included a review of environmental records and databases, review of historic and current aerials, a surface reconnaissance, interviews with Airport staff, and soil/groundwater sampling and analysis. The findings of the ESA are as follows:

- Based on a history of agricultural land use in the site vicinity, pesticides were probably used at the site. A soil investigation conducted at the site indicated no impacts to soil from pesticides. Therefore the potential presences of pesticides at the site do not represent a potential hazard or constraint for the Project.

- Based on interviews with Airport staff, a farming operation and waste oil tank were formerly located in one area the site, but no documentation of any investigation and/or removal of the tank can be found. The area where the farming operation and tank were located was identified. A soil and groundwater investigation was undertaken at this location, which indicated no impacts from volatile organic compounds or total petroleum hydrocarbons diesel or motor oil

near the approximate location of the waste oil tank. Therefore, the potential residual contamination in the subsurface at the Site does not represent a potential hazard or constraint for the Project.

- The site was identified in the EDR database report as a San Jose Hazmat facility. However, evidence of historic releases or other violations were not identified during the record search conducted for the site nor was the site listed in any other government database.

- None of the properties with contamination within one mile cross- or up-gradient of the Project site were identified as having the potential to impact the site. There were no identified open soil or groundwater contaminated facilities. Therefore, there are no off-site properties that represent a hazard or constraint for the Project.

4.13.2.2 *Impacts of the Project*

The Project includes the construction of a fuel storage and dispensing facility. As shown on Figure 4, the facility will be located in the northwest corner of the site adjacent to Martin Avenue. Unlike the Airport's main fuel storage facility adjacent to the Guadalupe River that was addressed in the 1997 EIR, the Project's fuel facility will be located more than 3,400 feet from the river; therefore, it will not have the potential impacts to the river that were identified in the EIR.

The fuel facility will comply with all regulatory standards and policies as required in the mitigation measure in the 1997 EIR. Since 1997, those standards have become more stringent. The dispensing facility will be covered with a canopy measuring approximately 55 feet by 95 feet, which would be similar to the canopies found at most gas stations. The storage facility will include four 20,000-gallon tanks for jet fuel, one 15,000-gallon tank for aviation gas, one 560-gallon tank for motor gas (i.e., regular gasoline used in motor vehicles), and one 560-gallon tank for diesel fuel. All of the tanks will be above ground. All tanks will be of double-wall construction to meet current federal and state safety and environmental protection requirements. The facility will include spill pads that will contain any accidental spillage during fuel loading and unloading operations. The entire fuel facility will be designed to drain to an oil/water separation system, which will remove any oil that may be present within stormwater. The treated water will be discharged into the sanitary sewer system. Finally, the facility will include a leak detection and monitoring system equipped with alarms, as required by current codes.

The fuel facility will not present a hazard to aviation as it will be located outside of the FAA-designated object free areas (OFAs) and runway protection zones (RPZs) for the Airport.

Under CEQA, a fuel facility located within one-quarter mile of a school is considered a potential hazardous materials risk. In this case, however, there are no schools within one-quarter mile of the Project site. The closest school is over one-mile from the Project site and, therefore, there would be no potential hazardous materials risk.

The Project, similar to the other FBOs, passenger airlines, and cargo carriers at SJC, will use hazardous materials in the course of normal operations. Such materials will consist of those typically associated with vehicle and equipment operation and servicing, including fuels, paints, solvents, oils and ethylene

glycol (deicer). The use and storage of these materials at the Airport is regulated under a variety of federal, state, and local statutes, with inspections undertaken by the Santa Clara County Hazardous Materials Compliance Division and the City of San Jose Fire Department. The Project's use, storage, and disposal of these substances will comply with these regulations and, therefore, there would be no significant hazardous materials impact.

To summarize, the design of the fuel storage and dispensing facility will comply with all applicable federal, state, and local codes and policies with regard to safety and environmental protection. The Project will be consistent with the mitigation identified in the 1997 EIR, which requires compliance with all applicable regulations, and those regulations have become more stringent since 1997.

4.13.3 Conclusion

The Project will not result in any new significant hazardous materials impacts and/or hazardous materials impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant hazardous materials impacts than were previously analyzed.

4.14 AIR SAFETY

4.14.1 Background

Section 3.13 of the 1997 EIR examined the air safety impacts of the Master Plan in terms of 1) airport design issues, and 2) the correlation between aviation activity levels and air safety. The EIR concluded that the implementation of the Master Plan would not result in an increase in air safety risks. This conclusion was based on the fact that all capital improvement projects – including taxiway and runway improvements – would comply with FAA design standards. The EIR noted that any waiver from a design standard would not be approved by FAA without a site-specific analysis that determines that the waiver would not compromise safety. The EIR also determined that there is no meaningful relationship between aviation activity and accident rates. No mitigation was identified or warranted.

4.14.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

The Project would construct a new FBO for general aviation on the west side of SJC, including two taxiway connectors that would provide access between the FBO and the airfield. As discussed in Section 4.2, *Land Use*, the project would be located on a site designated for general aviation in the approved Airport Master Plan and on the FAA-approved Airport Layout Plan. Section 4.2 also summarized the results of an independent review of the Project's design in terms of air safety. The independent review found that the Project is in compliance with pertinent FAA safety and security regulations, standards, and criteria. See Section 4.2 for further discussion and Appendix A for a copy of the independent review.

The increase in aircraft operations resulting from the Project would not increase air safety risks. This is based on the analysis in the Master Plan EIR that determined that there is no meaningful relationship between aviation activity and accident rates.

4.14.3 Conclusion

The Project will result in the construction of facilities at a location already identified for construction in the Master Plan and accompanying EIR. The Project will not result in any new significant air safety impacts and/or air safety impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant air safety impacts than were previously analyzed.

4.15 GREENHOUSE GASES

4.15.1 Background

A number of gases emitted from both natural sources and human activities are known to affect global climate, a phenomenon commonly referred to as the "greenhouse effect" or "global warming." Such gases, known as greenhouse gases (GHGs), include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The burning of fossil fuels, including for transportation, is a major source of anthropogenic GHGs. At SJC, sources of GHG emissions include ground vehicles, aircraft, and energy used for airport buildings and facilities. For a detailed discussion of GHGs, including causes and effects, sources, regulations, etc., please see Section 4.1 of the Ninth Addendum to the Master Plan EIR (2011).

Although the issues associated with the effects of emissions of GHGs on climate change were known in the 1990s, there was no requirement to analyze such impacts under CEQA until 2010.[18] Therefore, at the time the 1997 Master Plan EIR was prepared, this topic was not included. The lack of discussion of greenhouse gas does not preclude use of an addendum for the Project. *Citizens for Responsible Equitable Environmental Development v. City of San Diego* (2011) 196 Cal.App.4th 515, 532 (upholding a local agency's determination that "new information" about GHG emissions did not require supplemental environmental review under Pub. Res. Code § 21166 because information regarding the effect of GHG emissions on climate was known long before the lead agency approved the EIR in 1994); see also *Concerned Dublin Citizens v. City of Dublin* (2013) 214 Cal. App.4th 1301, 1319-1320.

[18] Section 15064.4 of the CEQA Guidelines now requires a Lead Agency to analyze the GHG emissions of projects. The Guidelines state that the Lead Agency has the discretion to determine, in the context of a particular project, whether to undertake a quantitative or qualitative analysis.

The above paragraph notwithstanding, to be conservative, the City prepared the Ninth Addendum to the Master Plan EIR in 2011 to determine if the buildout of the remaining unconstructed projects identified in the Master Plan would result in an adverse impact with regard to global climate change. The Ninth Addendum evaluated the GHG emissions that would occur at SJC if the remaining Master Plan projects were constructed and compared that to a "no project scenario" whereby no further projects would be constructed at SJC. With regard to general aviation activity levels, the analysis found that a lack of facilities to base a general aviation aircraft at SJC would not result in fewer or shorter flights because owners will choose to base their aircraft at alternate airports under one of the following scenarios:

- If the aircraft is based at an airport within reasonable driving distance of the San Jose area, the number of aircraft flights would be the same as if the aircraft were based at SJC. It can also be assumed that flight durations would be approximately the same as if the aircraft were based at SJC since the alternate airport would not be far from SJC. There would, however, be increased automobile emissions associated with the greater driving distances between the San Jose area and the alternate airport. Thus, under this scenario, while GHG emissions at SJC itself would be lower, overall GHG emissions would be higher, or

- If the aircraft is based at an airport beyond a reasonable driving distance from the San Jose area, aircraft operations would double and aircraft emissions of GHGs would increase accordingly.

Therefore, for general aviation, the best case scenario in terms of minimizing GHG emissions would be to accommodate the local demand at the closest local airport, namely SJC. This conclusion is consistent with many aspects of land use planning whereby it is preferable from energy conservation and emissions reduction perspectives to locate services in proximity to those land uses that generate the demand for such services. As an example, it is desirable to locate supermarkets and other retail stores in proximity to residential areas in order to achieve reductions in emissions, energy use, and travel times associated with driving between these land uses.

Although the Ninth Addendum concluded that the construction of the remaining Master Plan projects would not result in a significant effect related to global climate change, the Addendum noted that the Airport had already implemented, and continues to implement, numerous measures that have the effect of reducing GHG emissions. Such measures, which also reduce emissions of criteria air pollutants, are listed in Table 10 of this document. These measures are consistent with, and in furtherance of, plans, policies, and regulations adopted for the purpose of reducing GHG emissions.

4.15.2 Project Impacts in Relation to Master Plan EIR, as Supplemented & Addended

This Tenth Addendum specifically analyzes the construction of an FBO facility. As discussed above, the Project will construct additional general aviation facilities at SJC pursuant to the approved Airport Master Plan. These new facilities will, in turn, result in additional aircraft operations in an amount equivalent to 5.9 % of the operations assumed (and accounted for) in the 1997 Master Plan (see Section 4.4, *Transportation & Circulation*, of this Addendum for details). The Project will not increase the capacity of SJC beyond that identified in the 1997 EIR. As such, the Project will not generate new GHG emissions beyond those analyzed and considered in the 1997 EIR and Ninth Addendum. This is

confirmed in the discussion of traffic and air quality impacts which show that the Project's contribution to vehicular and aircraft emissions is less than analyzed in the prior environmental review, and therefore the Project's GHG emissions are likewise less than the emissions from the Airport that were previously analyzed.

Each of these aircraft operations will emit GHGs. However, for the reasons described above in Section 4.15.1, not building the Project, and therefore not accommodating the demand for general aviation services at SJC, will not avoid these emissions because the aircraft operations will still occur. Specifically, the unmet demand at SJC will be met at other airports and the result will be higher overall GHG emissions, as compared to accommodating the demand at SJC.

Moreover, as discussed above in Section 4.5.2.2, the Project will be LEED Gold Certified and will include additional measures that reduce GHG emissions through reduction of energy use or provision of features that reduce vehicle emissions which were not considered in the prior EIR or addendum.

4.15.3 Conclusion

The Project will not result in any new significant GHG impacts and/or GHG impacts that are substantially different from those described in the Master Plan EIR or subsequent environmental documents. No new mitigation is required. There is no new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence. Finally, there are no changes to the circumstances under which the Project is undertaken that would result in more significant GHG impacts than were previously analyzed.

SECTION 5. CONCLUSION

The City has evaluated the environmental effects of the Project in this Addendum. Based upon the factual information contained in the above analyses, the City has reached the following conclusion:

Approval of the Project described in Section 3 will not have any significant environmental impacts not previously disclosed in the SJC Master Plan EIR, nor changes with respect to the circumstances under which the Project is undertaken, that would indicate that the Project's impacts will be any greater than those previously analyzed. No new mitigation is required. Therefore, no subsequent or supplemental EIR is warranted or required.

SECTION 6. REFERENCES

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Jacobs Engineering, **Safety Analysis of Proposed Signature Flight Support FBO Development Project at Norman Y. Mineta San Jose International Airport**, October 2013.

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Santa Clara Valley Transportation Authority, **Transportation Impact Analysis Guidelines**, March 2009.

SECTION 7. REPORT PREPARERS

A D D E N D U M A U T H O R

City of San José, Department of Planning, Building & Code Enforcement

Joseph Horwedel, Director
John Davidson, Senior Planner

City of San José, Airport Department

Kim Aguirre, Director
David Maas, Deputy Director
Cary Greene, Airport Planner

C O N S U L T A N T S

David J. Powers & Associates, Inc.
Environmental Consultants & Planners
San José, California

John Hesler, Senior Environmental Specialist
Zachary Dill, Graphic Artist

Brown-Buntin Associates, Inc.
Consultants in Acoustics
Visalia, California

Bob Brown, Principal Acoustical Consultant

Jacobs Engineering Group, Inc.
Airport Engineering & Planning Consultants
Bedford, New Hampshire

Stephen Berardo, Senior Project Manager

Appendix A

Safety Review of Signature Flight Support FBO at SJC and Review of JDA Opinion Paper by Jacobs Engineering Group

JACOBS

October 22, 2013

Mr. John Hesler
Vice President/Principal Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San Jose, California 95126

Subject: **Safety Analysis of Proposed Signature Flight Support FBO Development Project Norman Y. Mineta San Jose International Airport**

Dear Mr. Hesler:

At your request, Jacobs Engineering Group, Inc. ("Jacobs") undertook a safety review of the proposed Signature Flight Support FBO Development Project (the "Signature Project") on the west side of the Norman Y. Mineta San José International Airport (the "Airport" and also the official FAA three letter identifier, which is SJC). The Jacobs analysis included a review of the following documents:

- Signature's Site Plans, prepared by American Infrastructure Development, Inc., dated October, 2013
- FAA Obstruction Evaluation determinations for Signature's proposed development (September 10, 2013)
- Opinion Paper prepared by JDA Aviation Technology Solutions ("JDA") dated April 8, 2013
- San José International Airport Layout Plan (Approved by FAA on June 16, 2011)
- FAA Airport Design Standards (including airport design advisory circulars and related guidance)
- NTSB Accident Database and NASA Aviation Safety Reporting System (ASRS) Database pertaining to San José International Airport
- San José International Airport Master Plan (as amended through 2010)
- West Side Development Principles, *Adopted by San José City Council, August 16, 2011*
- FAA Runway Incursion Program Data and Reports
- FAA Sponsor Grant Assurances and FAA Order 5190.6B, Airport Compliance Manual

As background on our firm, since 1947 Jacobs Engineering Group has served municipal, regional, and international airports, as well as military installations. Jacobs is globally recognized as a diversified engineering consulting and construction services organization with proven accomplishments in transportation, buildings, defense and aerospace, technology and energy for public agencies and private clients, with annual revenues of over $11 billion. Jacobs Airports Division, which consistently ranks in Engineering News Record (ENR's) Top 5 Aviation firms, has planned, designed, administered, and supervised over 500 airport projects throughout the country, both large and small. More specifically, for the past four years Jacobs has provided professional aviation services to the City of San José for various airfield projects at Mineta San José International Airport.

BACKGROUND

Signature Flight Support is proposing to construct and operate new general aviation fixed base operations (FBO) facilities on an approximate 30-acre site, located on the west side of the Airport. Improvements will include approximately 240,000 ft^2 of conventional bay hangars, a 10,000 ft^2 terminal,

an outdoor seating area, ground service equipment (GSE) shops, aircraft based and transient apron, fuel farm, automobile parking, and access taxiways. Details regarding the configuration of this development, including locations, sizes, and heights of the proposed buildings, design of fuel facilities, vehicle parking and circulation, aircraft parking and circulation, and taxiway connectors to the airfield are contained in the October 2013 Site Development Plan set prepared on behalf of Signature by American Infrastructure Development, Inc. These plans were specifically reviewed as part of Jacobs task associated with this safety review.

As part of our analysis, Jacobs also reviewed and considered the information and data in the JDA Opinion Paper dated April 8, 2013 (attached in Appendix A), which was prepared on behalf of an existing fixed base operator on the Airport, Atlantic Aviation. Atlantic Aviation submitted a proposal for leasing and developing new general aviation facilities on the Airport in response to an RFP issued by the Airport, but Atlantic's proposal was not selected by the Airport based on the evaluation criteria presented in the RFP.

The JDA Opinion Paper reviewed historical runway incursion[1] data for the Airport and concluded that the Airport's incursion rate is higher than average, and also concluded that the higher rate is due to 10 existing airfield conditions that do not meet current FAA engineering guidance for the prevention of runway incursions. JDA Opinion Paper also stated that the Signature development will exacerbate this problem by shifting the incursion zone from the ends of the runways to the middle, thereby increasing the chance of a catastrophic outcome. The JDA Opinion Paper also asserts that both the current temporary closure and future re-opening of Runway 11-29 will present inherent safety problems, which they believe will be exacerbated by the Signature development. Jacobs analysis responds to the issues and conclusions presented in the JDA Opinion Paper. Jacobs specific responses to the JDA Opinion Paper, as well as the JDA Opinion Paper, are attached as Appendix A.

ANALYSIS

With the Federal Aviation Act of 1958 (P.L. 85-726), the U.S. Congress specifically delegated the jurisdiction and authority to oversee and regulate safety in the aviation industry, as well as control and management of airspace over the United States, including the operation and navigation of aircraft, to the FAA. Under that authority, the FAA has promulgated regulations, orders, advisory circulars, and assurances governing the design, construction, operation, and maintenance of airports.

The updated Mineta San José International Airport Layout Plan (ALP), which explicitly designates the entire northwest side of the Airport for new general aviation facility development, was approved by the FAA on June 16, 2011. Along with annual inspections of the Airport as a condition of the operating certificate issued under 14 CFR Part 139, these actions represent an FAA determination that the Airport is operated safely and is in compliance with the federal requirements listed below:

- FAA Airport Sponsor Assurances and FAA Order 5190.6B, Airport Compliance Manual
- FAA advisory circulars, in particular FAA AC 150/5300-13A, Airport Design Sept. 28, 2012
- CFR 14 Part 139, Certification of Airports
- CFR 49 Part 1542, Airport Security

[1] A runway incursion is defined as the unauthorized presence of an aircraft, vehicle or person on a surface designated for the landing and take-off of aircraft.

Jacobs has reviewed the fixed base operator (FBO) development proposed by Signature Flight Support and finds that it is consistent with the ALP, pertinent federal aviation regulations, and the FAA sponsor grant assurances, which are discussed in more detail below.

As such, the analysis of both the site plans and the JDA Opinion Paper may be summarized into four key areas: 1) requirements and obligations dictated by the Airport Sponsor Grant Assurances, 2) specific airport and airfield design criteria articulated in FAA Advisory Circulars, 3) certification requirements established in the Code of Federal Regulations (CFR) 14 Part 139, and 4) airport safety and security standards called for in CFR 49 Part 1542 and augmented by numerous Advisory Circulars.

- Airport Sponsor Assurances – The airport sponsor (i.e. the City of San José) is legally encumbered by the FAA sponsor assurances as a condition of accepting FAA grants. On-airport fixed base operators, including Atlantic Aviation and Signature Flight Support, are required to comply with pertinent provisions of the sponsor assurances (listed below). Their compliance with the assurances is stipulated in the Minimum Standards, the Agreement between the Airport and the Operator, as well as the Terms and Conditions specified by the Airport. As a condition of issuing grants under the Airport Improvement Program, the FAA has determined that the Airport is in compliance with the sponsor assurances.
    - 19. Operation and Maintenance
    - 20. Hazard Removal and Mitigation
    - 22. Economic Nondiscrimination
    - 23. Exclusive Rights
    - 24. Fee and Rental Structure
    - 29. Airport Layout Plan
    - 34. Policies, Standards, and Specifications

- "Airport Design", FAA Advisory Circular (AC) 150/5300-13A, dated September 28, 2012 – The FAA specifies the criteria applicable to airport planning, design, and construction of airports, particularly at those facilities that accept FAA grants, including Mineta-San José International Airport. This advisory circular provides guidance for the airport design process, runways, taxiways, aprons, navigation aids and on-airport air traffic control facilities, airport bridges and tunnels, as well as information dealing with aircraft characteristics, wind analysis, the effects of jet blast, etc.

