

CHAPTER 4

Livermore Municipal Airport and Vicinity Data

4.1 Introduction

Livermore Municipal Airport (LVK) is located in Alameda County; approximately 30 miles east of the City of San Francisco (see Figure 1-1). The Airport is situated on the western end of the City of Livermore, a city of 83,604 residents as of 2011¹.

LVK was constructed as a private airfield in 1929. In 1942, the airport was converted into a federally owned, naval auxiliary airfield known as Livermore Sky Ranch. Following World War II, the City of Livermore operated the airfield under a lease with the Navy until 1953, when the city acquired the airfield. The airfield was relocated from its original location on Rincon Avenue to its present location off Airway Boulevard and opened in December of 1965. Multiple improvements were made to LVK; including hangars and T-shelters, an air traffic control tower, a precision instrument approach to Runway 25R, and an extension to the main runway.

4.2 Surrounding Airport Environs

4.2.1 Jurisdictions

LVK is owned and operated by the City of Livermore, as a division of the Public Works Department. Livermore Municipal Airport is located in the northwestern portion of the City of Livermore.

4.2.2 City of Livermore and Surrounding Land Uses

As shown in Figure 4-1, land uses in the vicinity of LVK include industrial/business parks, residential uses, and aggregate mining. In the City of Livermore, light industrial/business park land uses predominate to the north and west of the Airport. Residential development within the City of Livermore lies near the Airport to the east and southeast past Stealth Street and south of I-580. Extensive aggregate mining pits and associated ponds are located south and west of the airport. The Las Positas Municipal Public Golf Course is located northwest of airport property.

Approximately 1.5 miles west of the Airport is the City of Pleasanton's planning area of Stoneridge Drive, located east of El Charro Road, and south of I-580. This area includes segments of the residential neighborhood of California Somerset. Other Pleasanton neighborhoods within

¹ City of Livermore, 2012.

LVK's AIA include portions of the Rosewood and Mohr-Martin neighborhoods. North of I-580 and northwest of LVK is the East Dublin Planning Area, which includes a mix of residential, commercial and light industrial land uses. Policies and land use guidelines for these areas are contained within the *Pleasanton General Plan 2005 – 2025* (2009) and the *Stoneridge Drive Specific Plan Amendment/Staples Ranch* (City of Pleasanton, 2010), the *City of Dublin General Plan* (2006), the *City of Livermore General Plan* (2010), and the *El Charro Specific Plan* (2007).

As shown in Figure 4-2, the predominant zoning in the vicinity of LVK is open space, commercial, and planned development. Additional City of Livermore zoning districts in the LVK vicinity include light industrial/commercial to the north and east, and residential to the east and southeast. To the west, the portions of the City of Pleasanton within LVK's AIA are zoned mostly for residential and planned development, with some industrial to the southwest. North of I-580, in the City of Dublin, zoning in the AIA includes planned development, commercial, and residential.

4.2.3 Alameda County Land Uses

The East County Area (formerly known as the Livermore-Amador Valley Planning Unit) encompasses 418 square miles of eastern Alameda County and includes the cities of Dublin, Livermore, Pleasanton, and a portion of Hayward, as well as surrounding unincorporated areas. The planning area extends from the Pleasanton/Dublin ridgeline on the west to the San Joaquin County line on the east and from the Contra Costa County line on the north to the Santa Clara County line on the south.

Portions of this planning area within the AIA consist primarily of water and resource management land uses, though some industrial, mixed use, and rural density residential land uses are present. Land use policies for this area are contained within the *East County Area Plan* (Alameda County, 2002).

4.2.4 Noise-Sensitive Land Uses

The AIA for LVK includes portions of several residential subdivisions within the cities of Livermore, Dublin, and Pleasanton. Noise-sensitive land uses within the Livermore portion of the AIA include: Hagemann Park, May Nissen Park, R. Henry Maitland Park, Livermore Downs Park, Portola Park, Inman School, Rancho Las Positas Elementary School, Marilyn Avenue School and Rincon Avenue School. Noise-sensitive land uses within the Pleasanton section of the AIA include: Orloff Park, Nielsen Park, Fairlands Park, Meadows Park, Fairlands Elementary School, and Pleasanton Urgent Care Medical Center.

4.2.5 Future Airport Vicinity Land Uses

LVK is located in the western portion of the City of Livermore, and the AIA includes portions of the cities of Livermore, Pleasanton, and Dublin, as well as unincorporated Alameda County. The City of Livermore and the Alameda County ALUC established the APA in 1993, which discourages encroachment of noise-sensitive uses such as residential or residential care facilities, to ensure that future land uses would be limited to light industrial, agriculture, and other uses which are considered “compatible” with airport operations. In compliance with APA policies, the *City of Livermore General Plan* identifies the goal of encouraging more compatible land uses, such as “light industrial and transportation uses”, in the vicinity of the airport (see Section 4.3.1).

City of Pleasanton zoning within the AIA reflects the General Plan’s approach towards the use of infill in areas adjacent to existing residential development. Therefore, the majority of the zoning within the Pleasanton portion of the AIA is “planned development” for low-density residential use. Planned industrial development is also identified in the General Plan near Stanley Boulevard and Valley Avenue.

A portion of the City of Dublin’s East Dublin Planning Area is included in the AIA. This area extends east of Camp Parks to the edge of the city boundary. The General Plan targets the Eastern Dublin Planning Area as a major focal point for growth over the next 30 years, and this is reflected in the zoning, which designates the entire area as “planned development”. The General Plan identifies the corridor along I-580 as an area for commercial and office/retail uses. To the north of I-580, the focus of the East Dublin Planning Area is a mix of medium- and low-density residential.