  Airport tenants, including FBOs such as Signature Flight Support, are required to comply with pertinent provisions of the advisory circular by the Minimum Standards, the Agreement between the Airport and the Operator, as well as the Terms and Conditions specified by the Airport. Airport planning and design activities are expected to adhere to these guidelines to the greatest extent feasible. As noted by the FAA in the AC dated 09-28-12:

  > *"**Existing airports.** Every effort should be made to bring an airport up to current standards. It may not, however, be feasible to meet all current standards at existing airports, and in the case of federal assistance programs, funding of improvements may be subject to FAA criteria. In those cases, consultation with the appropriate offices of the FAA Office of Airports and Flight Standards Service will identify any applicable FAA funding criteria and/or adjustments to operational procedures necessary to accommodate operations to the maximum extent while maintaining an acceptable level*

Jacobs Engineering Group, Inc.
Two Executive Park Drive
Bedford, New Hampshire 03110 U.S.A.
1.603.666.7181 Fax 1.603.666.7185

of safety. For non-standard conditions associated with such projects, the FAA may consider alternative means of ensuring an acceptable level of safety. For further information regarding a modification of standards, refer to Order 5300.1, Modification to Agency Airport Design, Construction, and Equipment Standards."

The Airport Layout Plan (ALP), signed by the FAA on June 16, 2011, represents FAA concurrence that the Airport complies with pertinent provisions of the advisory circular by meeting the specific standards set forth or by providing an acceptable level of safety through operational mechanisms. The ALP also specifically identifies area to be developed for future general aviation facilities, including the type of development proposed by Signature Flight Support. As such, Signature's proposal is in conformance with the approved ALP.

In addition, as required by 14 CFR Part 77, Signature Flight Support has filed Notices of Proposed Construction and Alteration, FAA Form 7460-1, for all of its proposed hangars and other structures on the development site. These filings formally notify the FAA of proposed construction that must be reviewed for potential impact on navigable airspace. On September 10, 2013, the FAA concluded its obstruction review by issuing a final determination that the Agency has no objection to the proposed development and that none of the proposed Signature Flight Support structures would create a hazard to air navigation. The FAA determinations also concurred with Signature Flight Support's proposal to install standard obstruction lighting on the roof of Hangar 7, the tallest of the structures.

- 14 CFR PART 139, Certification of Airports – Airports that accommodate service by scheduled air carriers must have an operating certificate issued by the FAA under FAR Part 139. The regulation stipulates that airport sponsors must have an Airport Operating Certificate, as well as develop and maintain a current Airport Certification Manual (ACM). The FAA inspects each airport annually to ensure compliance with the provisions of FAR Part 139, and in particular to determine that it is in compliance with their operating certificate and ACM. According to the FAA: "Compliance with this AC (150/5300-13A Airport Design) may be used to demonstrate compliance with specific requirements of Part 139."

  Mineta San José International Airport's inspections are fully up to date and it has been determined by the FAA that the Airport is and has been operated in compliance with the Airport Layout Plan, applicable advisory circulars, the Airport's operating certificate, and its ACM.

  Airport Safety and 49 CFR PART 1542, Airport Security - The FAA has jurisdiction and primary responsibility for setting standards and making safety determinations for airports. As stated above, the Airport has an approved Airport Layout Plan and operates in conformance with its FAR Part 139 operating certificate, Airport Certification Manual, and pertinent Sponsor Assurances. The Airport is operating safely as determined by the FAA, and the proposed fixed base operator (FBO) development by Signature Flight Support is in conformance with the FAA-approved Airport Layout Plan (ALP), as well as FAR Part 139.

  The Airport also operates in accordance with 49 CFR Part 1542, Airport Security, and is inspected by the Transportation Security Administration (TSA) to ensure compliance. Airport tenants, including FBOs such as Signature Flight Support, are required to comply with pertinent provisions of Part 1542, Airport Security, by the Minimum Standards, the Agreement between the Airport and the Operator, as well as the Terms and Conditions specified by the Airport.

Jacobs Engineering Group, Inc.
Two Executive Park Drive
Bedford, New Hampshire 03110 U.S.A.
1.603.666.7181 Fax 1.603.666.7185

JDA Opinion Paper

As summarized under the "Background" section of this letter, the firm of JDA Aviation Technology Solutions (JDA) presented a number of alleged safety concerns with the Signature Flight Support development. Jacobs has reviewed the opinions presented in the JDA paper, and find that they do not challenge or change the fact that the Airport operates in compliance with current FAA regulations, orders, advisory circulars, and sponsor assurances. Jacobs specific responses to the JDA Opinion Paper, as well as the JDA Opinion Paper, are attached as Appendix A.

It should be pointed out that in the 1990s the Airport averaged in excess of 150,000 general aviation aircraft operations annually (and well over 200,000 general aviation aircraft operations annually in the decade before that). General aviation activity has since declined considerably, and in 2012 the Airport accommodated approximately 31,300 general aviation aircraft operations, a decline of roughly 80% from 1990s levels. The current Airport Master Plan forecasts, which support the approved ALP, anticipate a total of 73,200 general aviation aircraft operations by the year 2027, which is less than 40% of the general aviation activity experienced during the 1990s.

In addition to a much lower volume of general aviation activity than in the past, the majority of projected general aviation operations will be by corporate aircraft which currently and will continue to arrive and depart on the longer runways (12R-30L and 12L-30R), not the shorter west side Runway 11-29. Runway 11-29 has been closed since 2009 to facilitate the construction of parallel Taxiway W and intersecting cross taxiways, and the City has announced its intention to evaluate the long-term value of retaining that runway given its declining level of utilization over time (both historical and projected). The proposed Signature Flight Support development is not dependent on, and will be fully compatible with, either the re-opening or the continued closure of Runway 11-29.

Moreover, all airfield improvement projects and connections to the airfield from landside facilities are subject to FAA safety risk assessments prior to FAA approval. Signature Flight Support has proposed two aircraft taxiway connections between its ramp and Taxiway V. Notably, in compliance with FAA Advisory Circular 150/5300-13A, these connections are offset from existing cross taxiways. While the results of the FAA safety risk assessment are forthcoming, Jacobs does not see any fundamental concern with aircraft movement to or from the Signature Flight Support facility.

CONCLUSIONS

Based on our technical review Jacobs concluded that:

1. SJC operates in full compliance with all pertinent and appropriate FAA design and safety standards.
2. The FAA and Airport actions to reduce runway incursions at SJC are in accordance with FAA's nationwide Runway Incursion Avoidance Program, and based on data over the last three years, have resulted in a significant reduction in incursions at SJC.
3. There is no factual data provided that supports a higher risk of runway incursions stemming from the Signature Flight Support development or operations.
4. Signature's development will be in full compliance with current FAA design standards, as specifically stipulated in the Minimum Standards and in their lease.
5. Existing issues associated with the separation between existing Airport tenants and Runway 11/29 and Taxiway V have no bearing on the Signature development. Any potential future resolution of those existing issues is independent of, and will not affect, the Signature development.

Jacobs Engineering Group, Inc.
Two Executive Park Drive
Bedford, New Hampshire 03110 U.S.A.
1.603.666.7181 Fax 1.603.666.7185

JACOBS

We thank you for the opportunity to review the proposed project and submitted plans. Should you have any questions regarding our analysis, please do not hesitate to contact me directly.

Sincerely,
JACOBS ENGINEERING GROUP, INC.

Stephen Berardo, C.M.

Stephen Berardo, C.M.
Senior Project Manager

Attachments: Appendix A – JDA Opinion Paper (dated 4/8/13) and Jacobs Responses
Appendix B – FAA Approved ALP, signed June 16, 2011

Jacobs Engineering Group, Inc.
Two Executive Park Drive
Bedford, New Hampshire 03110 U.S.A.
1.603.666.7181 Fax 1.603.666.7185

JACOBS ENGINEERING GROUP
RESPONSES TO APRIL 8, 2013 JDA OPINION PAPER

JDA Comment #1:

Background:

This Opinion Paper is based on an independent review of all applicable FAA airport design and airspace related requirements and guidance documents. The proposed Westside Lease Development, in conjunction with significant airfield improvements and temporary status of runway 11/29, introduce significant concerns relative to safe airfield operations that merit an in depth planning process in conjunction with safety risk analysis of various alternatives with specific emphasis on reducing runway incursions.

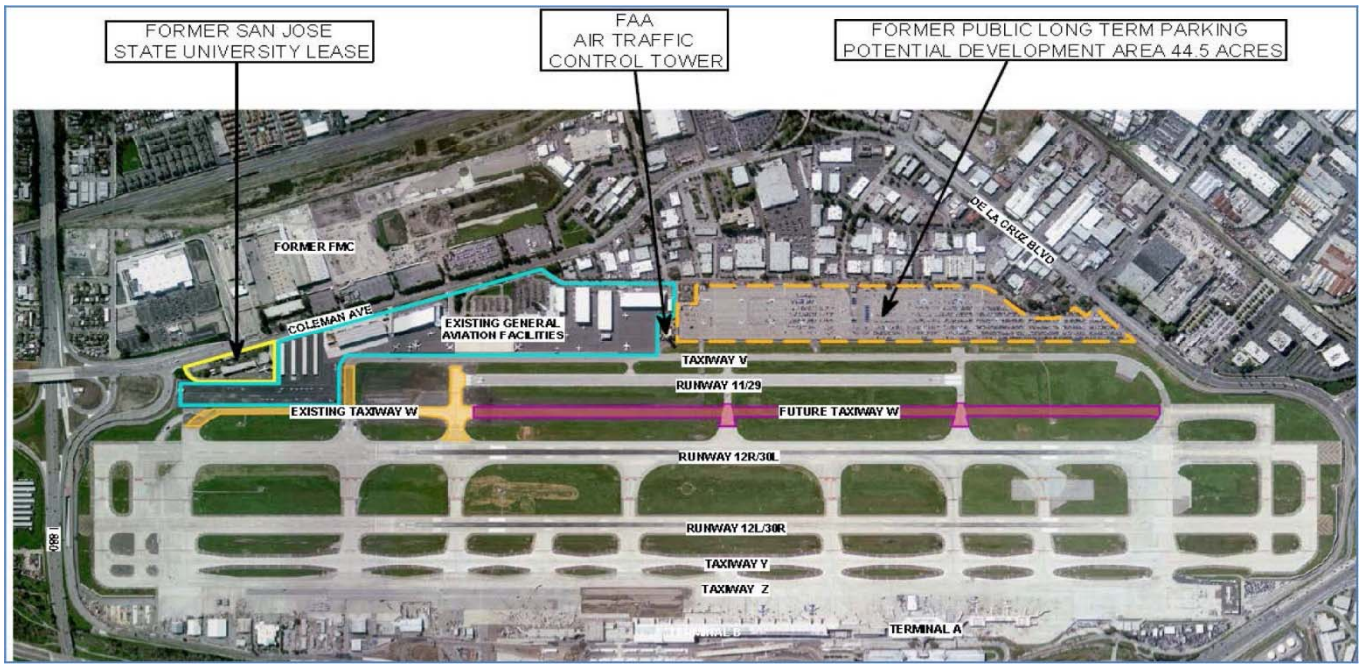


Figure 1: Westside Lease Award Notice of Intended Award February 7, 2013 – Exhibit A

Our review considers the following facts regarding SJC airfield development from various airport documentation:

1. The last Master Plan Update, in 2010, shifted the planning horizon from 2017 to 2027, updated the demand and facility requirements and modified specific components of the facility development program.
2. There was a significant decline in SJC traffic from 2000 to 2009:
   a. Annual aircraft operations have declined 49%

b. General Aviation (GA) activity declined 70%

c. Based aircraft declined from 218 to 123 or 44% from 2002 to 2012

d. Turbojet aircraft have decreased from 58 in 2008 to 45 in 2012 or 22% and 40% less than the last fleet mix forecast.

3. SJC has current capacity for 360 based aircraft.
4. SJC currently has two tenants with full FBO rights.
5. Two additional cross taxiway connections (H&K) for new GA Apron direct access to runways are planned.
6. Runway 11/29 is temporarily closed and the City has not yet made any decision with regard to whether or when it will reopen.

Jacobs Response #1:

There are several factual errors in this comment:

- Item #3: SJC's current capacity is 209, not 360, based aircraft per the current Airport Master Plan, as amended in 2010.
- Item #4: Atlantic Aviation is the only aeronautical service provider acting as an FBO on SJC. The FAA Grant Assurance No. 23 specifically prohibits airport sponsors from entering into exclusive agreements with aeronautical service providers. By entering into an agreement with another FBO (in this case Signature Flight Support), SJC is fulfilling its legal obligation under FAA Grant Assurance No. 23.
- Item #5: The Signature project (referred to in this comment as the Westside Lease Development) does not propose or include any additional cross-taxiway extensions, nor does it include any direct access between the GA apron and any runways. This factual inaccuracy permeates much of the analysis in the JDA Opinion Paper and leads to conclusions that are in error, as we point out in the remainder of our responses.

JDA Comment #2:

Safety Discussion:

The air safety review of the 2010 Master Plan Update modifications relied on an EIR safety analysis completed in 1997. There has been no formal safety analysis applied to any of the changes adopted in 2010.

The FAA's method of managing safety has changed dramatically since the Airport's last safety analysis in1997. The concept of system safety has been promulgated to improve proactive mitigation of safety risk. Changes are no longer considered as isolated issues. Rather, changes must be considered from a system perspective throughout the FAA National Airspace System (NAS) to assure the ripple effect on interacting elements is fully understood and controlled for the best safety outcomes. Technical,

operational, and human factors must be analyzed for each potential hazard and risks with appropriate controls implemented.

FAA Order 5200.11 requires Safety Risk Management (SRM) as per FAA Airports Safety Management System (SMS) for:

1. Submittal of new or revised Airport Layout Plans (ALPs) for FAA approval. SRM requirements do not apply to ALP submittals received prior to the dates identified for each category of airport listed under paragraph 1-4b.
2. FAA airspace determinations for construction safety plans.
3. FAA airspace determinations for airport sponsor requests for non-construction airport changes submitted by FAA Form 7480-1.
4. FAA approval of Part 150 noise compatibility programs and program changes that may affect aviation safety.
5. FAA approval of an airport sponsor's request for a Modification of Standards.
6. Final FAA approval of new and updated airport planning, design, or construction standards.

The Westside Development, the current and near term modifications to taxiway W, V, H and K and the decision relative to runway 11/29 all constitute major changes to the SJC airfield system. Four of the six triggering elements that require safety risk management (referenced above) are present in SJC's near term airside development plans.

In order to mitigate the potential hazards associated with proposed changes to an airport's layout, proper safety risk management requires considering existing safety controls, as well as an airport's strengths and weaknesses. Here, land constraints have put SJC at a significant disadvantage to provide adequate safety controls. Areas for object free areas and runway separation are very constrained. Air traffic procedures are complex. Displaced thresholds change the end points of runways depending on which direction of use. Reduced object free areas cause restrictions of use of certain areas based on aircraft types. Visibility minimums are reduced compared to airports with standard object free areas creating more pressure on the airports only precision runway and a high number of Runway ingress/egress points create a heightened need for vigilance. All of these factors increase the workload of air traffic controllers resulting in less time to observe for errant traffic.

The Signature Proposal, revisions to taxiways H, K, W and V and the decision regarding runway 11/29 will have significant impacts on the safety dynamics of the airfield. These impacts merit a formal safety risk analysis considering all of the changes to the SJC system, airfield, land use, and ground and air movements. The appropriate method to assess changes of this magnitude is through the federal FAA master plan process where all of the needs and associated changes can be balanced against forecast demands to determine the highest, best and safest use of the airfield assets.

Jacobs Response #2:

The assertions in this comment that 1) the Airport is relying on a 1997 safety analysis, and 2) no safety analysis has been applied to changes adopted in 2010 are false:

- The Airport Layout Plan (ALP), signed by the FAA on June 16, 2011, represents FAA concurrence that the Airport complies with pertinent provisions of the advisory circular by meeting the specific standards set forth or by providing an acceptable level of safety through operational mechanisms.
- SJC, like all airports with air carrier service, has an operating certificate issued by the FAA under FAR Part 139. As required under these regulations, SJC maintains a current Airport Certification Manual (ACM). The FAA inspects SJC annually to ensure compliance with the provisions of FAR Part 139, and in particular to determine that it is in compliance with its operating certificate and ACM. SJC's inspections are fully up to date and it has been determined by the FAA that the Airport is and has been operated in compliance with its ALP, applicable advisory circulars, operating certificate, and ACM.
- Prior to construction of every improvement project at SJC, a full Safety Risk Management (SRM) assessment is completed per FAA's safety management system. The assessment includes meetings between airport staff and all relevant FAA departments (e.g., design, air traffic control, etc.) to review all aspects of the project. The project cannot proceed until FAA determines that any and all safety risks are satisfactorily addressed. As an example, a SRM assessment was undertaken prior to the start of each phase of the current project to extend/upgrade Taxiway W. A SRM assessment will occur before construction of the Signature FBO can commence.
- Signature filed official Notice of Proposed Construction on FAA Form 7460-1 with the FAA. The FAA issued a final determination on September 10, 2013 of no objection to Signature's proposed development. The FAA also stated:

> This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.
>
> In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

- Again, the Signature project does not propose or include any additional cross-taxiway extensions, nor does it include any direct access between the GA apron and any runways.

In terms of the issues raised in this comment about a possible future decision on Runway 11-29, please see Response #8 for a detailed discussion as to why any such decision will not create safety risks with regard to the Signature FBO.

JDA Comment #3:

SJC Airfield Safety Concerns:

Runway incursions are uncontrolled movements onto active runways by aircraft or vehicles. They can lead to catastrophic aircraft collisions and every effort should be made to prevent them. SJC runway incursion rate has historically been much higher than the national rate the following table compiles and compares data from the FAA's 2010 Runway Safety Report.

Runway Incursions SJC From FAA Runway Safety Report	A	B	C	D	Total	Annual RI Rate	National Rate/mill ops	SJC Operations	National Rate per SJC Operations	SJC % of National Rate
2006			2	7	9	4.19	13.36	193,408	2.5839309	162%
2007			4	5	9	4.34	14.59	184,919	2.6979682	161%
2008				8	8	4.06	17.23	184,714	3.1826222	128%
2009			2	8	10	5.92	17.97	146,000	2.62362	226%

Figure 3: SJC Runway Incursions Reported in FAA Runway Safety Report 2010

Because of the high rate of incursions, SJC is one of 20 focus airports identified by the FAA to reduce runway incursions. The FAA's Runway Safety Action Team (RSAT) program studied these locations and provided recommendations aimed at reducing the incursion rate through mitigating risks identified through configuration, marking, signage and traffic flow improvements.

SJC has participated in the RSAT program and stands to benefit from the recommendations. Given SJC's high rate of incursions, it is critical that going forward, any change to the airfield system be analyzed for safety risks represented by the change and by the existing safety challenges to assure the resulting change improves SJC's safety controls and does not reduce them.

Through collecting many years of incursion data and the RSAT lessons learned, the FAA has developed guidance for airports to prevent incursions. This guidance has now been incorporated into the airport design advisory circular.

Review of SJC runway incursion reports tabulated in attachment 1 found 28 runway incursions since 2001. Of those 28 SJC incursions:

- 75% of the incursions involve GA aircraft
- 85% of incursions are at cross taxiways
- 39% of incursions occur at cross taxiways adjacent to GA aprons
- 68% of the incursions are concentrated on the on the approach ends of the prevailing wind runways outside the high energy middle third of the runways

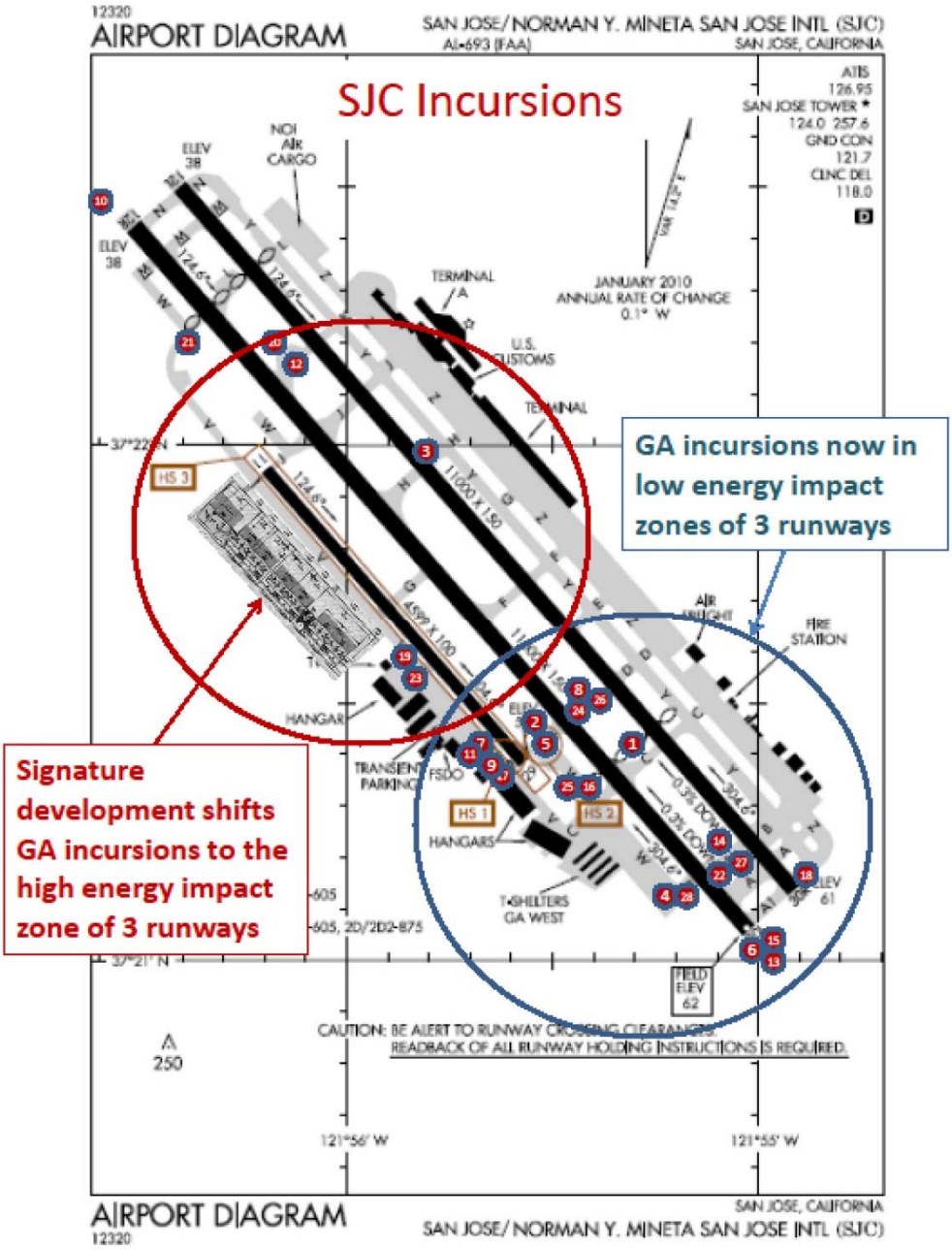


Figure 4: SJC Airport Diagram with Runway Incursions

The proposed revisions to the General Aviation land use at SJC should be studied with respect to the best airfield configuration to reduce general aviation incursions. The current plans propose relocating a major volume of the GA operations and creating expanses of apron next to runways with two new direct access taxiways. The new land use will shift the incursion zone from the current low energy section of the runways to the high energy middle third of three runways increasing the chance of catastrophic outcomes. The creation of an expanse of apron with two new direct access taxiways crossing three runways in conjunction with an existing hot spot on the airfield violates the FAA's incursion prevention guidance including:

- Increase pilot situational awareness;
- Avoid aprons with direct access to taxiways that lead directly to runways;
- Avoid cross taxiways in the high energy middle third of the runway;
- Avoid direct connection from an apron to a parallel taxiway at the end of a runway; and
- Redesign of hotspots is a priority when associated runway or taxiway is subject to reconstruction.

Jacobs Response #3:

The last portion of this comment states that the project will create "expanses of apron next to runways with two new direct access taxiways." This is not true. The Signature project is not proposing any improvements to, or extensions of, Taxiways H or K. Further, there will not be a direct connection between the runways and the new apron. The only access to the airfield being constructed by Signature are two connectors between the apron and Taxiway V, and the two connectors will be offset from existing taxiways in compliance with the latest update to FAA's design standards.

Therefore, because the project is not constructing any new taxiways or direct connections to any runways, the statement in the Opinion Paper that the Signature project will shift the runway incursion zone from the current low energy section of the runways to the high energy middle third of the runways is incorrect. In short, there will be no shift because there will be no new runway access points.

This balance of this comment states that SJC has a higher-than-average runway incursion rate and, therefore, changes to general aviation land use (including the Signature FBO) should not move forward without this problem being addressed, the implication being that failure to address the problem will lead to increased safety risks when general aviation projects move forward. In order to respond to this comment, we first provide context and an overview of the runway incursion issue as pertains to the subject of safety.

Runway Incursions Overview

The FAA defines a "runway incursion" occurs when an aircraft, vehicle, or person is present on a runway without permission. Incursions occur due to pilot error (e.g., crossing a runway without air traffic control [ATC] clearance, taking off without clearance, landing without clearance), controller error (e.g., clearing an aircraft onto a runway while another aircraft is landing on the same runway or issuing a

takeoff clearance while the runway is occupied by another aircraft or vehicle), or vehicle driver error (e.g., a vehicle enters or crosses a runway without ATC clearance). According to FAA data, approximately 65% of all runway incursions are due to pilot error wherein the pilot has failed to comply with ATC instructions, is unfamiliar with an airport, or does not follow standard operating procedures.

The FAA has identified the elimination of runway incursions nationally as one of the Agency's highest priorities. Runway incursions occur at the rate of approximately three each day at airports across the United States. FAA considers this rate unacceptable due to the potential for an incursion to lead to a catastrophic accident and is engaged in a comprehensive nationwide program to reduce incursions.

As part of understanding and addressing the runway incursion issue, the FAA has developed a classification system for every incursion:

- Category D: Incident that meets the definition of a runway incursion but with no immediate safety consequences.
- Category C: Incident characterized by ample time and/or distance to avoid a collision.
- Category B: Incident in which separation decreases and there is a significant potential for collision, which may result in a time-critical corrective/evasive response to avoid a collision.
- Category A: Serious incident in which a collision was narrowly avoided.
- Accident: An incursion that resulted in a collision.

Category A and B events are considered to be serious incursions. However, as noted in the JDA Opinion Paper, SJC has had no Category A or B incursions. In addition, almost 78% of all incursions at SJC that occurred between 2006 and 2009 were classified by FAA as Category D incursions (i.e. "no immediate safety consequences"). Furthermore, the average number of incursions per year between 2010 and 2012 at SJC was four, compared to the average number of incursions per year between 2006-2009, which was nine. The annual average number of incursions at SJC has declined by 55.5% in the last three years, which clearly indicates that FAA and SJC safety programs are working. Finally, in 2012 SJC's incursion rate per 1,000,000 operations was 22.2 compared to the FAA's calculated national average rate of 27.738 (Source: FAA Runway Safety Report 2011-2012, Appendix B).

FAA tracks incursions by category at all U.S. airports and determines each airport's annual runway incursion rate, factoring in the number of operations (i.e., takeoffs and landings) that occurred at the airport. On September 24, 2013, FAA published a Performance Measure Profile for the "Serious Runway Incursion Rate", which only counts Category A and B incursions. According to the FAA publication, "…FAA changed the focus of measurement for runway incursions from all incursions to those incursions with measurable risk of collision, Categories A and B. Since Category C and D incursions were not likely to lead to an accident or a significant risk of an accident, their inclusion in the previous total tended to mask true safety risk. The new measure reflects the focus of FAA's runway safety effort to reduce the

rate of the incursions with demonstrable risk." FAA's goal is to reduce the Serious Runway Incursion Rate to no more than 0.395 per million operations, a target that has been achieved.[1]

FAA's ongoing program to reduce runway incursions involves working with pilots, air traffic controllers, airport operators, and airport tenants (e.g., airlines, FBOs, air service providers, etc.). The FAA has developed a 24-page manual on Runway Incursion Avoidance that is made available to airport users, which outlines all of the "tools" being used to minimize such incidents.[2] These tools include improved signage, improvement ATC communication, timely issuances of changed conditions to pilots (known as Notices to Airmen or NOTAMs), and designation of "hot spots" on Airport Diagrams used by pilots. In this context, "hot spots" are intersections between runways and taxiways that have a history of incursions. Such locations are flagged on Airport Diagrams to call extra attention to areas that have been historically prone to incursions. The FAA's runway incursion reduction program also includes changes to airport design standards to reduce opportunities for pilot confusion. Technology upgrades such as Airport Vehicle Runway Incursion Warning Systems and Final Approach Runway Occupancy Signal Systems, and Runway Status Light Systems are other potential tools that are being tested and used at certain airports.

The FAA has also established a Runway Safety Action Team (RSAT) Program, which focuses on airports with higher than average runway incursion rates.

Runway Incursions at Mineta San Jose International Airport

JDA states that SJC has a high rate of incursions and they include a table using data contained in FAA's Annual Runway Safety Report, 2010. JDA implies that the data indicate that there are safety issues at SJC that lead to these incursions, such issued which need to be studied before the Signature FBO can go forward. For the reasons stated in the following paragraphs, JDA's characterizations of runway incursions at SJC are misleading and do not reflect the latest data nor do they reflect the actions taken at SJC by FAA and the Airport that have led to a reduction in incursions.

JDA fails to note that in the last three years, SJC's incursion rate has substantially decreased, according to the FAA's Annual Runway Safety Report, 2011-12, as shown in the following table. In fact, the national incursion rate published by FAA for year 2012 was 27.7 incursions per million operations[3], but SJC's rate for 2012 was notably lower at 22.2 incursions per million operations.

[1] FAA, Performance Measure Profile, Serious Runway Incursion Rate, FY 2013 Methodology Report, 9/24/2013.
[2] http://www.faa.gov/regulations_policies/handbooks_manuals/aviation/media/phak%20-%20appendix%201.pdf
[3] Source: FAA Runway Safety Report, 2011-12.

Runway Incursions SJC From FAA Runway Safety Report	A	B	C	D	Total	Annual RI Rate	National Rate/ Mill ops
2006			2	7	9	4.19	13.36
2007			4	5	9	4.34	14.59
2008				8	8	4.06	17.23
2009			2	8	10	5.92	17.97
2010			2	2	4	not reported	18.85
2011				5	5	3.63	18.80
2012			1	2	3	2.21	27.74

SJC Runway Incursions Reported in FAA Runway Safety Reports, 2010 and 2011-12[4]

JDA also fails to note that the total number of serious (i.e., Category A and B) runway incursions at SJC in years 2006-2012 was zero. Further, a 2008 General Accounting Office (GAO) report to Congress on runway incursions lists the 20 U.S. airports with the most incursions over a 7-year period (2001-08) and SJC is not on the list. Further, the GAO report shows that in the same timeframe there were airports with serious incursions, including 10 at Los Angeles International, 9 at Chicago-O'Hare, 5 at North Las Vegas, and 4 at each of the following: Phoenix, Newark, and Dallas-Ft. Worth.

A review of the runway incursions at SJC, which are listed on an attachment to the JDA report, shows that most of the incursions were due to the pilot failing to understand or follow ATC instructions. This is consistent with FAA's nationwide data on the causes of incursions and does not point to a deficiency at SJC.

The above notwithstanding, SJC does participate in the RSAT program, as acknowledged in the JDA report. SJC's RSAT, which includes FAA and SJC staff, works to educate air traffic controllers, pilots and ground personnel on procedures to reduce potential incursions. The RSAT has led to additional signage and pavement markings on the airfield to reduce potential confusion. NOTAMs have been issued to inform pilots of changed conditions, such as taxiway or runway closures for construction and maintenance. SJC's official Airport Diagram has been updated to show several hot spots for incursions, as recommended by the RSAT. These efforts have led to a decline in incursions in recent years, as noted above.

Finally, it is important to reiterate that the FAA is responsible for the safe operation of aircraft at SJC and all U.S. airports, a process that is ongoing. If there were any significant safety problems at SJC (or any other airport), including an unacceptable number or types of runway incursions, FAA could revoke or suspend SJC's FAR Part 139 Operating Certificate until the problem was corrected. As stated previously, SJC is inspected by the FAA on an annual basis, and frequently on a daily basis by Airport staff, and SJC continues to operate in full compliance with all applicable FAA regulations.

[4] We did not include the last three columns in Figure 3 of Comment #3 because we were unable to verify the data provided by JDA, nor were we able to understand the methodology used by JDA to arrive at their assertion that SJC's incursion rate was higher than the national average.

Based on the above facts, there is no information or data that would suggest that moving forward with the construction of the proposed Signature FBO would conflict with FAA's efforts to reduce the potential for runway incursions at SJC, which has been ongoing and successful.

JDA Comment #4:

Existing and Future SJC Airfield Configuration Challenges:

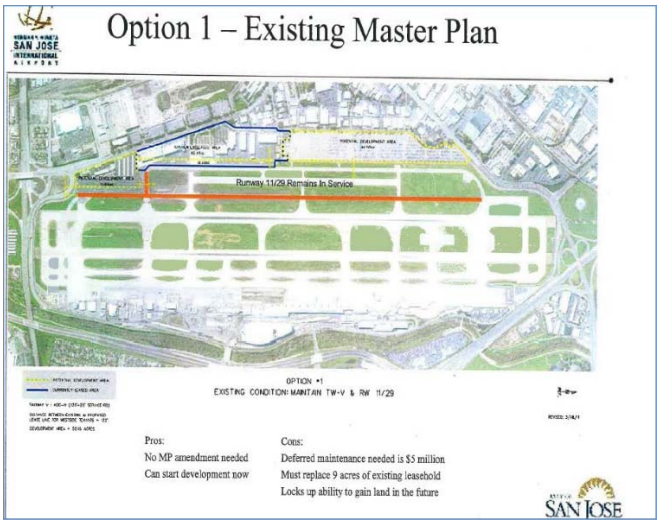


Figure 5: SJC Existing Condition

SJC's existing constrained geometry exacerbates the challenge of reducing incursions and increases the risk to people and property on the ground for runway excursions related to smaller object free areas. Runway excursions occur when an aircraft taxis off the runway, usually in an uncontrolled fashion. Object free areas are designated to reduce the damage to people and property on the ground during an excursion.

FAA Airport Design Advisory Circular 150/5300-13a has been recently updated to improve the design standards to reduce runway incursions. Attachment 2 lists SJC existing and proposed airfield conditions that do not comply with the recommended standards to reduce runway incursions.

Jacobs Response #4:

This is a general comment, which leads into detailed comments as to the specific problems that JDA believes are at issue with regard to the proposed Signature FBO. Please see the detailed comments and responses, below.

As a general response, we note that the fact that all of the facilities and buildings at the Airport were constructed in accordance with FAA standards, as well as applicable building codes, that were in existence at the time the facilities were constructed. The SJC Airport Layout Plan (ALP) was signed by the FAA on June 16, 2011, and that ALP specifically designates the West Side of SJC for "future G.A. Facilities", which includes a new fixed base operator (FBO).

The current FAA Advisory Circular 150/5300-13A, Airport Design, issued on 9/28/12, and referenced in the JDA Opinion Paper, specifically states: "**Federally obligated airports.** All airport development at federally obligated airports must conform to an FAA-approved ALP. The ALP should conform to the FAA airport design standards existing at the time of its approval. Due to unusual site, environmental, or other constraints, the FAA may approve an ALP not fully complying with design standards. Such approval requires the FAA to determine the proposed modification to standards is safe for the specific site and conditions. See Order 5300.1. When the FAA revises a standard, airport owners should incorporate the changes in the ALP and implement the new standards before all new development." (source: Chp. 1, para. 106, Airport Layout Plan, b).

The FAA Advisory Circular further states: "**Existing airports.** Every effort should be made to bring an airport up to current standards. It may not, however, be feasible to meet all current standards at existing airports, and in the case of federal assistance programs, funding of improvements may be subject to FAA criteria. In those cases, consultation with the appropriate offices of the FAA Office of Airports and Flight Standards Service will identify any applicable FAA funding criteria and/or adjustments to operational procedures necessary to accommodate operations to the maximum extent while maintaining an acceptable level of safety. For non-standard conditions associated with such projects, the FAA may consider alternative means of ensuring an acceptable level of safety." (source: Chp. 1, para. 101, Purpose).

The fact that standards and codes have evolved since facilities were built does not mean that they are unsafe and need to be removed. Instead, FAA policy is that new facilities should be constructed to comply with current standards, which is no different from what is required when any new building or facility is constructed at any location. For example, the existing FBOs at SJC were constructed in accordance with the FAA design circulars in effect at the time, but the proposed Signature FBO will be constructed in accordance with current FAA design circulars.

JDA Comment #5:

Future SJC Airfield Configuration Challenges:

The current configuration presents 10 airfield conditions that do not meet current FAA engineering guidance for prevention of runway incursions. The Signature Proposal, taxiway changes, and opening the runway increase the number of conditions failing to meet FAA engineering guidance to 18. The increase in runway incursions from 2006 to 2009, despite a dramatic decline in traffic, is illustrative of the adverse impact the 10 existing noncompliant conditions are having on the SJC airfield system.

Design elements known to lead to incursions are causing incursions. In 2009 SJC incursion rate was 226% higher than the national incursion rate. If airfield challenges failing to meet guidance increase from 10 to 18, a significant increase in runway incursions can be expected.

Jacobs Response #5:

We disagree. We have reviewed the proposed Signature Flight Support development plan and we find that it is in conformance with the FAA-approved ALP and sponsor grant assurances, as well as pertinent FAA safety and security regulations, standards, and criteria. As such, it will not create any airfield conditions that do not meet current FAA design criteria.

Regarding the issue of runway incursions, please see Response #3.

JDA Comment #6:

Safety challenges created by the Proposed Westside Lease Development:

Four of the eight future non-compliant conditions impacting safety are directly related to the Proposed Westside Lease Development by Signature:

- Taxiway H provides direct access across three runways;
- Taxiway K provides direct access across two runways;
- Taxiway H and K provide direct access from aprons to runways; and
- The new GA apron creates additional GA traffic at hot spot 3 for incursions.

Failing to comply with the guidance leads to increased risk of future incursions. Further, the proposed configuration moves GA operations and traffic related incursions to the high energy impact zone of the runway where aircraft are at a high rate of speed and on the ground, increasing the risk for catastrophic outcomes.

Jacobs Response #6:

This comment is incorrect as the Signature project is not constructing any of these four elements. Specifically, Signature is not proposing any improvements to, or extensions of existing Taxiways H or K, nor will there be a direct connection between the runways and the new apron. The only access to the airfield being constructed by Signature are two connectors between the apron and Taxiway V, and the two connectors will be offset from existing taxiways in compliance with the latest FAA's design standards.

Because the Signature's proposed development does not include constructing any new taxiways directly connecting their apron to any runways, the statement that the Signature project will shift the runway incursion zone from the current low energy section of the runways to the high energy impact zone of the runways is incorrect. In short, there will be no shift because there will be no new runway access points.