The *East County Area Plan* does not propose any specific changes to land use, but does encourage the use of infill for future residential development in the East County cities.

4.3 Land Use Planning and Regulations




























The State of California requires all local governments to enact a general plan that establishes policies to guide future development of the city or county. The policies of the general plan are implemented through ordinances regulating development, including the zoning ordinance, which regulates the use of land, the density of development, and the height and bulk of buildings. Local governments also regulate development through building codes which set detailed standards for construction.

This section summarizes goals, objectives, and policies of the cities of Livermore, Pleasanton, and Dublin, and Alameda County that are applicable to the ALUCP.

4.3.1 City of Livermore General Plan (Amended Through 2010)

The *City of Livermore General Plan* was adopted in March 2004, with updates to various elements occurring most recently in 2010. The *General Plan Amendment* rescinded the 1975 *Livermore Municipal Airport Master Plan*, and in its place created an Airport (AIR) Zoning District


















City of Livermore

-  Government Services
-  Airport
-  Cemetery
-  Elementary School
-  Community College
-  Fire Station
-  Highway Commercial
-  Office Commercial
-  Neighborhood Commercial
-  Service Commercial
-  Downtown Area
-  Neighborhood Mixed Medium Density
-  Business and Commercial Park
-  Low Intensity Industrial
-  Rural Residential
-  Urban Low Medium Residential (2-3 d.u./ac.)
-  Urban Medium Residential (3-4.5 d.u./ac.)
-  Urban High Residential (6-8 d.u./ac.)
-  Urban Medium High Residential (4.5-6 d.u./ac.)
-  Urban High Residential (8-14 d.u./ac.)
-  Urban High Residential (14-18 d.u./ac.)
-  Urban High Residential (18-22 d.u./ac.)
-  Hillside Conservation
-  Limited Agriculture
-  Large Parcel Agriculture
-  Parks, Trail ways, Recreation Corridors, Protected Areas
-  Resource Management








City of Pleasanton

-  Public Health and Safety
-  Public and Institutional
-  School-ES
-  Commercial
-  General and Limited Industrial
-  Sand and Gravel Harvesting
-  Low Density
-  Medium Density
-  Medium/High Density
-  High Density
-  Parks and Recreation
-  Wildland Overlay
-  Water Management and Recreation
-  East Pleasanton Specific Plan

City of Dublin

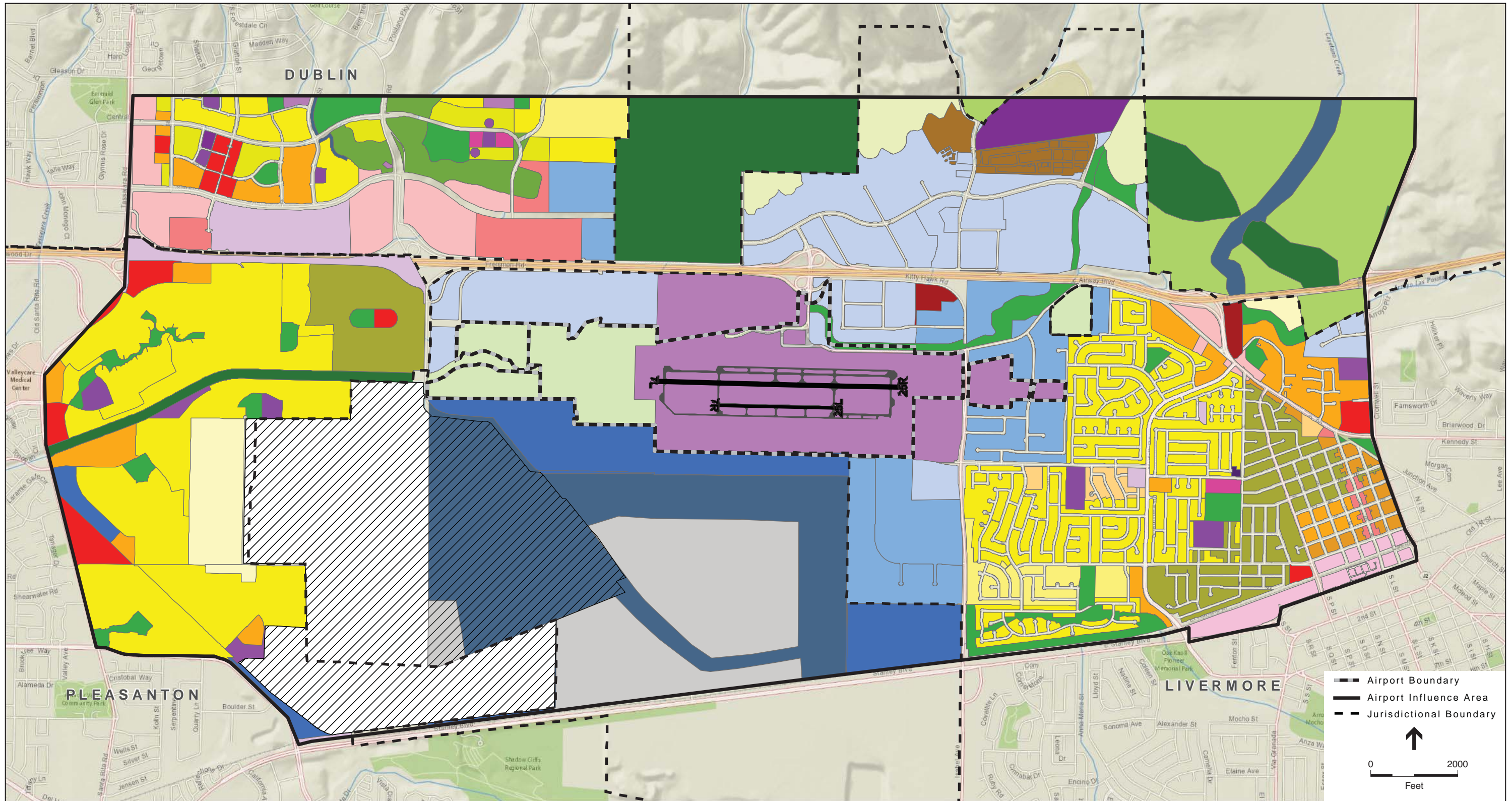
-  Campus Office
-  Public/Semi-Public Facility
-  Semi-Public
-  Neighborhood Square
-  Public/Semi-Public Facility
-  Mixed Use
-  General Commercial
-  General Commercial/Campus Office
-  Neighborhood Commercial
-  Industrial Park
-  Low Density Residential (0.0 - 6.0 du/ac)
-  Medium-Density Residential (6.1 - 14.0 du/ac)
-  Medium/High-Density Residential (14.1 - 25.0 du/ac)
-  High-Density Residential (25.0 + du/ac)
-  Parks/ Public Recreation
-  Open Space
-  Stream Corridor