JDA Comment #7:

Safety Challenges Regarding Status of Runway 11-29:

The indecision regarding Runway 11-29 is exaggerating the challenges. Runway 11-29 is currently closed by the airport through issuance of a NOTAM (Notice to Airmen) and has been since 2009. FAA AC 150/4200-28d - NOTAMs provide timely information on unanticipated or temporary changes to components of or hazards in the National Airspace System
(NAS).

A NOTAM has also been in effect to declare RW11/29 a taxiway since 2009. Runway 11/29 still appears on the current approved airport layout plan as an active runway as well as the current published airport diagram. SJC's use of a NOTAM to close Runway 11/29 for an extended period of time is inconsistent with FAA guidance, which discourages NOTAMs for long-term conditions because they differ from published guidance. Long-term changes are intended to be done through proper planning so that they are reflected in published guidance.

Jacobs Response #7:

Runway 11-29 is currently closed to facilitate ongoing multiple construction projects on Taxiway W.

The current closure of Runway 11-29 is fully consistent with FAA criteria and requirements. The use of Notices to Airmen (NOTAMs) for the closing of Runway 11-29 is fully consistent with FAA guidance. NOTAMs are reviewed regularly by the Airport and the FAA to ensure they meet FAA guidance. FAA Order JO 7930.2M, Notice to Airmen, as well as FAA AC 150/5200-28D, Notice to Airmen, do not set time limits for NOTAMs. The FAA Order and AC state that a NOTAM must remain current until it is canceled, or else it is published in an FAA-approved publication such as the Airport Facility Directory (AFD), among others. But the airport operator can decide how long a NOTAM will remain in effect, and FAA specifically acknowledges that there are 'extended period' NOTAMs.

Second, the Signature project fully complies with FAA design and safety criteria irrespective of whether Runway 11-29 reopens or remains closed. Specifically, any issues with required separation from Runway 11/29 and Taxiway V have no bearing on the Signature FBO because the Signature project complies under all scenarios. Instead, as discussed in subsequent responses, the issues regarding insufficient separation from Runway 11/29 and Taxiway V are related to the existing FBOs.

JDA Comment #8:

Use of a runway as a taxiway constitutes a dual use of pavement hazard that the FAA guidance indicates should be eliminated. Runway pavements are much wider than taxiway pavements. From the air, wide pavements with typical runway markings are assumed to be runways and will be used as such. With three parallel runways at SJC, there have been three instances of pilots landing on a runway other than

the one they were cleared to land. In a dual use situation, the taxiway operates consecutively with runway operations, increasing the chance of catastrophic outcomes for aircraft mistakenly landing on the taxiway hitting a taxiing aircraft.

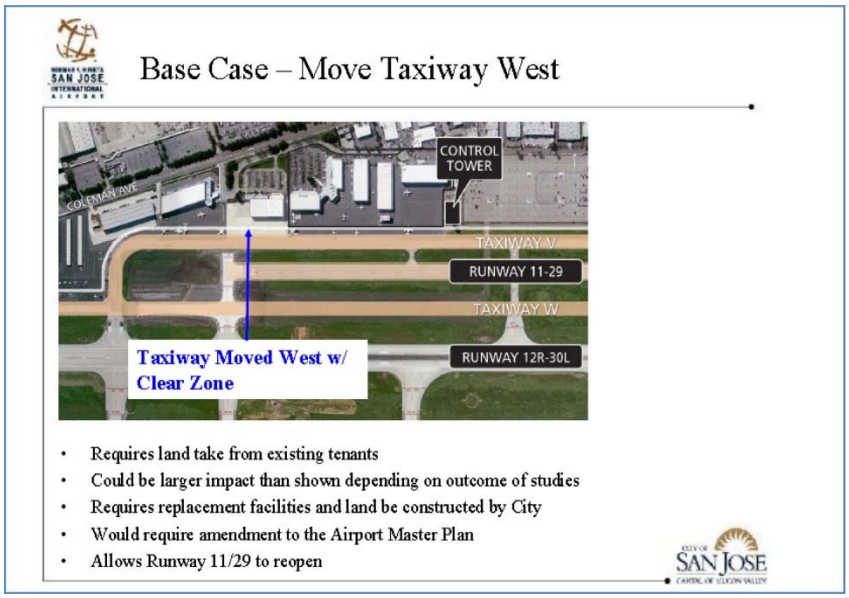


Figure 6: Base Case Move Taxiway West to Clear Runway 11/29 Object Free Area

Jacobs Response #8:

The comment has no relevance to the Signature project or to the operating conditions at SJC. Runway 11/29 is not being used as a dual runway/taxiway. With FAA approval, the runway was closed in late 2009 as safety mitigation during the phased construction of parallel Taxiway W and associated cross taxiway improvements (which currently remain ongoing). In the fall of 2011, again with FAA approval, the closed runway was converted to use as a *temporary* taxiway for the remainder of the Taxiway W construction program to facilitate aircraft movement between the other two SJC runways and the west side aircraft parking areas. The *temporary* conversion included replacing the pre-existing runway-standard lighting and striping with taxiway-standard lighting and striping. Neither SJC nor the FAA has proposed using this currently closed runway and *temporary* taxiway as a dual use runway/taxiway.

Comment #9:

Re-opening 11/29 would require the creation of a much larger object-free area than currently exists adjacent to the runway by shifting taxiway V to the west as shown in figure 6. In fact, San Jose Airport officials have provided public information that indicates there may be a possible taking of property from three current general aviation tenants to accommodate re-opening 11/29.

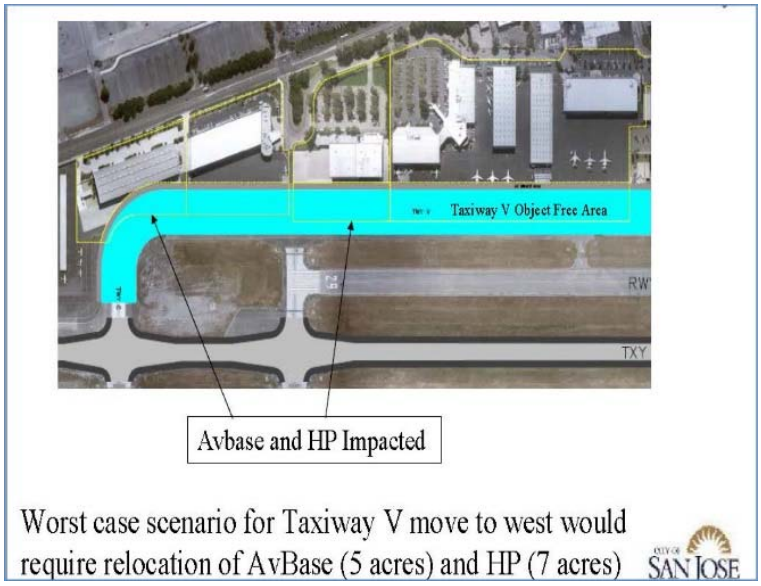


Figure 7: Taxiway V Object Free Area Impact to Existing GA

The impact to the three current general aviation operators, HP, Atlantic Aviation and AvBase is significant. All lose significant ramp area.

Figure 8: Taxiway V Object Free Area Impact to Atlantic Aviation

AvBase's building would be impacted and would need to be condemned. The other two operators would lose enough ramp space to render their buildings useless because of the loss of capacity to store and service aircraft. Thus, in order to re-open Runway 11-29, it would be necessary to relocate two of the existing operators on 12 acres of portion of the Airport designated for new GA development. Prior

to going out to RFP the Airport informed the public that 12 acres on the North end of the runway were deemed "not suitable" for an FBO use leaving 27 acres of suitable land for AvBase HP and Signature.

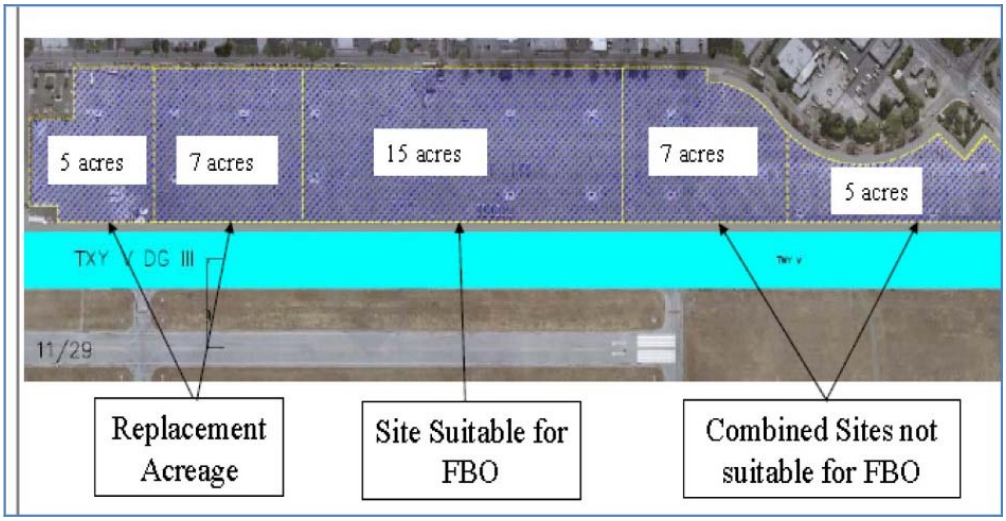


Figure 9: New Westside GA Development Available Sites

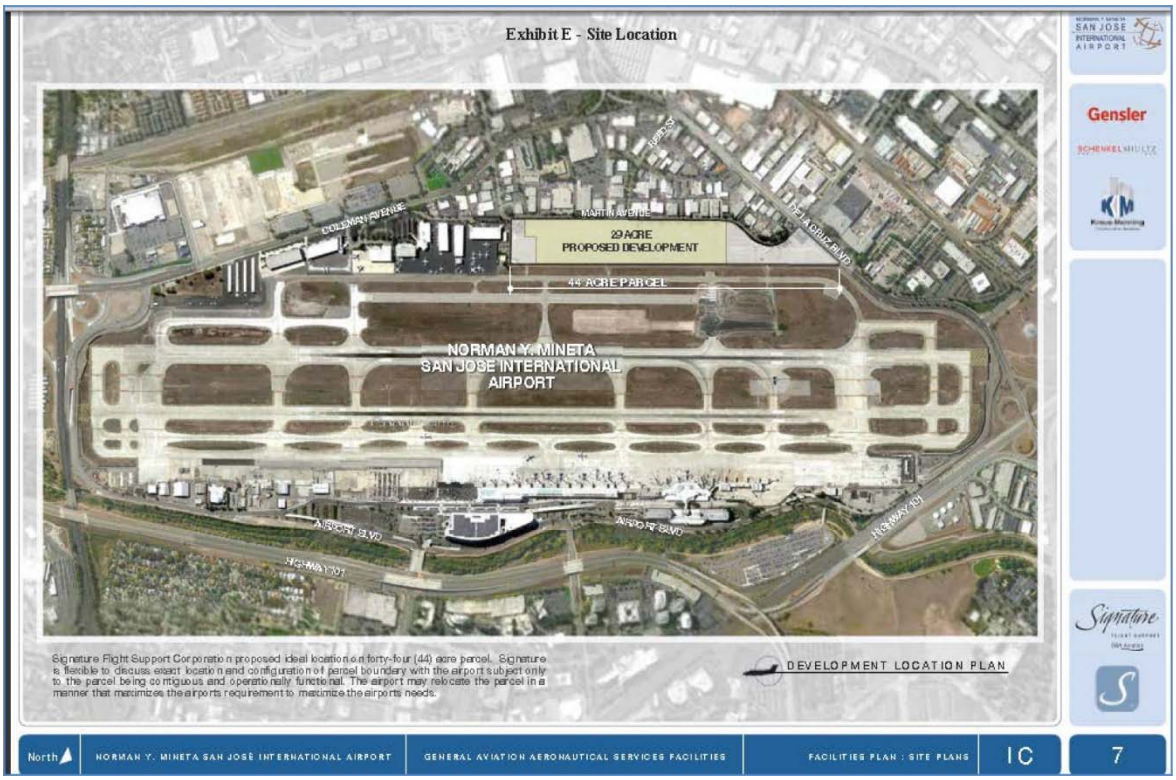


Figure 10: Signature Proposal Site Location (29 Acres)

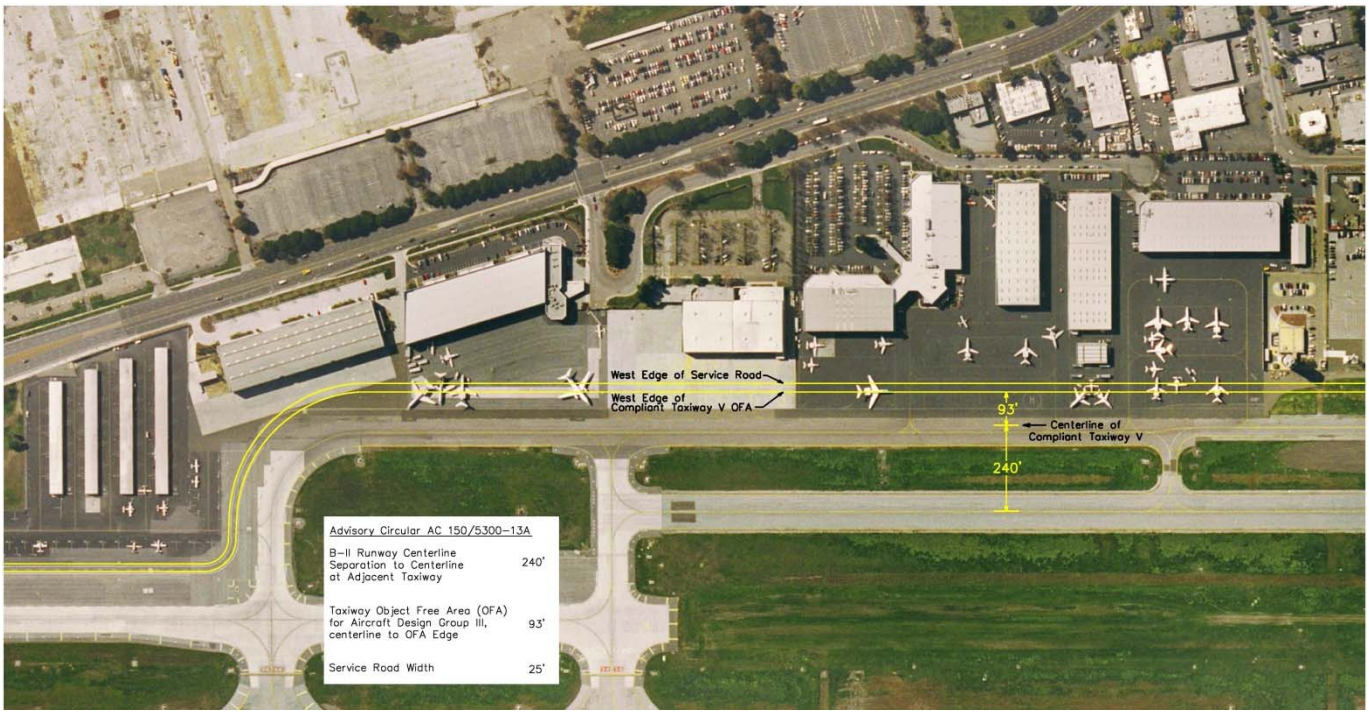
Thus, there is not enough land for Signatures proposal and to move HP and AvBase. There is a need for a combined 41 acres yet only 27 acres exist. If HP and AvBase remain in their current location, runway 11/29's object free area includes most of the ramp and possibly part of one building.

Response #9

All of the issues raised in this comment have nothing to do with the proposed Signature FBO because, as stated previously, Signature complies with all applicable FAA design and safety criteria, including current separation requirements from Runway 11/29 and the taxiways. This statement is true whether Runway 11/29 remains closed or is re-opened.
The SJC Airport Layout Plan (ALP) approved (signed) by the FAA on June 16, 2011 clearly indicates Runway 11-29 open and operational, and is in compliance with appropriate FAA criteria and requirements.

Furthermore, SJC has been in on-going discussions and coordination with all of the current tenants on the West Side of the Airport, including Atlantic Aviation, AvBase, and HP, about the impact of Runway 11-29 on their leasehold area and operations. SJC has also been working closely with various FAA lines of business to ensure that existing airport operations are fully compliant with FAA requirements, and that any decision about the future of Runway 11-29 is also fully consistent with all pertinent requirements.

The issues raised in this comment pertain solely to the proximity of the existing FBOs to Runway 11/29 and Taxiway V, wherein the separations between portions of the aircraft ramp areas of these FBOs and the runway/taxiway do not meet FAA design standards. We disagree with Figures 7-9 and JDA's assessment that this issue could affect any existing buildings. The City has provided the following figure to show the area in question affects only areas where aircraft are parked.



Again, these issues and their resolution are unrelated to, and will have no bearing on, the proposed Signature FBO because the Signature site complies with all FAA separation standards under all runway scenarios.

Comment #10:

Conclusion:

Safety impacts of the Westside Development and reopening R/W 11/29 include:

- Shifting the majority of the GA traffic to the high energy middle third of all runways;
- Increasing congestion at hot spot #3;
- Creating a new hot spot at TW H;
- Creating a new hot spot at TW K;
- Creating a direct connection from an apron to a parallel taxiway at the end of RW 11/29; and
- Inadequate view of the RW 11/29 movement area from the air traffic control tower.

Complexity is the enemy of safety. SJC is already suffering the consequences of an overly constrained and complex airfield. Continuing with piece meal projects without regard to what it means to the system or without comprehensive study of the airfield configuration is a path to higher incursion rates and increases the risk of accidents. AC 150/5300-13a.203: "The overall airfield design should be developed with the intent of preventing runway incursions." This includes major changes to ground flow patterns of aircraft, fleet mix, taxiway layouts, and runway alternatives.

The proposed Signature Development exacerbates non-compliant conditions at the Airport by increasing the risk of runway incursions, as well as the risk that such incursions will result in catastrophic outcomes. Those risks cannot be fully understood or mitigated, while significant questions regarding the future configuration of the west side of the Airport remain unanswered. SJC has an opportunity to potentially reduce the 10 existing non-compliant conditions and eliminate the 8 proposed noncompliant conditions by taking a step back and taking the time to do the necessary planning. The safety analysis of 1997 did not consider any of these issues and is obsolete. The 2013 system safety management principles require considering the airfield design as a whole, studying and comparing alternatives especially where runway incursions are of concern. Accordingly, in order to avoid creating new impacts to safety, it is necessary for the City to undertake a comprehensive planning process that considers the proposed Signature development in the context of all of the other moving pieces at SJC, including, but not limited to, the reopening and/or permanent closure of Runway 11/29 and the potential relocation of existing operators.

Response #10:

This comment is a summarization of the detailed issues raised in Comments #1 - #9. Please see the detailed responses to those comments in Responses #1 - #9.

To reiterate our conclusions:

- SJC operates in full compliance with FAA design and safety standards.
- FAA and Airport actions to reduce runway incursions at SJC are in accordance with FAA's nationwide Runway Incursion Avoidance Program, and based on data over the last three years, have resulted in a significant reduction in incursions at SJC.
- There is no factual data provided that supports a higher risk of runway incursions stemming from the Signature Flight Support development or operations.
- Signature's development will be in full compliance with current FAA design standards, as specifically stipulated in the Minimum Standards and in their lease.
- Existing issues associated with the separation between existing tenants and Runway 11/29 and Taxiway V have nothing to do with the Signature development. Any potential future resolution of those existing issues is independent of, and will not affect, the Signature development.

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April 8, 2013

Ash Pirayou
Rutan & Tucker LLP
Five Palo Alto Square
3000 El Camino Real, Suite 200
Palo Alto, California
94306-9814

Re: City of San Jose April 9, 2013 City Council Meeting - Agenda Item 6.1

Dear Mr. Pirayou,

In response to your request to review the Westside Lease Award Notice of Intended Award dated February 7, 2013, JDA prepared the attached Opinion Paper assessing aircraft air and ground operational safety of the proposed improvements.