Alameda County

-  Mixed Use
-  Industrial
-  Large Parcel Agriculture
-  Parklands
-  Resource Management
-  Water Management
-  Urban Reserve

SOURCE: Alameda County, 2012; City of Livermore, 2012;
 City of Pleasanton, 2012; City of Dublin, 2012;
 National Geographic, 2012; and ESA Airports, 2012

Figure 4-1 Legend



SOURCE: Alameda County, 2012; City of Livermore, 2012; City of Pleasanton, 2012; City of Dublin, 2012; National Geographic, 2012; and ESA Airports, 2012

Livermore Municipal Airport Land Use Compatibility Plan . 202229

Figure 4-1
General Plan Land Use Designations in the Vicinity of Livermore Municipal Airport

intended to guide the development of land on and near the airport. Within the AIR Zoning District, two subdistricts were also established: 1) the Airport Operations (AIR-OP) Zoning Subdistrict and 2) the Airport Service (AIR-SE) Zoning Subdistrict.

The AIR-OP Subdistrict provides standards for Airport operations facilities and allows for the development of aviation-related land uses and facilities that are necessary for the continued operation of LVK. Uses permitted under the AIR-OP Subdistrict include runways, taxiways, run-up aprons, airfield lighting, signage, and other similar uses.

The AIR-SE Subdistrict provides standards for Airport support facilities and controls the development of aviation-related land uses and associated facilities to support LVK operations. Permitted uses within the AIR-SE Subdistrict include all facilities already allowed under the AIR-OP Subdistrict, as well as a restaurant, administrative offices, or other facilities that could accommodate a fixed base operator (FBO).

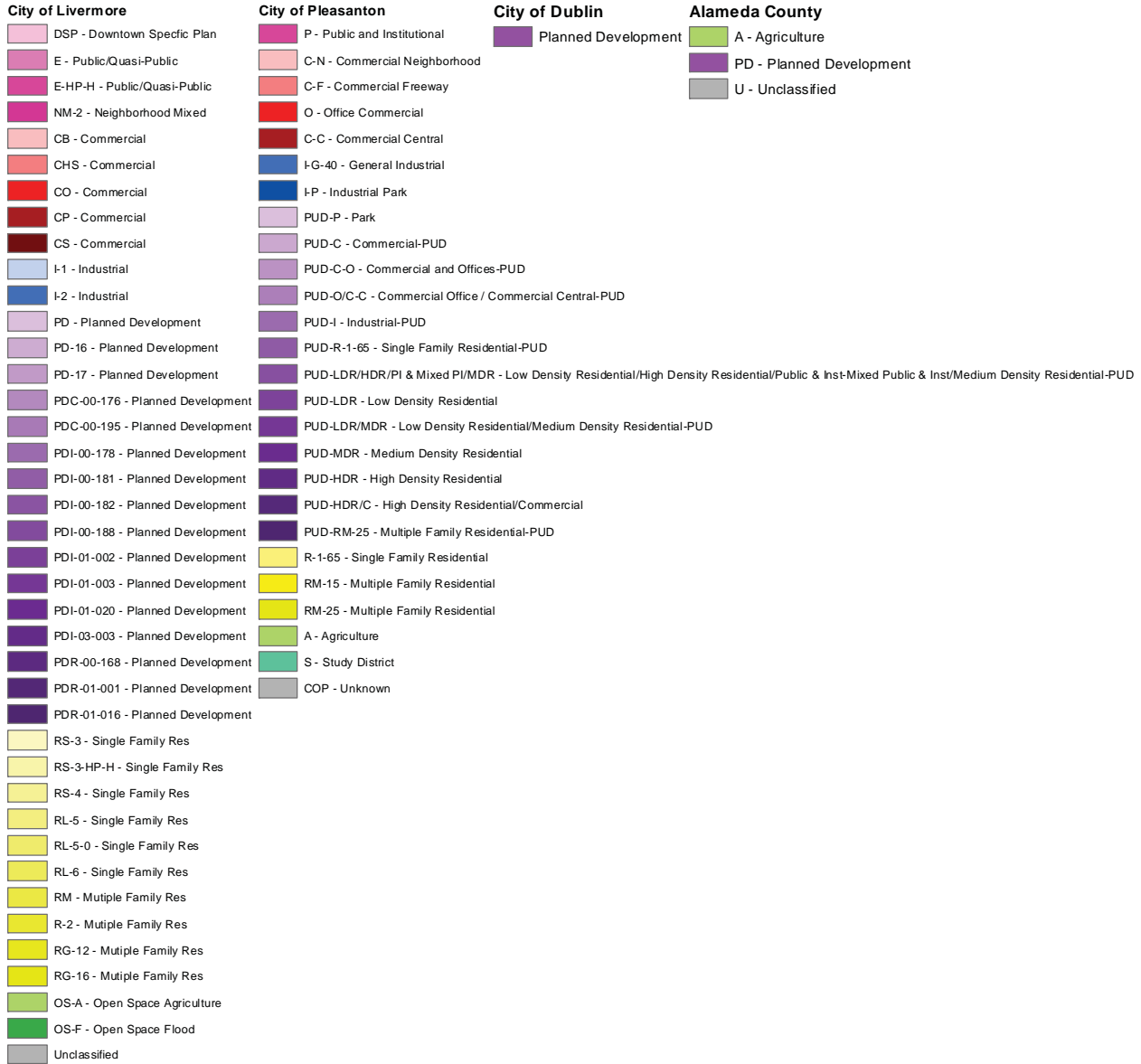
The zoning districts established under the *General Plan Amendment* are intended to guide future development at LVK to be consistent with the updated forecasts of aviation activity. (See Section 4.6 for a discussion of forecasted operations and fleet mix.)

Other than the revisions identified above, no significant changes to land use patterns are proposed as part of the *General Plan*. The *General Plan* encourages development of land in the vicinity of the Airport for light industrial and transportation uses. Zoning in the vicinity of LVK includes open space, commercial, industrial, public, and agricultural.

The *City of Livermore General Plan's Land Use Element* states the following airport land use compatibility related policies for protecting the Municipal Airport from encroachment by incompatible uses:

Objective LU-4.4: Protect the Municipal Airport from encroachment of incompatible uses.

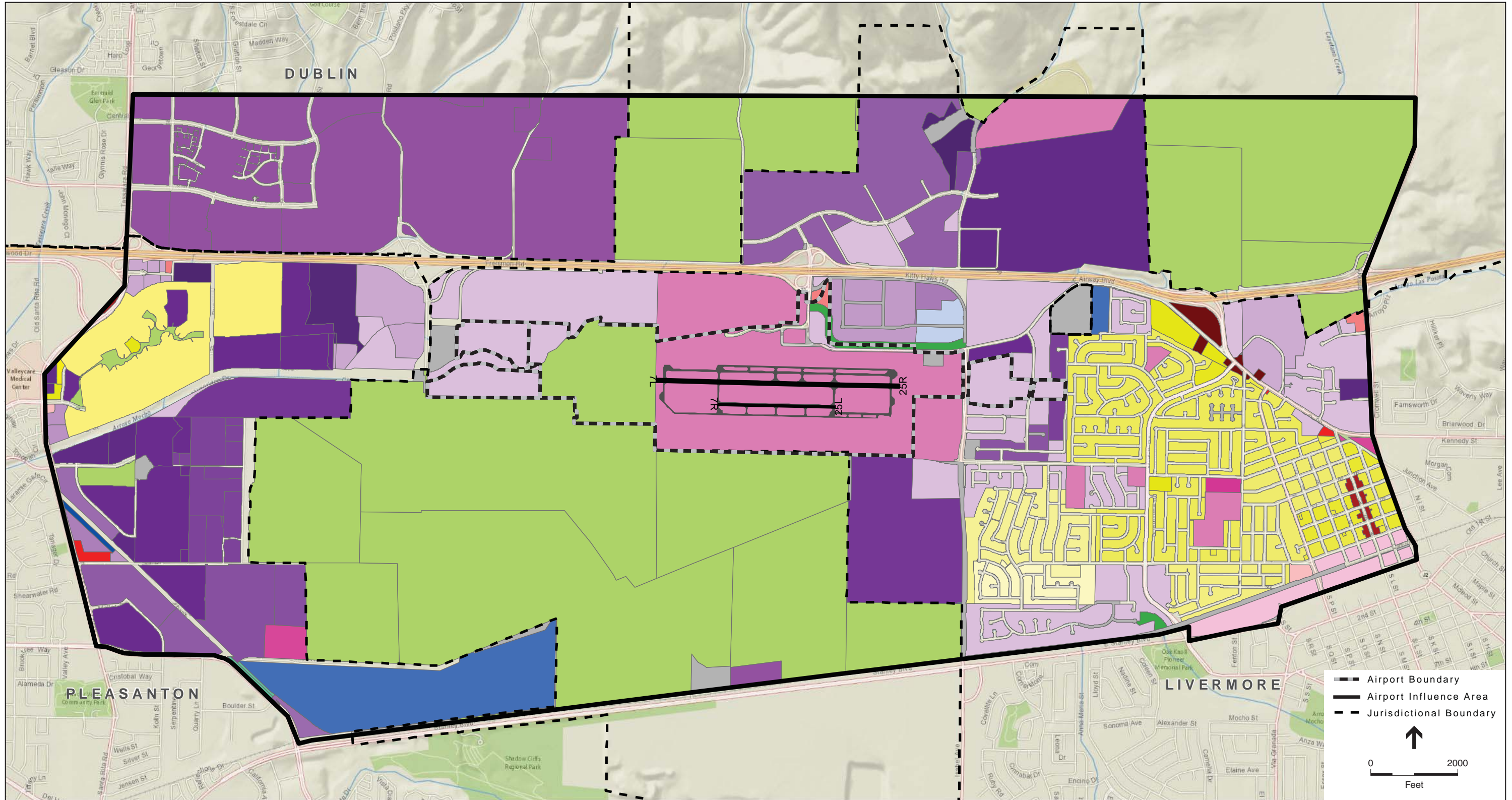
- P1. The City shall encourage development of property within the immediate vicinity of the Airport for light industrial and transportation uses to the extent that noise standards and flight clearance requirements are maintained, and environmental impacts are adequately mitigated.
- P2. New residential land use designations or the intensification of existing residential land use designations shall be prohibited within the Airport Protection Area (APA). The APA includes the area located within 7,100-feet west of the western end of Runway 7L-25R, 5,000-feet north of the northern edge of runway 7L-25R, 5,000-feet east of the eastern end of Runway 7L-25R and 5,000-feet south of the southern edge of Runway 7L-25R.
- P3. Development at the Airport shall be subject to Federal Aviation Administration, Airport Land Use Commission and City building/structure height restrictions.