The review was performed by a team of airport and airspace safety subject matter experts deeply versed in FAA regulatory requirements. The team was led by Joe DelBalzo, former FAA acting administrator. Joe was supported by Cynthia Schultz, professional engineer and former airport manager and Walt Smith, retired San Francisco Region Air Traffic Manager.

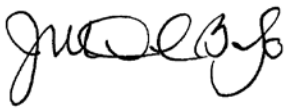
The team reviewed the following airport documents:

1. Airport Master Plan Update 2010;
2. Airport Layout Plan;
3. Westside Lease Award Notice of Intended Award February 7, 2013;
4. Signature Proposal;
5. SJC Runway Incursion Reports;
6. SJC Airport Safety Reporting System (ASRS) Reports;
7. SJC Accident and Incident Reports; and
8. Ricondo Forecast Summary

The opinion paper takes into account the Westside Development of aprons and taxiways, current airfield development and the challenges represented by Runway 11/29.

Please contact me if you have any questions. Thank you for the opportunity to support your request.

Sincerely,



Joseph Del Balzo
President & CEO

Background:

This Opinion Paper is based on an independent review of all applicable FAA airport design and airspace related requirements and guidance documents. The proposed Westside Lease Development, in conjunction with significant airfield improvements and temporary status of runway 11/29, introduce significant concerns relative to safe airfield operations that merit an in depth planning process in conjunction with safety risk analysis of various alternatives with specific emphasis on reducing runway incursions.

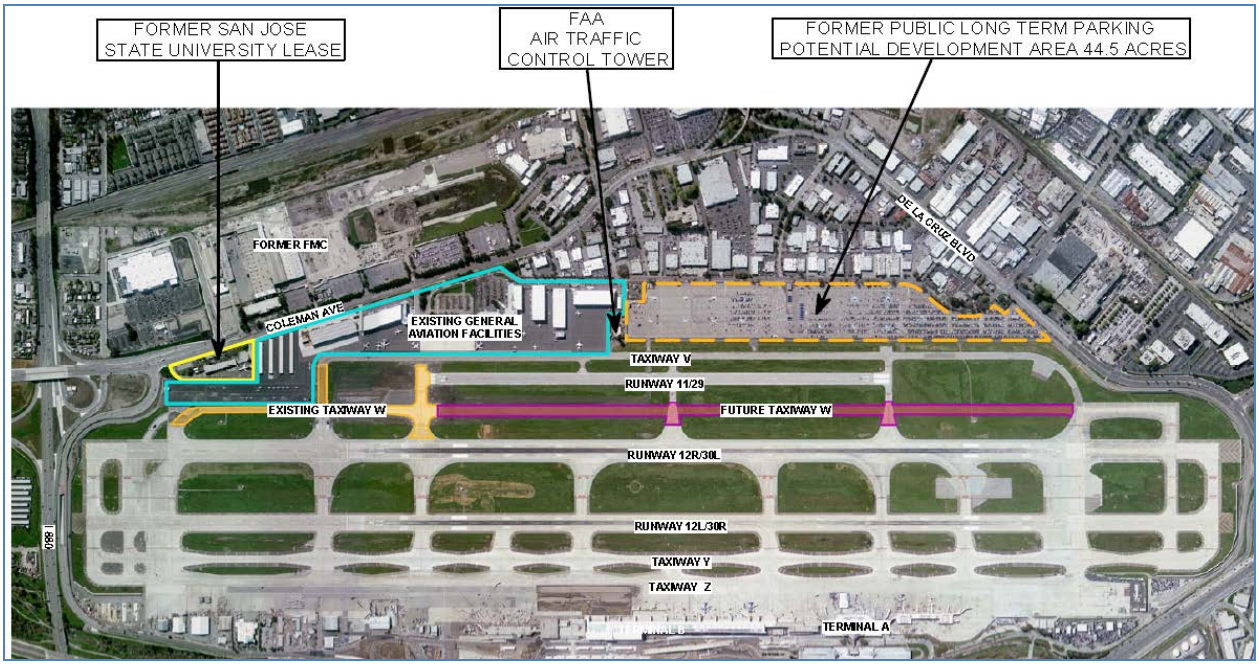


Figure 1: Westside Lease Award Notice of Intended Award February 7, 2013 - Exhibit A

Our review considers the following facts regarding SJC airfield development from various airport documentation:

1. The last Master Plan Update, in 2010, shifted the planning horizon from 2017 to 2027, updated the demand and facility requirements and modified specific components of the facility development program.
2. There was a significant decline in SJC traffic from 2000 to 2009:
    a. Annual aircraft operations have declined 49%
    b. General Aviation(GA) activity declined 70%
    c. Based aircraft declined from 218 to 123 or 44% from 2002 to 2012
    d. Turbojet aircraft have decreased from 58 in 2008 to 45 in 2012 or 22% and 40% less than the last fleet mix forecast.
3. SJC has current capacity for 360 based aircraft.
4. SJC currently has two tenants with full FBO rights.

5. Two additional cross taxiway connections (H&K) for new GA Apron direct access to runways are planned.
6. Runway 11/29 is temporarily closed and the City has not yet made any decision with regard to whether or when it will reopen.

Safety Discussion:

The air safety review of the 2010 Master Plan Update modifications relied on a EIR safety analysis completed in 1997. There has been no formal safety analysis applied to any of the changes adopted in 2010.

The FAA's method of managing safety has changed dramatically since the Airport's last safety analysis in1997. The concept of system safety has been promulgated to improve proactive mitigation of safety risk. Changes are no longer considered as isolated issues. Rather, changes must be considered from a system perspective throughout the FAA National Airspace System (NAS) to assure the ripple effect on interacting elements is fully understood and controlled for the best safety outcomes. Technical, operational, and human factors must be analyzed for each potential hazard and risks with appropriate controls implemented.

Figure 2: FAA Evolution of Safety Thinking

FAA Order 5200.11 requires safety risk management (SRM) as per FAA Airports safety management system (SMS) for:

1. Submittal of new or revised **Airport Layout Plans (ALPs)** for FAA approval. SRM requirements do not apply to ALP submittals received prior to the dates identified for each category of airport listed under paragraph 1-4b.
2. FAA airspace determinations for **construction safety plans.**
3. FAA airspace determinations for airport sponsor requests for non-construction airport changes submitted by FAA Form 7480-1.
4. FAA approval of Part 150 noise compatibility programs and program changes that may affect aviation safety.
5. FAA approval of an airport sponsor's request for **a Modification of Standards**.

6. Final FAA approval of new and **updated airport planning**, design, or construction standards.

The Westside Development, the current and near term modifications to taxiway W, V, H and K and the decision relative to runway 11/29 all constitute major changes to the SJC airfield system. Four of the six triggering elements that require safety risk management (referenced above) are present in SJC's near term airside development plans.

In order to mitigate the potential hazards associated with proposed changes to an airport's layout, proper safety risk management requires considering existing safety controls, as well as an airport's strengths and weaknesses. Here, land constraints have put SJC at a significant disadvantage to provide adequate safety controls. Areas for object free areas and runway separation are very constrained. Air traffic procedures are complex. Displaced thresholds change the end points of runways depending on which direction of use. Reduced object free areas cause restrictions of use of certain areas based on aircraft types. Visibility minimums are reduced compared to airports with standard object free areas creating more pressure on the airports only precision runway and a high number of Runway ingress/egress points create a heightened need for vigilance. All of these factors increase the workload of air traffic controllers resulting in less time to observe for errant traffic.

The Signature Proposal, revisions to taxiways H, K, W and V and the decision regarding runway 11/29 will have significant impacts on the safety dynamics of the airfield. These impacts merit a formal safety risk analysis considering all of the changes to the SJC system, airfield, land use and ground and air movements. The appropriate method to assess changes of this magnitude is through the federal FAA master plan process where all of the needs and associated changes can be balanced against forecast demands to determine the highest, best and safest use of the airfield assets.

SJC Airfield Safety Concerns:

Runway incursions are uncontrolled movements onto active runways by aircraft or vehicles. They can lead to catastrophic aircraft collisions and every effort should be made to prevent them. SJC runway incursion rate has historically been much higher than the national rate the following table compiles and compares data from the FAA's 2010 Runway Safety Report.

Runway Incursions SJC From FAA Runway Safety Report	A	B	C	D	Total	Annual RI Rate	National Rate/mill ops	SJC Operations	National Rate per SJC Operations	SJC % of National Rate
2006			2	7	9	4.19	13.36	193,408	2.5839309	162%
2007			4	5	9	4.34	14.59	184,919	2.6979682	161%
2008				8	8	4.06	17.23	184,714	3.1826222	128%
2009			2	8	10	5.92	17.97	146,000	2.62362	226%

Figure 3: SJC Runway Incursions Reported in FAA Runway Safety Report 2010

Because of the high rate of incursions, SJC is one of 20 focus airports identified by the FAA to reduce runway incursions. The FAA's Runway Safety Action Team (RSAT) program studied these locations and provided recommendations aimed at reducing the incursion rate through mitigating risks identified through configuration, marking, signage and traffic flow improvements.

SJC has participated in the RSAT program and stands to benefit from the recommendations. Given SJC's high rate of incursions, it is critical that going forward, any change to the airfield system be analyzed for safety risks represented by the change and by the existing safety challenges to assure the resulting change improves SJC's safety controls and does not reduce them.

Through collecting many years of incursion data and the RSAT lessons learned, the FAA has developed guidance for airports to prevent incursions. This guidance has now been incorporated into the airport design advisory circular.

Review of SJC runway incursion reports tabulated in attachment 1 found 28 runway incursions since 2001. Of those 28 SJC incursions:

- 75% of the incursions involve GA aircraft
- 85% of incursions are at cross taxiways
- 39% of incursions occur at cross taxiways adjacent to GA aprons
- 68% of the incursions are concentrated on the on the approach ends of the prevailing wind runways outside the high energy middle third of the runways

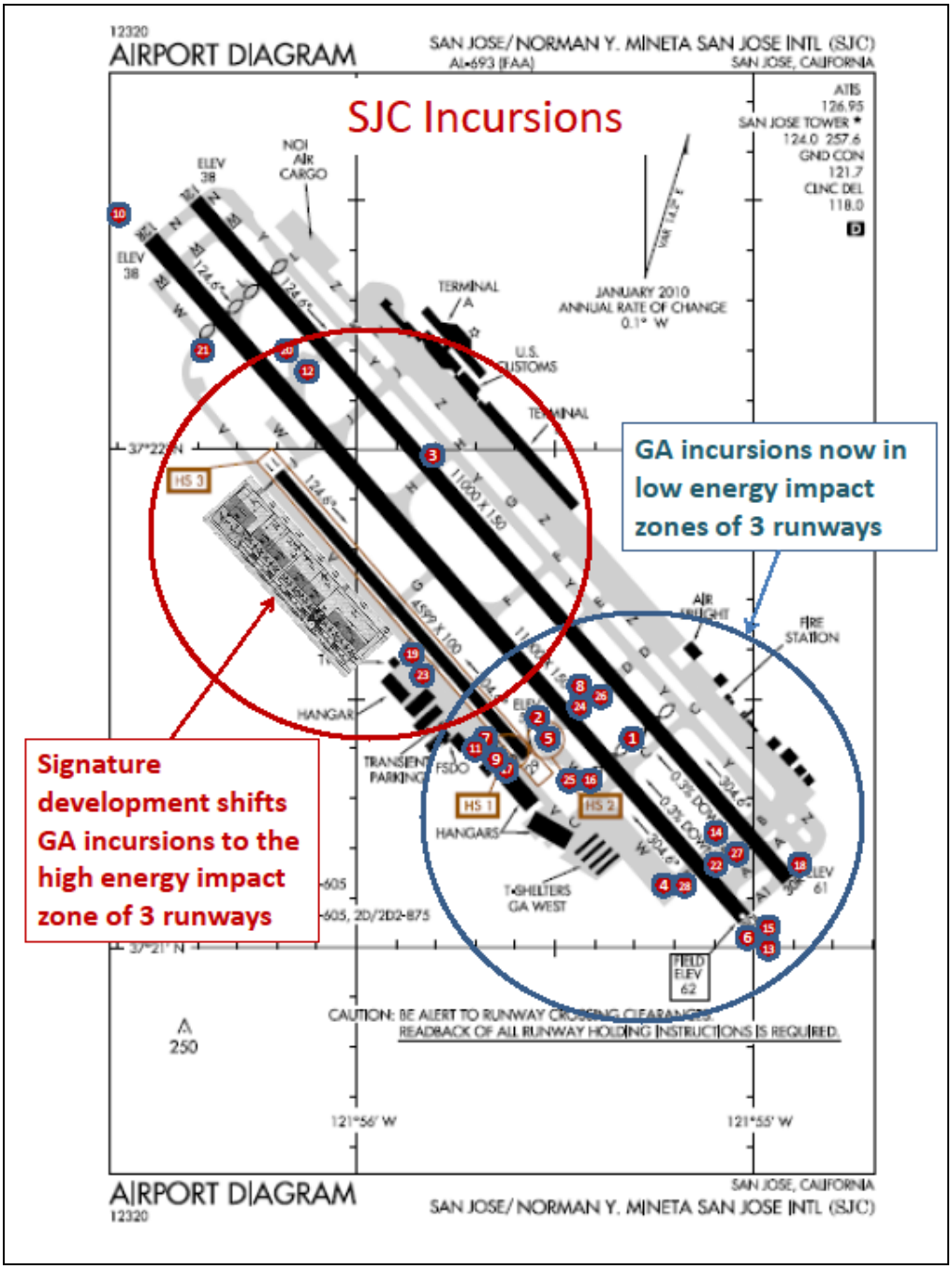


Figure 4: SJC Airport Diagram with Runway Incursions

The proposed revisions to the General Aviation land use at SJC should be studied with respect to the best airfield configuration to reduce general aviation incursions. The current plans propose relocating a major volume of the GA operations and creating expanses of apron next to runways with two new direct access taxiways. The new land use will shift the incursion zone from the current low energy section of the runways to the high energy middle third of three runways increasing the chance of catastrophic outcomes. The creation of an expanse of apron with two new direct access taxiways

crossing three runways in conjunction with an existing hot spot on the airfield violates the FAA's incursion prevention guidance including:

- Increase pilot situational awareness;
- Avoid aprons with direct access to taxiways that lead directly to runways;
- Avoid cross taxiways in the high energy middle third of the runway;
- Avoid direct connection from an apron to a parallel taxiway at the end of a runway; and
- Redesign of hotspots is a priority when associated runway or taxiway is subject to reconstruction.

Existing and Future SJC Airfield Configuration Challenges

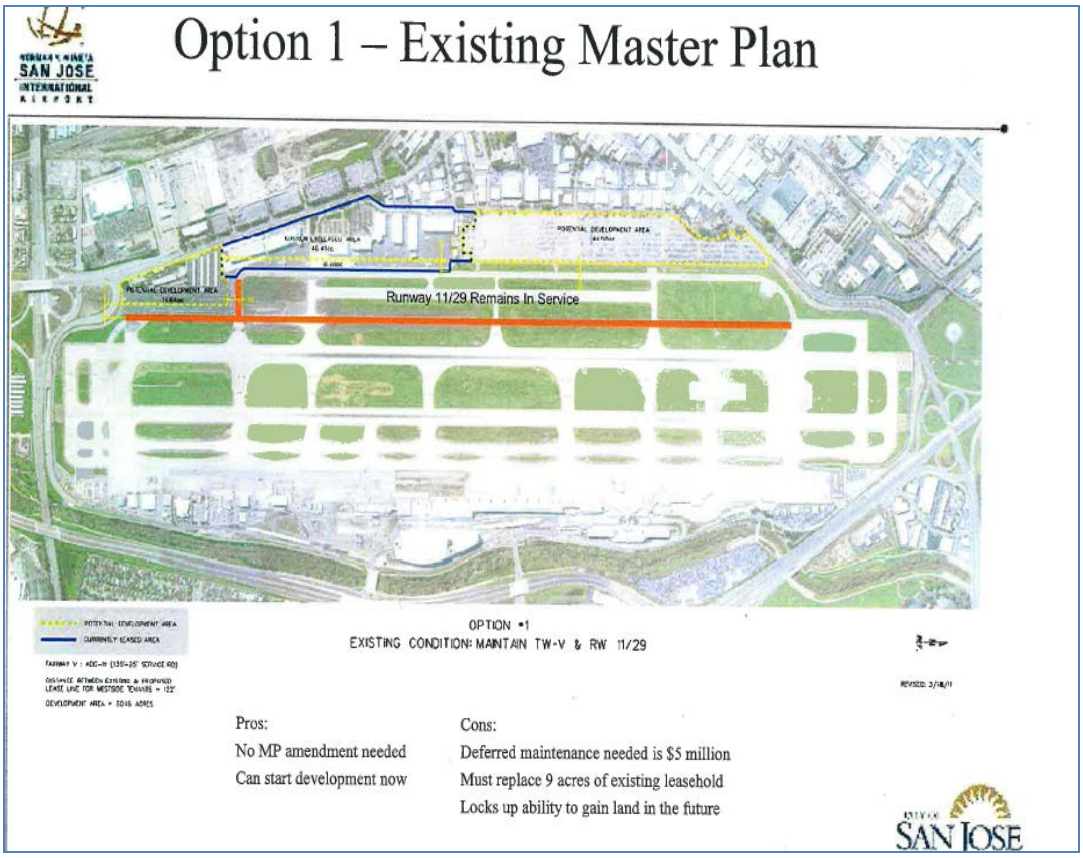


Figure 5: SJC Existing Condition

SJC's existing constrained geometry exacerbates the challenge of reducing incursions and increases the risk to people and property on the ground for runway excursions related to smaller object free areas. Runway excursions occur when an aircraft taxis off the runway, usually in an uncontrolled fashion. Object free areas are designated to reduce the damage to people and property on the ground during an excursion.

FAA Airport Design Advisory Circular 150/5300-13a has been recently updated to improve the design standards to reduce runway incursions. Attachment 2 lists SJC

existing and proposed airfield conditions that do not comply with the recommended standards to reduce runway incursions.

Future SJC Airfield Configuration Challenges

The current configuration presents 10 airfield conditions that do not meet current FAA engineering guidance for prevention of runway incursions.

1. **The Signature Proposal, taxiway changes, and opening the runway increase the number of conditions failing to meet FAA engineering guidance to 18.**

The increase in runway incursions from 2006 to 2009, despite a dramatic decline in traffic, is illustrative of the adverse impact the 10 existing noncompliant conditions are having on the SJC airfield system.

Design elements known to lead to incursions are causing incursions. In 2009 SJC incursion rate was 226% higher than the national incursion rate. If airfield challenges failing to meet guidance increase from 10 to 18, a significant increase in runway incursions can be expected.

2. **Safety challenges created by the Proposed Westside Lease Development**.

Four of the eight future non compliant conditions impacting safety are directly related to the Proposed Westside Lease Development by Signature:

- Taxiway H provides direct access across three runways;
- Taxiway K provides direct access across two runways;
- Taxiway H and K provide direct access from aprons to runways; and
- The new GA apron creates additional GA traffic at hot spot 3 for incursions.

Failing to comply with the guidance leads to increased risk of future incursions. Further, the proposed configuration moves GA operations and traffic related incursions to the high energy impact zone of the runway where aircraft are at a high rate of speed and on the ground, increasing the risk for catastrophic outcomes.

3. **Safety Challenges Regarding Status of Runway 11/29**

The indecision regarding Runway 11/29 is exaggerating the challenges. Runway 11/29 is currently closed by the airport through issuance of a NOTAM (Notice to Airmen) and has been since 2009.