SOURCE: Alameda County, 2012; City of Livermore, 2012;
 City of Pleasanton, 2012; City of Dublin, 2012;
 National Geographic, 2012; and ESA Airports, 2012

Livermore Municipal Airport Land Use Compatibility Plan . 202229

Figure 4-2 Legend



SOURCE: Alameda County, 2012; City of Livermore, 2012; City of Pleasanton, 2012; City of Dublin, 2012; National Geographic, 2012; and ESA Airports, 2012

Livermore Municipal Airport Land Use Compatibility Plan . 202229
Figure 4-2
 Zoning in the Vicinity of Livermore Municipal Airport

4.3.1.1 City of Livermore Noise Element Policies

The City of Livermore, in participation with surrounding cities, established an Airport Protection Area (APA) to keep surrounding land uses compatible with aviation activities, by discouraging the development of noise-sensitive land uses (e.g., residential uses) in areas frequently overflowed by aircraft. In addition to the establishment of the APA, the City of Livermore's *Noise Element* includes objectives and policies that are relevant to aircraft and airport noise. These include the following relevant policies:

Objective N-1.1: Establish appropriate noise levels, design standards and noise reduction techniques for all areas to minimize the adverse effects of noise.

P1. The City shall emphasize noise considerations when making land use planning decisions.

P3. The City shall maintain a pattern of land uses that separates noise-sensitive land uses from major noise sources to the extent possible.

4.3.1.2 City of Livermore El Charro Specific Plan (Adopted July 9, 2007)

The *El Charro Specific Plan* area is located on the western edge of the City of Livermore, and is bound by I-580 to the north, El Charro Road, to the west, open space to the south, and the municipal golf course and LVK to the east. Planned land uses within the *El Charro Specific Plan* area include open space uses (e.g., picnic areas and stormwater facilities) in the southern and southeastern planning area, and a mix of commercial uses (e.g., food and entertainment, mid-box retail, and general merchandise sales) in the north and northwest planning areas.

The following policies are set forth in the *El Charro Specific Plan* in order to promote compatibility with LVK operations:

Land Use and Community Character

Goal 2.2: City open space areas will be maintained to provide a variety of community supportive functions that are compatible with the Airport Protection Area (APA).

Goal 2.4: Develop a land use program within the El Charro Specific Plan Area that is compatible with surrounding land uses and sensitive to the natural environment.

Policy 2.4.1: Locate land uses within the Plan Area to ensure compatibility with surrounding land uses, including quarry operations and the Livermore Municipal Airport.

Objective 2.4.1a: All land uses proposed on properties in the Airport Protection Area (APA) will need prior City approval.

Objective 2.4.1e: Land uses will be generally consistent with density standards contained in the Safety Zone Policies of the Alameda County Airport Land Use Policy Plan (ALUC, July 1986). Uses are defined as compatible when not

exceeding a density of 25 persons per net acre over an 8-hour period, or a density not exceeding 50 persons per net acre for more than two hours per day.

Objective 2.4.1f: All properties within the Specific Plan area will be required to record avigation and noise easements prior to development, to ensure full disclosure and consistency with the objectives for land use compatibility with the Livermore Municipal Airport and the Alameda County ALUC Plan. The easements shall specifically note that operations and flight numbers at the Livermore Municipal Airport could increase in the future.

4.3.2 Pleasanton General Plan 2005 –2025 (Adopted July 2009)

The *Pleasanton General Plan 2005 – 2025* suggests that residential development should be strongly discouraged where the exterior L_{dn} exceeds 55 dB due to aircraft². Should residential land uses be allowed in areas where the L_{dn} exceeds 55 dB, then interior noise levels should be controlled so that maximum noise levels do not exceed 50 dBA in bedrooms or 55 dBA in other rooms. The General Plan also recommends that residential construction should not be allowed in areas where the L_{dn} exceeds 65 dB from aircraft.

The *Pleasanton General Plan 2005 – 2025* states the following airport land use and noise policies for promoting compatibility with operations at LVK:

Air Navigation Hazards (From Public Safety Element)

Goal 6: Minimize the risks to lives and property due to air navigation hazards generated by Livermore Municipal Airport.