> FAA AC 150/4200-28d - NOTAMs provide timely information on **unanticipated or temporary changes** to components of or hazards in the National Airspace System (NAS).

A NOTAM has also been in effect to declare RW11/29 a taxiway since 2009. Runway 11/29 still appears on the current approved airport layout plan as an active runway as well as the current published airport diagram. SJC's use of a NOTAM to close Runway 11/29 for an extended period of time is inconsistent with FAA guidance, which discourages NOTAMs for long-term conditions because they differ from published guidance. Long-term changes are intended to be done through proper planning so that they are reflected in published guidance.

Three of the eight future noncompliant conditions are related to Runway 11/29.

- Dual use of a taxiway as a runway (in current closed state);
- Reduced object free area because of construction of TW W (in an open state); and
- Reduced separation between RW 11/29 and TW W centerlines (in an open state).

Use of a runway as a taxiway constitutes a dual use of pavement hazard that the FAA guidance indicates should be eliminated. Runway pavements are much wider than taxiway pavements. From the air, wide pavements with typical runway markings are assumed to be runways and will be used as such. With three parallel runways at SJC, there have been three instances of pilots landing on a runway other than the one they were cleared to land. In a dual use situation, the taxiway operates consecutively with runway operations, increasing the chance of catastrophic outcomes for aircraft mistakenly landing on the taxiway hitting a taxiing aircraft.

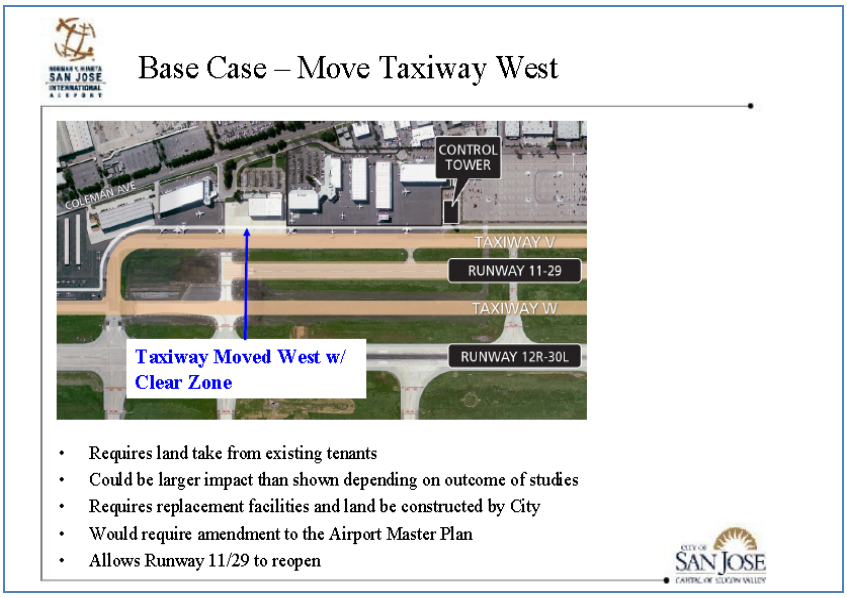


Figure 6: Base Case Move Taxiway West to Clear Runway 11/29 Object Free Area

Re-opening 11/29 would require the creation of a much larger object-free area than currently exists adjacent to the runway by shifting taxiway V to the west as shown in figure 6.

In fact, San Jose Airport officials have provided public information that indicates there may be a possible taking of property from three current general aviation tenants to accommodate re-opening 11/29.

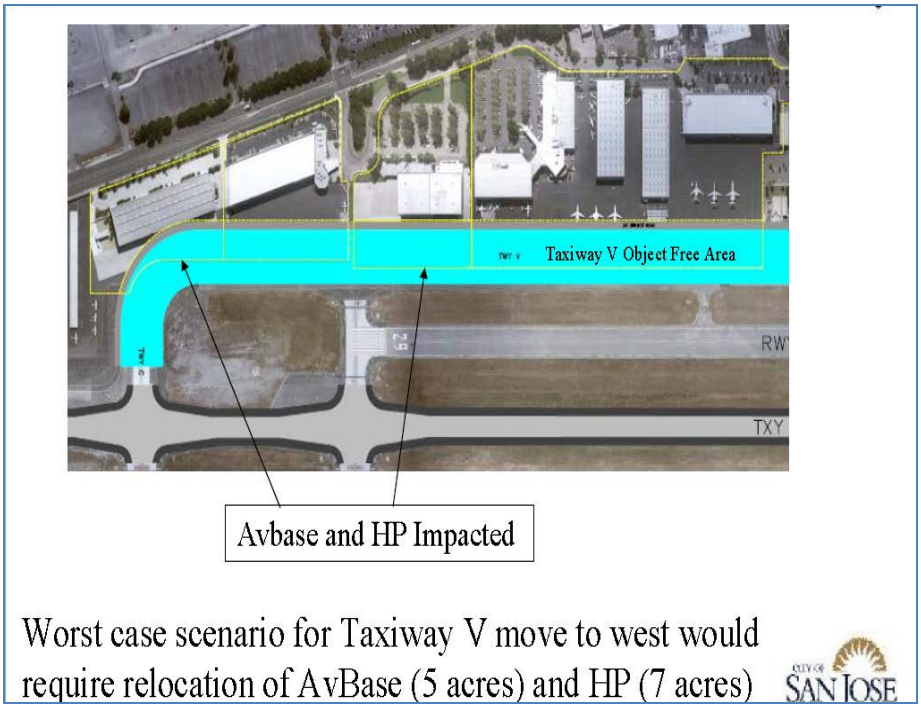


Figure 7: Taxiway V Object Free Area Impact to Existing GA

The impact to the three current general aviation operators, HP, Atlantic Aviation and AvBase is significant. All lose significant ramp area.

Figure 8: Taxiway V Object Free Area Impact to Atlantic Aviation

AvBase's building would be impacted and would need to be condemned. The other two operators would lose enough ramp space to render their buildings useless because of the loss of capacity to store and service aircraft. Thus, in order to re-open Runway 11-29, it would be necessary to relocate two of the existing operators on 12 acres of portion

of the Airport designated for new GA development. Prior to going out to RFP the Airport informed the public that 12 acres on the North end of the runway were deemed "not suitable" for an FBO use leaving 27 acres of suitable land for AvBase HP and Signature.

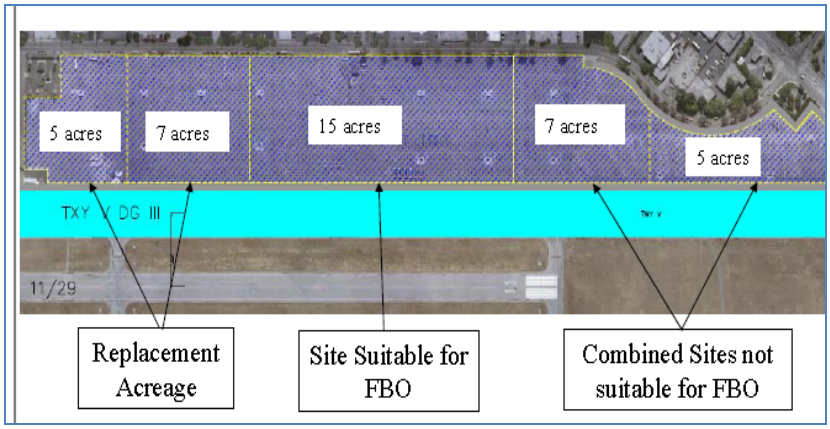


Figure 9: New Westside GA Development Available Sites

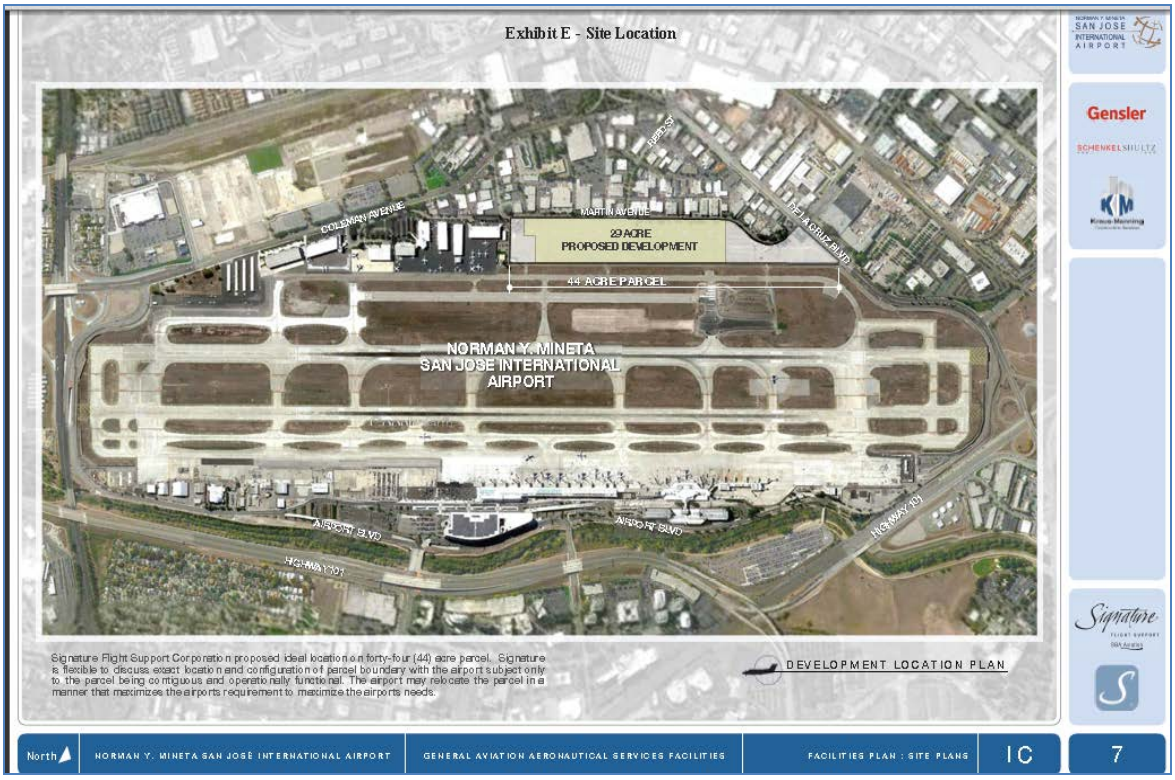


Figure 10: Signature Proposal Site Location (29 Acres)

Thus, there is not enough land for Signatures proposal and to move HP and AvBase. There is a need for a combined 41 acres yet only 27 acres exist. If HP and AvBase remain in their current location, runway 11/29's object free area includes most of the ramp and possibly part of one building.

Conclusion:

Safety impacts of the Westside Development and reopening R/W 11/29 include:

- Shifting the majority of the GA traffic to the high energy middle third of all runways;
- Increasing congestion at hot spot #3;
- Creating a new hot spot at TW H;
- Creating a new hot spot at TW K;
- Creating a direct connection from an apron to a parallel taxiway at the end of RW 11/29; and
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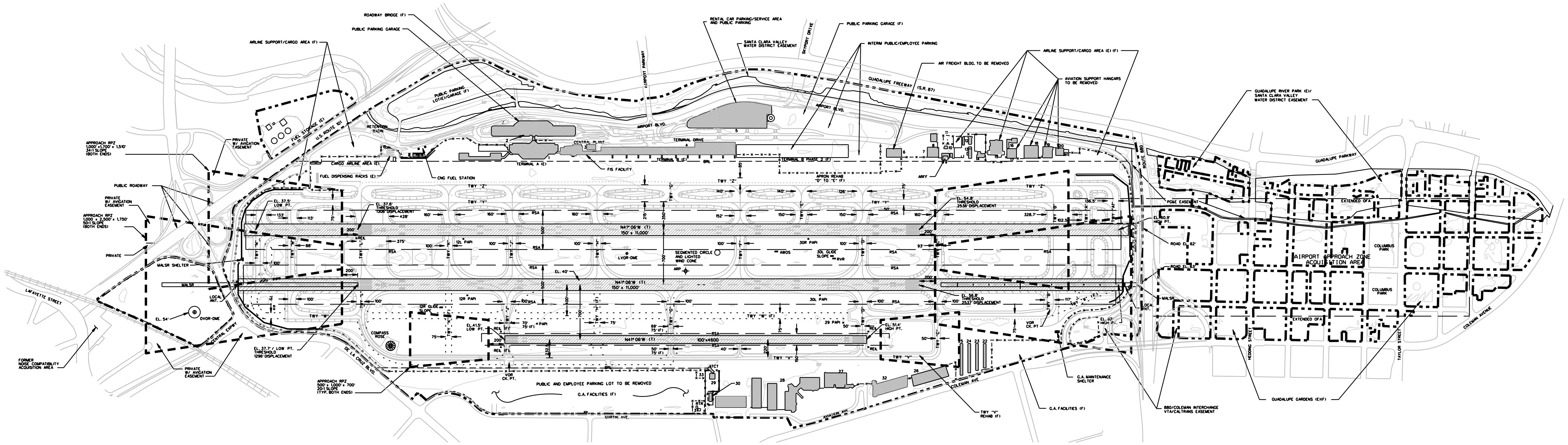
Attachment 1: SJC Runway Incursions						
No	**Date**	**Time**	**VFR/IFR**	**Location**	**Involved Party**	**Comments:**
1	12/13/2012	1722	VFR	RW 30R @ TW C	GA	Pilot failed to hold short of RW 30R @ TW C and entered RW w/o clearance. Embraer on approach over the blast fence for landing had to be instructed to go around
2	5/11/2012	2130	VFR	RW30L TWD	GA	
3	10/7/2011	1004	VFR	RW30R TWH	Skywest	entered RW30R at TWH
4	9/1/2011	1644	VFR	RW30 L TWB	GA	
5	8/19/2011	1845	VFR	RW30 L TWD	GA	
6	2/14/2011	858	IFR	RW12R	GA	upwind departure end of RW12R
7	1/7/2011	1530	VFR	clsd RW29 TWD	GA	
8	12/2/2010	1333	VFR	RW30R TWD	GA	
9	7/14/2009	1109	VFR	RW29 TWD	GA	aircraft taxiied onto RW29 @ TWD without clearance
10	6/24/2009	953	VFR	RW12R	GA	Aircraft landed on 12R after being cleared on RW11
11	3/24/2009	1500	VFR	RW 29	FATCT GA	Piper cleared to taxi to RW29 after arriving began runup ATC advised runup area across RW pilot crossed runway without clearance
12	12/23/2008	1200	VFR	TWK Bet RW30R&30L	Southwest	during switching on RW due to weather SWA got confused with directions
13	3/9/2008	1403	VFR	RW30 L	GA	Aircraft cleared to land on RW29 landed on RW30L no loss of separation
14	3/6/2008	1635	VFR	RW30R TWB	GA	
15	2/26/2008	1320	VFR	RW30L	GA	Aircraft cleared to land on RW29 with pilot readback landed on RW30L no loss of separation
16	10/25/2007	10:30	VFR	RW30L	GA	
17	7/30/2007	1352	VFR	RW29 TWD	GA	
18	3/12/2007	1515	VFR	RW30R TWA1-A	GA	Cleared to taxi up to and hold short of RW30R pilot crossed 30R ATC stopped bet 30R&30L contact ATC depart on 30L
19	2/26/2007	1048	VFR	RW11 TWF	GA	Taxi frome SJJC to RW11 on TWV pilot crossed V and passed the hold short bars at F stopped by ATC
20	12/31/2006	1209	VFR	RW12L TWK	Southwest	Crossed RW12L30R@TWK subsequent to Hawker 800 cleared for take off 400' into roll 8,000' separation
21	12/1/2006	2134	VFR	RW30L TWL	Hawaiian	Cleared to exit 30L @ TWM aircraft exited @ L impacting barriers (NOTAM closed L)
22	5/5/2006	1322	VFR	RW30R TWB	GA	aircraft advised RW30L for departure with readback but proceed on RW30R 500' ATC stop

23	4/21/2005	1000	VFR	RW29 TWF	GA	Aircraft cleared to taxi from SJJC to RW30L aircraft taxiied toward RW12R then turned right on TWF and proceeded past the hold short bars called ATC and reported wrong turn
24	11/10/2004	1956	VFR	TWD Bet RW12L&12R	American	
25	9/9/2003	1205	VFR	RW30L Thrshld	Southwest GA	
26	2/25/2003	1550	VFR	RW30R TWD	Airport Ops	Vehicle Incursion
27	5/30/2002	1510	VFR	RW 30R TWB	GA	Failed to hold short of RW30R at TWB
28	7/29/2001	1635	unknown	RW30L TWB	American	

Attachment 2: SJC Airfield Conditions				
Existing SJC Airfield Condition		**Effect on safety**	**FAA AC 150/ 5300-13a**	**203. Runway incursions.** **The overall airfield design should be developed with the intent of preventing runway incursions.** **401.General b.(5) Runway Incursions**. ..the airport designer must keep basic concepts in mind to **reduce the probability of runway incursions** through proper **airport geometry**. **This is particularly important when designing a taxiway system**.
1	Reduced separation between runways	Limits consecutive operations increases Air Traffic work load	316	**316. Parallel runway separation requirements**. (1) Standard. For simultaneous landings and takeoffs using **VFR**, the minimum separation between centerlines of parallel runways is **700 feet** (213 m). (2) Recommendations. The minimum runway centerline separation distance recommended for **ADG-V and VI runways** is **1,200 feet** (366 m).
2	Reduced separation between runways and taxiways (2 modifications to standard 285' & 350')	Limits operations of certain type aircraft on taxiway increases air traffic workload and limits visibility minimums	318 & Table 3-6	Visibility minimum not less than 3/4 mile Group III 300' Group IV 400' (versus SJC 11-29/V 285') Group IV 400' versus 12L-30R/Y1 350'
3	Reduced runway 12R/30L object free area (modification to standard 800' vs 500')	Reduces runway object free area by 37.5% on precision runway	310b.1(a)2 & Table 3-8	(2)….. The extended object free area has subsequently been renamed as the "central portion of the RPZ." The RPZ function is to **enhance the protection of people and property on the ground.**
4	Four displaced thresholds	Increases complexity of air traffic management and pilot navigation	303.a(2)	Displacement of the threshold often **introduces disruptions to an otherwise orderly airport design**. Approach light systems and NAVAIDs used for landing need to be relocated. Taxiways that remain in the new approach area (prior to the threshold) can create situations where taxiing aircraft penetrate the approach surface or the Precision Obstacle Free Zone .....and runway capacity may be affected. While threshold displacement is often used to as a solution for constrained airspace, airport designers need to carefully **weigh the trade-offs of a displaced threshold**. Displacing a threshold may also create a situation where the holdline must be placed on the parallel taxiway. This is undesirable as pilots do not normally expect to encounter a holdline on the parallel taxiway. **This guidance should not be interpreted as an FAA endorsement of the option to displace a runway threshold**. Threshold displacement should be undertaken only after a full evaluation reveals that displacement is the best alternative.
5	Closed runway 11/29 used as taxiway	Increases possibility of pilot mistaking taxiway for runway and landing on it	401.b.5(f)& (a)	**(f) Avoid "dual purpose" pavements**. **Runways used as taxiways** and taxiways used as runways can lead to confusion. A runway should always be clearly identified as a runway and only a runway. **(a) Increase Pilot Situational Awareness**. A pilot who knows where he/she is on the airport is less likely to enter a runway improperly. Complexity leads to confusion. Keep taxiway systems simple, using the "three-node" concept.
6	Three runway incursion hotspots	Every attempt should be made to eliminate hot spots with improvements	401.b.5(h)	(h) **Hot Spots.** Redesign of hot spots identified in the FAA Airport Diagrams that may increase the risk of runway incursions is a priority **when the associated runway or taxiway is subject to reconstruction** or rehabilitation. Other non-standard taxiway design elements should be corrected as soon as practicable.
7	8 taxiways crossing multiple runways	Taxiways crossing runways should be minimized to reduce incursions	401.b.5(b)	(b) **Limit runway crossings**. The airport designer can reduce the opportunity for human error by reducing the need for runway crossings. The benefits of such design are twofold – through a simple reduction in the number of occurrences, and through a reduction in air traffic controller workload.

8	2 taxiways crossing multiple runways in the high energy section of the runway	Aircraft are at high speed and on the ground increasing severity of incursion outcomes	401.b.5(d)	(d) Avoid "high energy" intersections. These are **intersections in the middle third of the runways**. By limiting runway crossings to the outer thirds of the runway, the portion of the runway where a pilot can least maneuver to avoid a collision is kept
9	Overly complex taxiway configurations	Decreases pilot situational awareness	401b.5(a)	(a) **Increase Pilot Situational Awareness**. A pilot who knows where he/she is on the airport is less likely to enter a runway improperly. **Complexity leads to confusion**.
10	R/W 11/29 blind spot from ATC tower	Aircraft movements not visible from the tower	513	**513. Airport Traffic Control Tower (ATCT) visibility /** Line Of Sight (LOS). It is **essential for all aircraft movement areas on the airport to be visible to the controllers in the ATCT cab.**
Proposed SJC Configuration Airfield				
11	Extend Taxiway H across third runway in the high energy section of the runway	Avoid taxiway intersections in the middle third of the runway	401.b.5(d)	(d) Avoid "high energy" intersections. These are **intersections in the middle third of the runways**. By limiting runway crossings to the outer thirds of the runway, the portion of the runway where a pilot can least maneuver to avoid a collision is kept clear.
12	Extend Taxiway K across third runway in the high energy section of the runway	Avoid taxiway intersections in the middle third of the runway	401.b.5(d)	(d) Avoid "high energy" intersections. These are **intersections in the middle third of the runways**. By limiting runway crossings to the outer thirds of the runway, the portion of the runway where a pilot can least maneuver to avoid a collision is kept clear.
13	2 new Taxiways (H&K) from GA Apron directly onto 2 runways	Avoid direct taxiway access from GA aprons to runways	401.b.5(g) 503, 503b, 503c	(g) Indirect Access. Do **not design taxiways to lead directly from an apron to a runway**. Such configurations can lead to confusion when a pilot typically expects to encounter a parallel taxiway. **503. Apron layout and runway incursion prevention. Apron locations that allow direct access onto a runway are not recommended.** The apron layout should allow the design of taxiways in a manner that **promotes good situational awareness** by forcing pilots to consciously make turns (Figure 4-4). T**axiways originating from aprons and forming a straight line across runways are not recommended.** Proper placement of aprons contributes to better accessibility, efficient aircraft movement and reduction in poor situational awareness conditions. **b. Taxiway connectors that cross over a parallel taxiway from an apron and directly onto a runway are not recommended.** Consider a staggered layout when taxiing from an apron onto a parallel taxiway and then onto a stub-taxiway or taxiway connector to a runway. **c. Direct connection from an apron to a parallel taxiway at the end of a runway is not recommended**. Such geometry **contributes to runway incursion incidents.**
14	Closed Runway 11/29 used as taxiway	Continues possibility of mistaken landings on taxiway	401.b.5(f)	(f) Avoid "dual purpose" pavements. **Runways used as taxiways** and taxiways used as runways can lead to confusion. A runway should always be clearly identified as a runway and only a runway.
15	GA Apron added contiguous to hot spot #3	Avoid large expanses of apron at critical taxiway incursion decision points	401.b.5(h)	(h) **Hot Spots.** Redesign of hot spots identified in the FAA Airport Diagrams that may increase the risk of runway incursions is a priority **when the associated runway or taxiway is subject to reconstruction** or rehabilitation. Other non-standard taxiway design elements should be corrected as soon as practicable.
16	Taxiway W parallel to closed R/W	Increases possibility of pilot mistaking it for an open runway	401b.5(a)	(a) **Increase Pilot Situational Awareness**. A pilot who knows where he/she is on the airport is less likely to enter a runway improperly. **Complexity leads to confusion**.
17	Taxiway W in R/W 11/29 Object Free Area (4th modification to standard)	Reduces object free area area by 12%	310b.1(a)2 & Table 3-8	(2)….. The extended object free area has subsequently been renamed as the "central portion of the RPZ." The RPZ function is to **enhance the protection of people and property on the ground.**
18	Runway 11/29 to Taxiway W centerline (5th modification to standard)	Reduces use for certain aircraft types - increases air traffic workload	318 & Table 3-6	Visibility minimum not less than 3/4 mile Group II 240' (versus SJC 11-29/W 220')



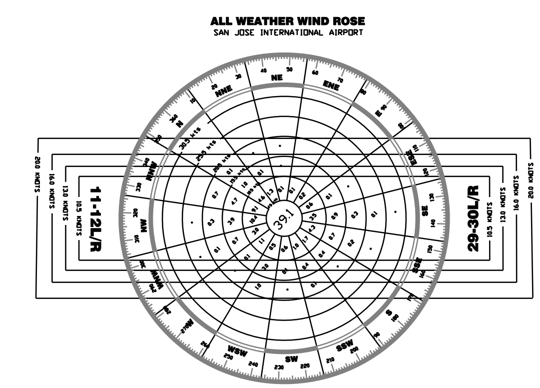
LEGEND	EXISTING	ULTIMATE
AIRPORT BOUNDARY		SAME
RUNWAY PAVEMENT		SAME
TAXIWAY PAVEMENT		
BUILDING RESTRICTION LINE (BRL)		SAME
RUNWAY SAFETY AREA (RSA)		SAME
FENCING	—×—×—×—	SAME
BUILDING		
AIRPORT REFERENCE POINT (ARP)		SAME
BLAST FENCE		SAME
RUNWAY PROTECTION ZONE		SAME
GROUND CONTOUR		SAME

AIRPORT DATA	EXISTING	ULTIMATE
AIRPORT ELEVATION	58 FEET	SAME
MEAN MAX. TEMP.	81°	SAME
AIRPORT REFERENCE POINT	LAT 37° 21' 45.45" N LONG 121° 55' 44.51" W	SAME
TERMINAL NAVAIDS	VOR,DME,ATCT,ASR, AWOS,BEACON	SAME
NPIAS ROLE	TRANSPORT	SAME
TAXIWAY LIGHTING	YES	SAME
TAXIWAY MARKING	YES	SAME
RUNWAY/TAXIWAY SURFACE	PAVED	SAME

Scale: 1" = 500'

0 500 1000 1500 2000 FT.

RUNWAY DATA	RUNWAY 12R		RUNWAY 30L		RUNWAY 12L		RUNWAY 30R		RUNWAY 11		RUNWAY 29	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
PAVEMENT LENGTH	11,000'	SAME	11,000'	SAME	11,000'	SAME	11,000'	SAME	4,600'	SAME	4,600'	SAME
TAKE OFF RUN AVAILABLE	9,883'	SAME	10,152'	SAME	10,139'	SAME	10,134'	SAME	4,600'	SAME	4,600'	SAME
TAKE OFF DISTANCE AVAILABLE	11,000'	SAME	11,000'	SAME	11,000'	SAME	11,000'	SAME	4,600'	SAME	4,600'	SAME
ACCELERATE-STOP DISTANCE	9,883'	SAME	10,152'	SAME	10,139'	SAME	10,134'	SAME	4,600'	SAME	4,600'	SAME
DISPLACED THRESHOLD	1,296'	SAME	2,537'	SAME	1,306'	SAME	2,536'	SAME	NONE	SAME	NONE	SAME
LANDING DISTANCE AVAILABLE	8,587'	SAME	7,614'	SAME	8,833'	SAME	7,597'	SAME	4,600'	SAME	4,600'	SAME
EFFECTIVE GRADIENT (%)	0.217%	SAME	0.217%	SAME	0.213%	SAME	0.213%	SAME	0.215%	SAME	0.215%	SAME
RUNWAY WIDTH	150'	SAME	150'	SAME	150'	SAME	150'	SAME	100'	SAME	100'	SAME
PAVEMENT SURFACE	PCC	SAME	PCC	SAME	PCC	SAME	PCC	SAME	ASPHALT	SAME	ASPHALT	SAME
PAVEMENT STRENGTH-SINGLE	220,000 lbs	SAME	220,000 lbs	SAME	220,000 lbs	SAME	220,000 lbs	SAME	60,000 lbs	SAME	60,000 lbs	SAME
-DUAL	250,000 lbs	SAME	250,000 lbs	SAME	250,000 lbs	SAME	250,000 lbs	SAME	60,000 lbs	SAME	60,000 lbs	SAME
-DUAL TANDEM	605,000 lbs	SAME	605,000 lbs	SAME	605,000 lbs	SAME	605,000 lbs	SAME	60,000 lbs	SAME	60,000 lbs	SAME
-TRIPLE TANDEM	662,000 lbs	SAME	662,000 lbs	SAME	777,000 lbs	SAME	777,000 lbs	SAME	N/A	SAME	N/A	SAME
DESIGN CRITICAL AIRCRAFT	GROUP 4	SAME	GROUP 4	SAME	GROUP 4	SAME	GROUP 4	SAME	GROUP 2	SAME	GROUP 2	SAME
RUNWAY LIGHTING	HIRL	SAME	HIRL	SAME	HIRL	SAME	HIRL	SAME	MIRL	SAME	MIRL	SAME
RUNWAY MARKING	PRECISION	SAME	PRECISION	SAME	NPI	SAME	NPI	SAME	VISUAL	SAME	VISUAL	SAME
FAR PART 77 RUNWAY CATEGORY	PRECISION	SAME	PRECISION	SAME	NPI	SAME	NPI	SAME	VISUAL	SAME	VISUAL	SAME
FAR PART 77 APPROACH SLOPE	50:1	SAME	50:1	SAME	34:1	SAME	34:1	SAME	20:1	SAME	20:1	SAME
ELECTRONIC NAVIGATIONAL AIDS	ILS	SAME	ILS,RVR	SAME	NONE	SAME	GS	SAME	NONE	SAME	NONE	SAME
VISUAL NAVIGATIONAL AIDS	MALSR,PAPI	SAME	MALSR,PAPI	SAME	REIL, PAPI	SAME	PAPI	SAME	PAPI	PAPI,REIL	PAPI,REIL	SAME
AIRPORT REFERENCE CODE (SEE NOTE 1)	D-IV	SAME	D-IV	SAME	D-IV	SAME	D-IV	SAME	B-II	SAME	B-II	SAME
RUNWAY SAFETY AREA - WIDTH/LENGTH	500'/11,034'	SAME	500'/11,034'	SAME	500'/11,273'	SAME	500'/11,273'	SAME	150'/5200'	SAME	150'/5200'	SAME
RSA DISTANCE BEYOND STOP END	1000'	SAME	1000'	SAME	1000'	SAME	1000'	SAME	300'	SAME	300'	SAME
OBSTACLE FREE ZONE WIDTH	400'	SAME	400'	SAME	400'	SAME	400'	SAME	250'	SAME	250'	SAME
OFZ DISTANCE BEYOND STOP END	200'	SAME	200'	SAME	200'	SAME	200'	SAME	200'	SAME	200'	SAME
OBJECT FREE AREA - WIDTH/LENGTH	500'/1,000'	SAME	500'/1,000'	SAME	800'/1,000'	SAME	800'/1,000'	SAME	500'/300'	SAME	500'/300'	SAME
OFA DISTANCE BEYOND STOP END	1000'	SAME	1000'	SAME	1000'	SAME	1000'	SAME	300'	SAME	300'	SAME
RUNWAY BEGINING ELEVATION (NADV 88)	38.0'	SAME	62.0'	SAME	37.5'	SAME	60.9'	SAME	41.5'	SAME	51.4'	SAME
RUNWAY THRESHOLD ELEVATION (NADV 88)	37.7'	SAME	56.8'	SAME	37.6'	SAME	54.8'	SAME	41.5'	SAME	51.4'	SAME
RUNWAY TDZ ELEVATION (NADV 88)	38.7'	SAME	55.5'	SAME	37.8'	SAME	53.8'	SAME	N/A	SAME	N/A	SAME
RUNWAY END ELEVATION (NADV 88)	57.2'	SAME	37.7'	SAME	56.8'	SAME	37.4'	SAME	51.4'	SAME	41.5'	SAME
PAVEMENT END ELEVATION (NADV 88)	62.0'	SAME	38.0'	SAME	60.9'	SAME	37.5'	SAME	51.4'	SAME	41.5'	SAME
APPROACH WEATHER MINIMUMS	1/2 MILE	SAME	1/2 MILE	SAME	1 1/4 MILE	SAME	1 3/4 MILE	SAME	1 1/2 MILE	SAME	1 3/4 MILE	SAME
DEPARTURE WEATHER MINIMUMS	1/4 MILE	SAME	1/4 MILE	SAME	1/4 MILE	SAME	1/4 MILE	SAME	1/4 MILE	SAME	1/4 MILE	SAME
PERCENTAGE WIND COVERAGE	SEE WIND ROSE	SAME	SEE WIND ROSE	SAME	SEE WIND ROSE	SAME	SEE WIND ROSE	SAME	SEE WIND ROSE	SAME	SEE WIND ROSE	SAME



CROSSWIND COVERAGE

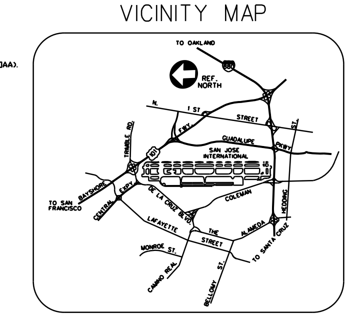
RUNWAYS 12R-30L, 12L-30R AND 11-29

10.5 knots	95.74%
13 knots	97.83%
16 knots	99.29%
20 knots	100%

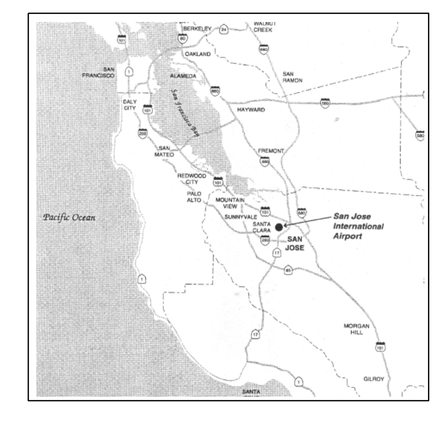
SOURCE: National Oceanic and Atmospheric Administration (NOAA). Observations for 1996 - 2005.

FACILITY IDENTIFICATION KEY			
1	TERMINAL A AND GARAGE	17	CITY HANGAR (MULTI-TENANT)
2	BEACON	18	CITY HANGAR (MULTI-TENANT)
3	CENTRAL PLANT	19	CITY HANGAR (MULTI-TENANT)
4	TERMINAL B	20	CITY HANGAR (WAREHOUSE)
5	RENTAL CAR / PARKING GARAGE	21	
6	AIR FREIGHT	22	CITY T-HANGAR BUILDING 8
7	CITY HANGAR	23	CITY T-HANGAR BUILDING 9
8	CITY HANGAR	24	CITY T-HANGAR BUILDING 10
9	ARFF STATION	25	CITY T-HANGAR BUILDING 11
10	WASTE DISPOSAL	26	FBO HANGAR (AVBASE)
11		27	FBO HANGAR (HEWLETT-PACKARD)
12	CITY MAINTENANCE	28	FBO HANGARS (SAN JOSE JET CENTER)
13	CITY MAINTENANCE	29	FAA CONTROL TOWER
14	CITY OFFICE	30	REGULATOR VAULT
15	FLIGHT KITCHEN (LSG SKYCHEFS)	31	FAA REMOTE TRANSMITTER / RECEIVER
16	CITY OFFICE	32	FBO HANGAR (ACM)
		33	FAA GROUND SURVEILLANCE RADAR

VICINITY MAP



LOCATION MAP



NOTES:

1) Aircraft design Group V can be accommodated on existing Runway 12R-30L and Runway 12L-30R with operational restrictions applied during taxiing to maintain separation requirements.
2) Taxiway V object free area (OFA) is 131 feet wide south of Taxiway G and 259 feet wide at Taxiway G and to the north; Taxilane OFA is 115 feet on the south end and 225 feet on the north end.
3) The Building Restriction Line (BRL) on the east side is for a maximum structure height of 50 feet; the west side BRL is for a maximum structure height of 25 feet.
4) Runway End Coordinates, Airport Reference Point Coordinates, True Bearings and Elevations were taken from SJC data base, March, 2006.
5) Not all RPZ/Road intersection and extended centerline elevations are available.
6) Runway Object Free Area (OFA) must extend 1000' past thresholds of 12R, 30L, 12L and 30R, but should extend as far as feasible.
7) There are objects located in the extended OFA, between the Airport Boulevard and Coleman Avenue, which currently do not meet FAA OFA clearance requirements.
8) No threshold siting surface object penetrations.
9) Stop ends of Runway 12R-30L and Runway 12L-30R are short of end of pavement due to controlling obstructions.
10) No OFZ Object Penetrations.
11) Line of Sight Requirements Met.

The contents of these documents do not necessarily reflect the official views or policy of the FAA. Acceptance of these documents by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted herein, nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws.

RUNWAY THRESHOLD COORDINATES		
RUNWAY	EXISTING	ULTIMATE
12R	LAT. N37° 22' 15.771" LONG. W121° 56' 20.583"	SAME
30L	LAT. N37° 21' 22.451" LONG. W121° 55' 22.127"	SAME
12L	LAT. N37° 22' 20.253" LONG. W121° 56' 13.975"	SAME
30R	LAT. N37° 21' 27.001" LONG. W121° 55' 15.594"	SAME
11	LAT. N37° 21' 57.209" LONG. W121° 56' 11.750"	SAME
29	LAT. N37° 21' 22.792" LONG. W121° 55' 34.019"	SAME

RUNWAY END COORDINATES		
RUNWAY	EXISTING	ULTIMATE
12R	LAT. N37° 22' 25.416" LONG. W121° 56' 31.160"	SAME
30L	LAT. N37° 21' 03.570" LONG. W121° 55' 01.435"	SAME
12L	LAT. N37° 22' 29.972" LONG. W121° 56' 24.633"	SAME
30R	LAT. N37° 21' 08.128" LONG. W121° 54' 54.911"	SAME
11	LAT. N37° 21' 57.209" LONG. W121° 56' 11.750"	SAME
29	LAT. N37° 21' 22.792" LONG. W121° 55' 34.019"	SAME

NOTE: Horizontal datum for coordinates - North American Datum of 1983, Zone 3, EPOCH 2002.00
Vertical Datum- North American Verical Datum of 1988, GEOID03 Model

MODIFICATIONS TO STANDARDS		
ITEM	STANDARD	COMMENTS
1) RUNWAY CENTERLINE TO TAXIWAY CENTERLINE	GROUP IV=400' SEPARATION (FAA AC 150/5300-13)	APPROVED 350' SEPARATION BETWEEN RUNWAY 12L-30R AND TAXIWAY Y; LETTER DATED AUG. 18, 1989
2) RUNWAY OBJECT FREE AREA (OFA)	GROUP IV=800' WIDE AND 1000' BEYOND RUNWAY END (FAA AC 150/5300-13)	APPROVED 500' WIDTH FOR RUNWAY 12R-30L; LETTER DATED MARCH 9, 1992
3) RUNWAY CENTERLINE TO TAXIWAY CENTERLINE	GROUP III & IV =300' TO 400' (FAA AC 150/ 5300-13) HOLDLINE=250' FOR APPROACH CATEGORY C	APPROVED 285' RUNWAY 11-29 TO TAXIWAY V CENTERLINE SEPARATION. D-IV AIRCRAFT OPERATIONAL RESTRICTIONS TO BE APPLIED WHEN APPROACH CATEGORY C IS ON RUNWAY 11-29. LETTER DATED FEB. 12, 1988

APPROVED CONDITIONALLY
FEDERAL AVIATION ADMINISTRATION
AIRPORTS DISTRICT OFFICE
SAN FRANCISCO, CALIFORNIA
By [signature] Date 6/16/11
Manager
Subject to Letter dated 6/16/2011

APPROVAL BLOCK

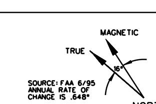
San Jose International Airport
City of San Jose, California

[signature] 6/16/11
APPROVED BY DATE

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

NORMAN Y. MINETA SAN JOSE INTERNATIONAL AIRPORT

SAN JOSE INTERNATIONAL AIRPORT



NO.	BY	APP	DATE	REVISIONS

AIRPORT LAYOUT DRAWING

SHEET 1

Appendix B

Part 77

No Hazard Determinations

by

the Federal Aviation

Administration

U.S. Department
of Transportation

Federal Aviation
Administration

September 10, 2013

Mineta San Jose International Airport
Attn: Mike Miramontes, Planning and Development Division
1701 Airport Blvd
Suite B-1130
San Jose, CA 32801-2986

RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2013-AWP-1152-NRA		SAN JOSE, CA	37-21-36.60N	121-56-01.24W	48	91
2013-AWP-1153-NRA		SAN JOSE, CA	37-21-35.83N	121-56-02.36W	48	91
2013-AWP-1154-NRA		SAN JOSE, CA	37-21-39.86N	121-56-06.49W	48	91
2013-AWP-1155-NRA		SAN JOSE, CA	37-21-40.34N	121-56-05.31W	48	91

Description: Signature Flight Support proposes to create a FBO complex at the airport. This 7460 is 1 of 7 being submitted for the project. For all 7460's a ground elevation of 43' AMSL has been assumed based upon the final elevations contained in record drawings of the existing public parking lot. Hangar Cluster 1&2 is located at the most southern end of the proposed development site. The Cluster consists of 2 adjacent hangars each approx. 120'x250' for a total of 30,000 sf. The overall project consists of 7 hangars (six at 30,000 square foot hangars and 3,000 sf office space, and one 60,000 sf hangar and 6,000 sf office), a 10,000 sf terminal, GSE bldg., ramp and fuel farm.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued whenever men or equipment are adjacent to the runway or other movement areas.