Policy 20: Deny any development plan which would create any air navigation hazards due to electrical interference, smoke, glare, lighting, or other navigational hazards in the General Referral Area.

20.1 Refer all General Plan amendments, specific plan amendments and re-zonings proposed within the General Referral Area to the Alameda County Airport Land Use Commission (ALUC).

20.2 Refer all General Plan amendments, specific plan amendments, and re-zonings which lie within the Livermore Municipal Airport Height Referral Area and which may create building exceeding airport height standards to the Alameda County ALUC.

20.3 Prohibit residential land uses within the Livermore Municipal Airport Protection Area.

² The L_{dn} (Day/Night Noise Level) is a 24-hour, time weighted annual average noise level, measured in decibels, with an added penalty for people's increased sensitivity to noise at night from 10 PM to 7 AM. The L_{dn} noise metric is very similar to the CNEL metric, except that the period from 7 PM to 10 PM receives no penalty.

Policy 21: Work with the City of Livermore to address air navigation hazards.

21.1 Meet with the City of Livermore and the Federal Aviation Administration (FAA), as necessary, to jointly provide solutions to air navigation conflicts.

Noise (From Noise Element)

Policy 8: Encourage other agencies to reduce noise levels generated by roadways, railways, airports, rapid transit, and other facilities.

- 8.1 Coordinate with the County Airport Land Use Commission, State Department of Health Services, BART, Union Pacific Railroad Company, Altamont Commuter Express (ACE), Livermore, Dublin, Alameda County, and other agencies, as necessary, to reduce noise generated from sources outside the City's jurisdiction.
- 8.2 Work with the City of Livermore to address noise impacts of the Livermore Municipal Airport, including the joint monitoring of aircraft noise on a periodic basis.

4.3.2.1 Stoneridge Drive Specific Plan (Adopted October 1989)

The *Stoneridge Drive Specific Plan* area lies outside LVK's safety zones to the west of runways 7L and 7R, but a sizeable portion is still within the AIA. The Stoneridge Drive planning area is bound by I-580 to the north, El Charro Road to the east, Trenery Drive and gravel quarries to the south, and the Pleasanton Meadows subdivision to the west. At the time of adoption in 1989, The *Stoneridge Drive Specific Plan* encompassed 293 acres in and adjacent to the northeastern portion of the City of Pleasanton, and allowed for a mix of residential, retail, commercial, and light industrial development. Since 1989, all but approximately 122.5 acres of *Stoneridge Drive Specific Plan* area has been annexed to Pleasanton and developed, including all areas south of the Arroyo Mocho channel. The only remaining undeveloped portion of the original 293 acre Specific Plan area is the 124 acre Staples Ranch site.

The *Stoneridge Drive Specific Plan* states the following airport-related policies for promoting compatibility with operations at LVK:

Environmental Impact Mitigation

- a. Continue to cooperatively seek methods with the City of Livermore to reduce incompatibilities between Livermore Airport operations and Specific Plan land uses through airport operational changes as well as land use mitigation.
- b. Prior to construction of new homes... a noise monitoring study is required of airport noise to plot the 55 L_{dn} aircraft noise contour in the Specific Plan area.
- c. Future residential uses within the 55 L_{dn} aircraft noise contour will be required to be designed to meet single event interior noise levels of 50 dBA in bedrooms and 55 dBA in other rooms.

- d. All new and re-sold homes within the 55 L_{dn} aircraft noise contour shall be subject to a real estate disclosure notice indicating the location of the airport, aircraft operational levels, and projected noise levels.

4.3.2.2 Stoneridge Drive Specific Plan Amendment/Staples Ranch (2010)

In 2010, the City of Pleasanton amended the *Stoneridge Drive Specific Plan* in order to address future development patterns on the 124 acre Staples Ranch property. The *Plan* amendment was drafted as a “stand alone” document that builds upon the original 1989 *Specific Plan* where appropriate, while modifying plans and policies to specifically guide the development of the Staples Ranch property.

The *Stoneridge Drive Specific Plan Amendment/Staples Ranch* identifies approximately 46 acres for a continuing care community, approximately 37 acres for an auto mall, approximately 22 acres for community and neighborhood parks, and approximately 11 acres for a retail/commercial center. The proposed continuing care facility is located outside of LVK’s APA.

The *Stoneridge Drive Specific Plan Amendment/Staples Ranch* states the following airport-related policies for promoting compatibility with operations at LVK:

Land Use Policies for Staples Ranch

- LU.10 Limit the potential for complaints regarding aircraft overflights by requiring that each Staples Ranch developer record a deed rider disclosing the proximity of the Livermore Airport and requiring the Continuing Care Community to provide airport disclosure notices to residents as well as a centralized telephone number to register complaints about aircraft noise. Require that all residential structures within the Continuing Care Community be designed to meet single event interior noise levels of 50 dBA in bedrooms and 55 dBA in other habitable rooms.

4.3.3 City of Dublin General Plan (Updated to January 19, 2010)

According to the *City of Dublin General Plan* Land Use Element, low and medium-density residential uses are allowed within the APA if, at the time of rezoning, the residential designations are not inconsistent with the policies within the APA. If, at the time of rezoning, the residential designations are inconsistent with the APA, the residential designations will convert to “Future Study Area” with an underlying “Rural Residential/Agriculture” designation.

At the time of this document’s publication, no residential land uses within the City’s Eastern Dublin Extended Planning Area were within LVK’s APA. If, in the future, the City contemplated allowing residential uses within the APA, this would be considered inconsistent with the criteria set forth in Chapter 3 of this Plan, and the residential designations would be required to convert to “Future Study Area” per the *City of Dublin General Plan*.