Any vehicles exceeding Part 77 surfaces and/or operating on movement areas are appropriately marked and lighted in accordance with Advisory Circular 150/5210-5, Painting, Marking and Lighting of Vehicles Used on the Airport.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan

Only case 2103-AWP-1181-NRA has a penetraton of the part 77 transition surface, requiring red obstruction lighting. Rather than present the entire complex of new hangers with one obstruction light it would be in the best interest of avaiation safety if the entire complex is equipped with red obstuction lighting IAW AC 70/7460-1

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

This determination expires on March 10, 2015 unless:
(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for the completion of construction, or the date the FCC denies the application.

NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Lloyd E. Lewis (310) 725-3650 lloyd.e.lewis@faa.gov.

Lloyd E. Lewis
DivUser

U.S. Department
of Transportation

Federal Aviation
Administration

September 10, 2013

Mineta San Jose International Airport
Attn: Mike Miramontes, Planning and Development Division
1701 Airport Blvd
Suite B-1130
San Jose, CA 32801-2986

RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2013-AWP-1166-NRA		SAN JOSE, CA	37-21-40.80N	121-56-05.60W	40	83
2013-AWP-1167-NRA		SAN JOSE, CA	37-21-39.91N	121-56-06.42W	40	83
2013-AWP-1168-NRA		SAN JOSE, CA	37-21-40.58N	121-56-07.42W	40	83
2013-AWP-1169-NRA		SAN JOSE, CA	37-21-40.34N	121-56-05.31W	40	83

Description: he above lat and long is for the SE building corner of the Terminal building and canopy. For the Terminal and Canopy corners see #1 below. Total Structure Height is for highest elevation point of the structure proposed. See attached 7460 and Exhibits: 1. Terminal Airspace Study - Building Plan 2. Proposed Parcel Location 3. USGS Quadrangle Location 4. Overall Site Plan The Terminal building and canopy is approximately 80' x 125' for a total of 10,000 sf. The Terminal/FBO building is located north of Hangar Cluster 1&2. This 7460 is 1 of 7 being submitted for the project.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued whenever men or equipment are adjacent to the runway or other movement areas.

Any vehicles exceeding Part 77 surfaces and/or operating on movement areas are appropriately marked and lighted in accordance with Advisory Circular 150/5210-5, Painting, Marking and Lighting of Vehicles Used on the Airport.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan

Only case 2103-AWP-1181-NRA has a penetraton of the part 77 transition surface, requiring red obstruction lighting. Rather than present the entire complex of new hangers with one obstruction light it would be in the best interest of avaiation safety if the entire complex is equipped with red obstuction lighting IAW AC 70/7460-1

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

This determination expires on March 10, 2015 unless:
(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for the completion of construction, or the date the FCC denies the application.

NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Lloyd E. Lewis (310) 725-3650 lloyd.e.lewis@faa.gov.

Lloyd E. Lewis
DivUser

U.S. Department
of Transportation

Federal Aviation
Administration

September 10, 2013

Mineta San Jose International Airport
Attn: Mike Miramontes, Planning and Development Division
1701 Airport Blvd
Suite B-1130
San Jose, CA 32801-2986

RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2013-AWP-1170-NRA		SAN JOSE, CA	37-21-41.39N	121-56-06.25W	48	91
2013-AWP-1171-NRA		SAN JOSE, CA	37-21-40.72N	121-56-07.68W	48	91
2013-AWP-1172-NRA		SAN JOSE, CA	37-21-44.45N	121-56-11.76W	48	91
2013-AWP-1173-NRA		SAN JOSE, CA	37-21-45.23N	121-56-10.63W	48	91

Description: The above lat and long is for the SE building corner of Hangar Cluster 3&4. For Hangar Cluster corners see #1 below. Total Structure Height is for highest elevation point of the cluster proposed. The buildings have parapets that are the same elevation all around building. See attached Exhibits: 1. Hangar Cluster 3&4 Airspace Study - Building Plan 2. Proposed Parcel Location 3. USGS Quadrangle Location 4. Overall Site Plan The Cluster consists of two adjacent hangars each approximately 120'x250' for a total of 30,000 sf. Hangar Cluster 3&4 is located north of the proposed Terminal Building. This 7460 is 1 of 7 being submitted for the project.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued whenever men or equipment are adjacent to the runway or other movement areas.

Any vehicles exceeding Part 77 surfaces and/or operating on movement areas are appropriately marked and lighted in accordance with Advisory Circular 150/5210-5, Painting, Marking and Lighting of Vehicles Used on the Airport.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan

Only case 2103-AWP-1181-NRA has a penetraton of the part 77 transition surface, requiring red obstruction lighting. Rather than present the entire complex of new hangers with one obstruction light it would be in the best interest of avaiation safety if the entire complex is equipped with red obstuction lighting IAW AC 70/7460-1

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

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If you have any questions concerning this determination contact Lloyd E. Lewis (310) 725-3650 lloyd.e.lewis@faa.gov.

Lloyd E. Lewis
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September 10, 2013

Mineta San Jose International Airport
Attn: Mike Miramontes, Planning and Development Division
1701 Airport Blvd
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San Jose, CA 32801-2986

RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2013-AWP-1174-NRA		SAN JOSE, CA	37-21-45.58N	121-56-11.02W	48	91
2013-AWP-1175-NRA		SAN JOSE, CA	37-21-46.81N	121-56-12.15W	48	91
2013-AWP-1176-NRA		SAN JOSE, CA	37-21-48.54N	121-56-16.21W	48	91
2013-AWP-1177-NRA		SAN JOSE, CA	37-21-49.31N	121-56-15.09W	48	91

Description: he above lat and long is for the SE building corner of Hangar Cluster 5&6. For Hangar Cluster corners see #1 below. Total Structure Height is for highest elevation point of the cluster proposed. The buildings have parapets that are the same elevation all around buildings. See attached 7460 and Exhibits: 1. Hangar Cluster 5&6 Airspace Study - Building Plan 2. Proposed Parcel Location 3. USGS Quadrangle Location 4. Overall Site Plan Cluster 5&6 consists of two adjacent hangars each approximately 120'x250' for a total of 30,000 sf. Hangar Cluster 5&6 is located north of the Hangar Cluster 3&4. This 7460 is 1 of 7 being submitted for the project.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued whenever men or equipment are adjacent to the runway or other movement areas.

Any vehicles exceeding Part 77 surfaces and/or operating on movement areas are appropriately marked and lighted in accordance with Advisory Circular 150/5210-5, Painting, Marking and Lighting of Vehicles Used on the Airport.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan

Only case 2103-AWP-1181-NRA has a penetraton of the part 77 transition surface, requiring red obstruction lighting. Rather than present the entire complex of new hangers with one obstruction light it would be in the best interest of avaiation safety if the entire complex is equipped with red obstuction lighting IAW AC 70/7460-1

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

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September 10, 2013

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Attn: Mike Miramontes, Planning and Development Division
1701 Airport Blvd
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RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2013-AWP-1178-NRA		SAN JOSE, CA	37-21-50.09N	121-56-16.09W	86	129
2013-AWP-1179-NRA		SAN JOSE, CA	37-21-48.92N	121-56-17.78W	86	129
2013-AWP-1180-NRA		SAN JOSE, CA	37-21-51.39N	121-56-20.46W	86	129
2013-AWP-1181-NRA		SAN JOSE, CA	37-21-52.55N	121-56-18.77W	86	129

Description: The above lat and long is for the SE building corner of Hangar 7. Total Structure Height is for highest elevation point of the proposed hangar. See attached 7460 and Exhibits. Hangar 7 is approximately 180'x330' for a total of 60,000 sf. Hangar 7 also includes an additional 6,000 sf of office/shop space. Hangar 7 is located north of the Hangar Cluster 5&6. It is anticipated to be 86' AGL in height and will have a parapet around the building at a constant elevation. Solar panels will be mounted on the roof below parapet height. A penetration of approximately 16 feet into the Part 77 transitional surface would occur for the 86' AGL hangar.Anticipate mitigating by adding obstruction lights

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued whenever men or equipment are adjacent to the runway or other movement areas.

Any vehicles exceeding Part 77 surfaces and/or operating on movement areas are appropriately marked and lighted in accordance with Advisory Circular 150/5210-5, Painting, Marking and Lighting of Vehicles Used on the Airport.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan

You comply with Chapters 3, 4, 5, 12 of Advisory Circular 70/7460-1K, Obstruction Marking and Lighting.

No objection providing, the solar panel listed on the 7460-1 in section 21 must be analyzed with a Solar Glare Hazard Analysis Tool by a engineering professional. The solar panel must show no effect on the ATCT or pilots flying in the vicinity of SJC (OSG suggests 2 miles down the final approach course be evaluated). Once construction is completed if there is an excessive ocular impact these panels must be removed, relocated, or the glare mitigated by the project owner.

Only case 2103-AWP-1181-NRA has a penetraton of the part 77 transition surface, requiring red obstruction lighting. Rather than present the entire complex of new hangers with one obstruction light it would be in the best interest of avaiation safety if the entire complex is equipped with red obstuction lighting IAW AC 70/7460-1

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

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FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2013-AWP-1182-NRA		SAN JOSE, CA	37-21-51.70N	121-56-19.50W	30	73
2013-AWP-1183-NRA		SAN JOSE, CA	37-21-51.30N	121-56-20.07W	30	73
2013-AWP-1184-NRA		SAN JOSE, CA	37-21-51.76N	121-56-20.57W	30	73
2013-AWP-1185-NRA		SAN JOSE, CA	37-21-52.15N	121-56-20.00W	30	73

Description: he above lat and long is for the SE building corner of the GSE building. For the GSE corners see #1 below. Total Structure Height is for highest elevation point of the structure proposed. The building has parapets that are the same elevation all around building. See attached 7460 and Exhibits: 1. GSE Airspace Study - Building Plan 2. Proposed Parcel Location 3. USGS Quadrangle Location 4. Overall Site Plan A ground service equipment (GSE) building is located north and adjacent to Hangar 7 and is approximately 3,800 sf. This 7460 is 1 of 7 being submitted for the project.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued whenever men or equipment are adjacent to the runway or other movement areas.

Any vehicles exceeding Part 77 surfaces and/or operating on movement areas are appropriately marked and lighted in accordance with Advisory Circular 150/5210-5, Painting, Marking and Lighting of Vehicles Used on the Airport.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

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NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Lloyd E. Lewis (310) 725-3650 lloyd.e.lewis@faa.gov.

Lloyd E. Lewis
DivUser

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September 10, 2013

Mineta San Jose International Airport
Attn: Mike Miramontes, Planning and Development Division
1701 Airport Blvd
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San Jose, CA 32801-2986

RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2013-AWP-1186-NRA		SAN JOSE, CA	37-21-53.32N	121-56-20.14W	25	68
2013-AWP-1187-NRA		SAN JOSE, CA	37-21-53.04N	121-56-21.09W	25	68
2013-AWP-1188-NRA		SAN JOSE, CA	37-21-53.72N	121-56-21.83W	25	68
2013-AWP-1189-NRA		SAN JOSE, CA	37-21-54.03N	121-56-20.92W	25	68

Description: The above lat and long is for the SE corner of the fuel farm and canopy. For building corners see #1 below. See attached Exhibits: 1. Fuel Farm Airspace Study - Building Plan 2. Proposed Parcel Location 3. USGS Quadrangle Location 4. Overall Site Plan This 7460 is 1 of 7 being submitted for the project. For all 7460's a ground elevation of 43' AMSL has been assumed based upon the final elevations contained in record drawings of the existing public parking lot.

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) in order to ensure the appropriate local NOTAM's are issued whenever men or equipment are adjacent to the runway or other movement areas.

Any vehicles exceeding Part 77 surfaces and/or operating on movement areas are appropriately marked and lighted in accordance with Advisory Circular 150/5210-5, Painting, Marking and Lighting of Vehicles Used on the Airport.

This determination is subject to review if disruption to FAA Operations should occur.

The new development must be coordinated with the airport sponsor and included in the next update to the Airport Layout Plan

Fuel Farm will not penetrate any part 77 surfaces, but due to location on the aircraft parking ramp safety will be enhanced if the farm is equipped with red obstruction lighting

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

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NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Lloyd E. Lewis (310) 725-3650 lloyd.e.lewis@faa.gov.

Lloyd E. Lewis
DivUser

Appendix C

Review of Signature Flight Support Aircraft Fleet Mix

by

Brown-Buntin Associates

BBA
BROWN • BUNTIN
ASSOCIATES, INC.

October 15, 2013

Mr. John M. Hesler
Vice President/Sr. Environmental Specialist
DAVID J. POWERS & ASSOCIATES, INC.
1871 The Alameda, Suite 200
San Jose, CA 95126

RE: CORPORATE AIRCRAFT FLEET MIX AT PROPOSED SIGNATURE FLIGHT SUPPORT FBO AT SAN JOSE INTERNATIONAL AIRPORT

Dear John:

At your request, Brown-Buntin Associates, Inc. (BBA) has reviewed the corporate aircraft fleet mix provided by you (attached) for the purpose of determining if the listed aircraft could or have operated at San Jose International Airport (SJIA) and if such aircraft have been accounted for in aircraft noise modeling studies performed by BBA for previously prepared CEQA/NEPA documents for SJIA. The aircraft on this list are those that Signature Flight Support anticipates to be accommodated at their proposed FBO at San Jose International Airport. Following is a summary of our findings.

The provided list includes a wide range of propeller and jet aircraft that are part of the national aircraft fleet mix. SJIA has the runways and supporting facilities to accommodate any of the listed aircraft. In fact, many if not most of the listed aircraft commonly operate at the airport.

With regard to noise modeling, BBA has included a representative sample of all of the listed aircraft in all aircraft noise analyses prepared in support of CEQA/NEPA documents prepared over the years for airfield improvement and related projects at the airport. For example, in the noise modeling we undertook in 2010 for the updated Master Plan forecasts for 2027 (see our letter report dated January 11, 2013), we input aircraft model types to the FAA Integrated Noise Model (INM) that represent the noise levels and operating characteristics of the aircraft types that are on the list provided by Signature. This is the standard, FAA-approved methodology used to account for the noise generated by general aviation aircraft types that are anticipated to operate at a given airport.

We also note that the noise modeling we undertook for the 2027 forecast accounted for the forecasted projections of general aviation activity, wherein the majority of general aviation aircraft operations at SJIA would be by business jets (see the last column in Table I of our January 11, 2013 report). The large number of corporate jets included on the fleet mix list provided by Signature is consistent with this assumption in our noise analysis.

Please do not hesitate to contact me at (559) 627-4923 or rbrown@brown-buntin.com if there are questions or additional information is required.

Sincerely,

BROWN-BUNTIN ASSOCIATES, INC.

Robert E. Brown
President

REB:reb

Attachment: Corporate Aircraft Fleet Mix from Signature Flight Support

Signature Flight Support FBO at SJC - Aircraft Types

Cessna Citation X
Cessna Citation Excel/XLS/XLS+
Gulfstream GIV/G400/G300/G450/G350
Dassault Falcon 2000, DX,EX,LX
Dassualt Falcon 900, B,C,EX
Gulfstream G200/Galaxy
Gulfstream GV/G500/G550
Bombardier Challenger 300
Cessna Citation V/Ultra/Encore/Encore+
BA e 125-700, Hawker 700/750/800/800XP/850/900XP
Embraer Phenom 100
Beechjet 400/400A/400XP
Cessna Citation Sovereign
Piaggio Avanti P180/Avanti ii
Bombardier Global Express/Global Express XRS
Bombardier Challenger 600/601/604/605
Pilatus PC-12
Hawker Beechcraft King Air 200/B200
Learjet 60, Bombardier Learjet 60XR
Hawker Beechcraft King Air 300/350
Cessna Citation II/ Bravo/S-II
Cessna Citation Mustang
Cessna CJ1/CJ1+
Learjet 35/35A/36A
Learjet 45, Bombardier Learjet 45XR
Dassault Falcon 50/50EX
Cessna CJ3
Hawker Beechcraft King Air 90/C90
Cessna Citation III/VI/VII
Dassualt Falcon 7X
Boeing 737-700, BBJ1
Learjet 40, Bombardier Learjet 40XR
Learjet 55/55C
Cessna CJ2/CJ2+
Embraer Phenom 300
Gulfstream G150
Eclipse 500
Gulfstream G-III
Gulfstream G-II/G-IIB
Hawker Premier 1, Hawker 200
Embraer Brasilia
Fairchild Dornier Envoy 3
Embraer Regional Jetliner/ERJ-145
Dassault Falcon 10/100
Learjet 31/31A
North American Rockwell Sabreliner 40/60/65
IAI G100, Astra SP, Astra SPX
Piper Cheyenne 2
Cessna Citation ISP
IAI Westwind II
Hawker Beechcraft King Air 300
Socata TBM 850
Hawker 1000
Swearingen Merlin 3
Piper Malibu Meridian
Bombardier Global 5000
Cessna Conquest 2
Cessna CJ4
Socata TBM 700
Dassault Falcon 20/200
Hawker Beechcraft King Air 100/B100
Rockwell 690
Hawker 4000
Cessna Conquest 1
Hawker Beechcraft King Air F90/F90-1
Mitsubishi Solitare/ Marque
Hawker Siddeley HS 125-1
Rockwell 695
Cessna Caravan
Cessna Citation IISP
Cessna P210
Beechcraft Bonanza
Mitsubishi MU-300/Diamond 300
Gulfstream G280
Gulfstream G650
Piper Cheyenne 1
Boeing 767-200
Learjet 24F
Canadair Regional Jet 200
Lancair Evolution Turbine