4.3.4 East County Area Plan (Adopted May 2002)

The *East County Area Plan*, a regional planning document that includes portions of the AIA, identifies LVK as a regional resource and presents policies designed to protect the interests of both the airport and those that live and work in its vicinity.

Goal: To provide for the operation and expansion of the Livermore Municipal Airport and to ensure the compatibility of adjacent uses.

Policy 147: The County shall recognize the Livermore Municipal Airport as a regional resource and provide for its limited expansion.

Policy 148: The County shall work with cities to ensure that all new uses approved within the Livermore Airport Land Use Commission (ALUC) referral area are consistent with the ALUC Policy Plan.

Policy 149: The County shall protect noise-sensitive land uses adjacent to the Livermore Airport through zoning, height restrictions, noise insulation, aviation easements, and other techniques.

4.4 Existing Airport Land Uses

Existing facilities at LVK are shown in Figures 4-3a and 4-3b, the airport layout plan. The Airport is located on a 643-acre site, approximately 3 miles northwest of downtown Livermore.

4.4.1 Airside Land Uses / Facilities

Airside facilities include two runways, four taxiways, and airport lighting (identification, runway and taxi, and approach lighting). Livermore Municipal Airport also includes airfield lighting, identification lighting, runway and taxiway lighting, visual approach lighting, pavement markings, a helipad, and navigational aids.

Other facilities at LVK include a tiedown apron of 249 spaces (one shelter with 9 aircraft spaces), 22 city-owned enclosed hangars containing 393 aircraft hangar units, an aircraft storage shelter, a corporate-style hangar building with hangar and office space, an airport control tower and a terminal building. The airport's terminal building consists of airport administration offices, a conference room and pilot's lounge. A full range of aviation services are available at LVK, including aircraft rental, flight training, aircraft fueling, and aviation supplies.

4.4.2 Landside Land Uses

Existing landside uses at LVK include an air traffic control tower and general aviation facilities such as hangars with multiple units and seven fixed base operators (FBOs). Other uses include Las Positas Municipal Golf Course, Kitty Hawk Road and light industrial office uses border the Airport to the north and east. West Jack London Boulevard and vacant/agricultural uses border

LVK to the south. The Livermore Water Reclamation Plant is adjacent to the Airport's southeast corner. I-580 and Arroyo Las Positas run parallel to the Livermore Airport on the north side.

4.4.3 Runways

The existing runway configuration at LVK includes two parallel runways aligned in an east/west configuration. Runway 7L-25R serves as the primary runway and is 5,255 feet long by 100 feet wide. Runway 7R-25L is 2,699 feet long by 75 wide and primarily serves local training and small propeller-driven aircraft operations. Both runways are constructed of asphalt.

The Las Positas Golf Course is located 0.2 mile northwest of Runway 7L-25R. Residential uses are two miles northwest of Runway 7L-25R in the City of Dublin. High-density residential land uses in the City of Livermore can be found within 0.75 mile east of the runway and two miles west in the City of Pleasanton. To the north and south, the predominant land uses are agriculture and light industrial.

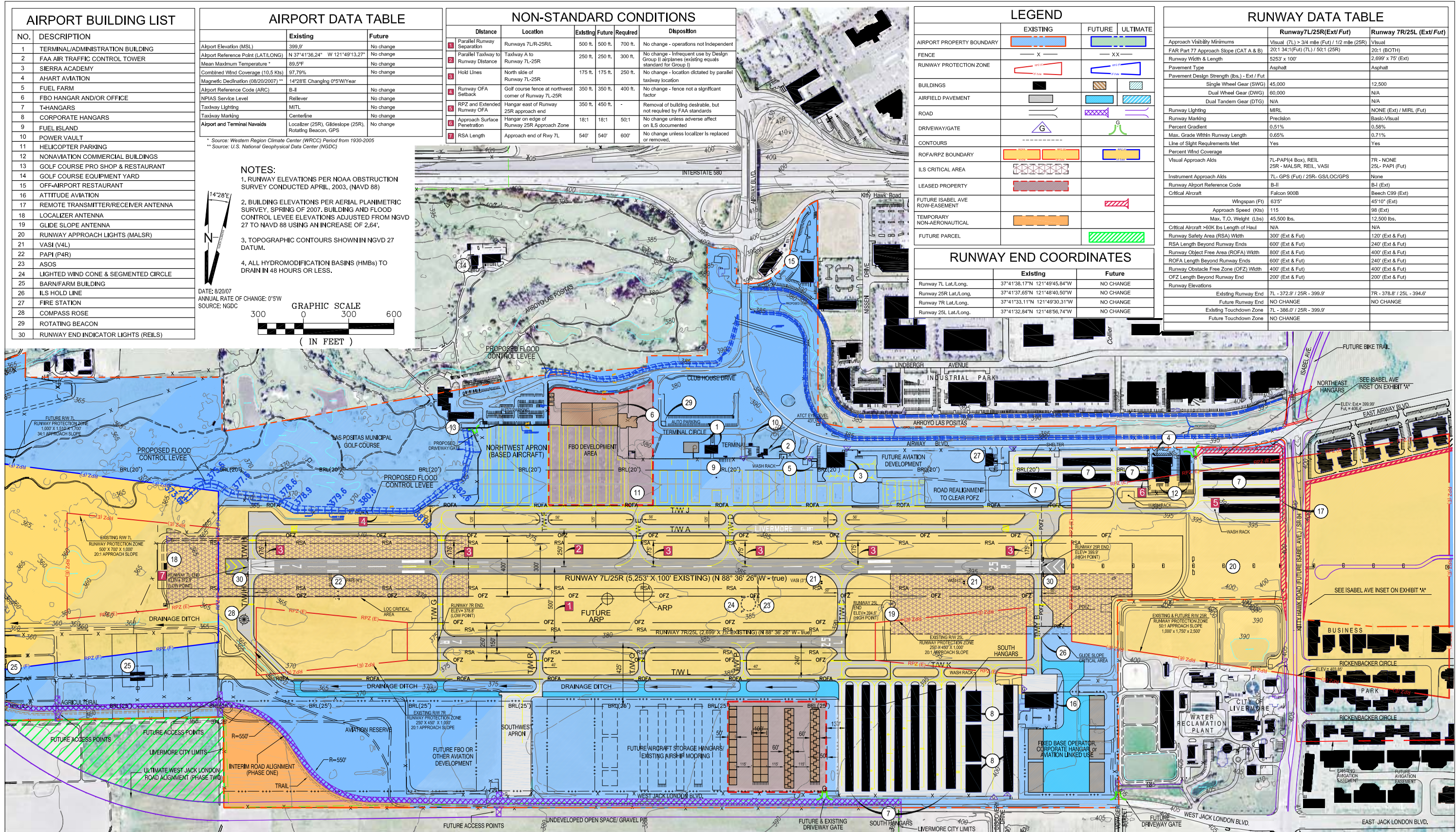
4.4.4 Taxiways

Seven entrance/exit taxiways are available for use along Runway 7L-25R. Seven exit taxiways are available for use along Runway 7R-25L. Taxiway A is the full-length parallel taxiway that serves Runway 7L-25R and provides access to the general aviation facilities on the north and northeast locations of the airport. The apron edge taxiway on the north side of the airfield is Taxiway J. Taxiway L is the full-length parallel taxiway serving Runway 7R-25L on the south side of the airport. A new apron-edge (Taxiway M) has been proposed to serve future development on the south side. Once constructed, Taxiways L and M will work in a similar manner to Taxiways A and J on the north side. These dual parallel taxiways will enable two-way taxiing which will facilitate efficient movement of aircraft. The five entrance/exit taxiways connecting the two parallel taxiways serving the two runways and the general aviation facilities on the north and south sides of the airport are taxiways B, C, E, G and H.

4.4.5 Typical Flight Procedures

The standard flight procedures are as follows:

- **Runway 7L-25R.** The established traffic pattern for Runway 7L-25R is a left pattern to Runway 7L and a right pattern to Runway 25R. The pattern altitude is established at 1,000 feet above the airport elevation of 400 feet MSL.
- **Runway 7R-25L.** The established traffic pattern for Runway 7R-25L is a right pattern to Runway 7L and a left pattern to Runway 25R. The pattern altitude is established at 1,000 feet above the airport elevation of 400 feet MSL.



SOURCE: City of Livermore, 2011; and ESA, 2011

AIRPORT BUILDING LIST	
NO.	DESCRIPTION
4	AHART AVIATION
7	T-HANGARS
12	NONAVIATION COMMERCIAL BUILDINGS
16	ATTITUDE AVIATION
17	REMOTE TRANSMITTER/RECEIVER ANTENNA
18	LOCALIZER ANTENNA
20	RUNWAY APPROACH LIGHTS (MALSR)
25	BARN/FARM BUILDING
26	ILS HOLD LINE
28	COMPASS ROSE
30	RUNWAY END INDICATOR LIGHTS (REILS)

NON-STANDARD CONDITIONS						
Distance	Location	Existing	Future	Required	Disposition	
1	Parallel Runway Separation	Runways 7L/R-25R/L	500 ft.	500 ft.	700 ft.	No change - operations not independent
2	Parallel Taxiway to Runway Distance	Taxiway A to Runway 7L-25R	250 ft.	250 ft.	300 ft.	No change - infrequent use by Design Group II airplanes (existing equals standard for Group I)
3	Hold Lines	North side of Runway 7L-25R	175 ft.	175 ft.	250 ft.	No change - location dictated by parallel taxiway location
4	Runway OFA Sidewalk	Golf course fence at northwest corner of Runway 7L-25R	350 ft.	350 ft.	400 ft.	No change - fence not a significant factor
5	RPZ and Extended Runway OFA	Hangar east of Runway 25R approach end	350 ft.	450 ft.	-	Removal of building desirable, but not required by FAA standards
6	Approach Surface Penetration	Hangar on edge of Runway 25R Approach Zone	18:1	18:1	50:1	No change unless adverse affect on ILS documented
7	RSA Length	Approach end of Rwy 7L	547	547	607	No change unless localizer is replaced or removed

LEGEND			
	EXISTING	FUTURE	ULTIMATE
AIRPORT PROPERTY BOUNDARY	[Red dashed line]	[Blue dashed line]	[Green dashed line]
FENCE	[Red line with 'x']	[Blue line with 'x']	[Green line with 'x']
RUNWAY PROTECTION ZONE	[Red triangle]	[Blue triangle]	[Green triangle]
BUILDINGS	[Black square]	[Brown square]	[Light blue square]
AIRFIELD PAVEMENT	[Grey square]	[Blue square]	[Light blue square]
ROAD	[Black line]	[Blue line]	[Green line]
DRIVEWAY/GATE	[Red triangle]	[Blue triangle]	[Green triangle]

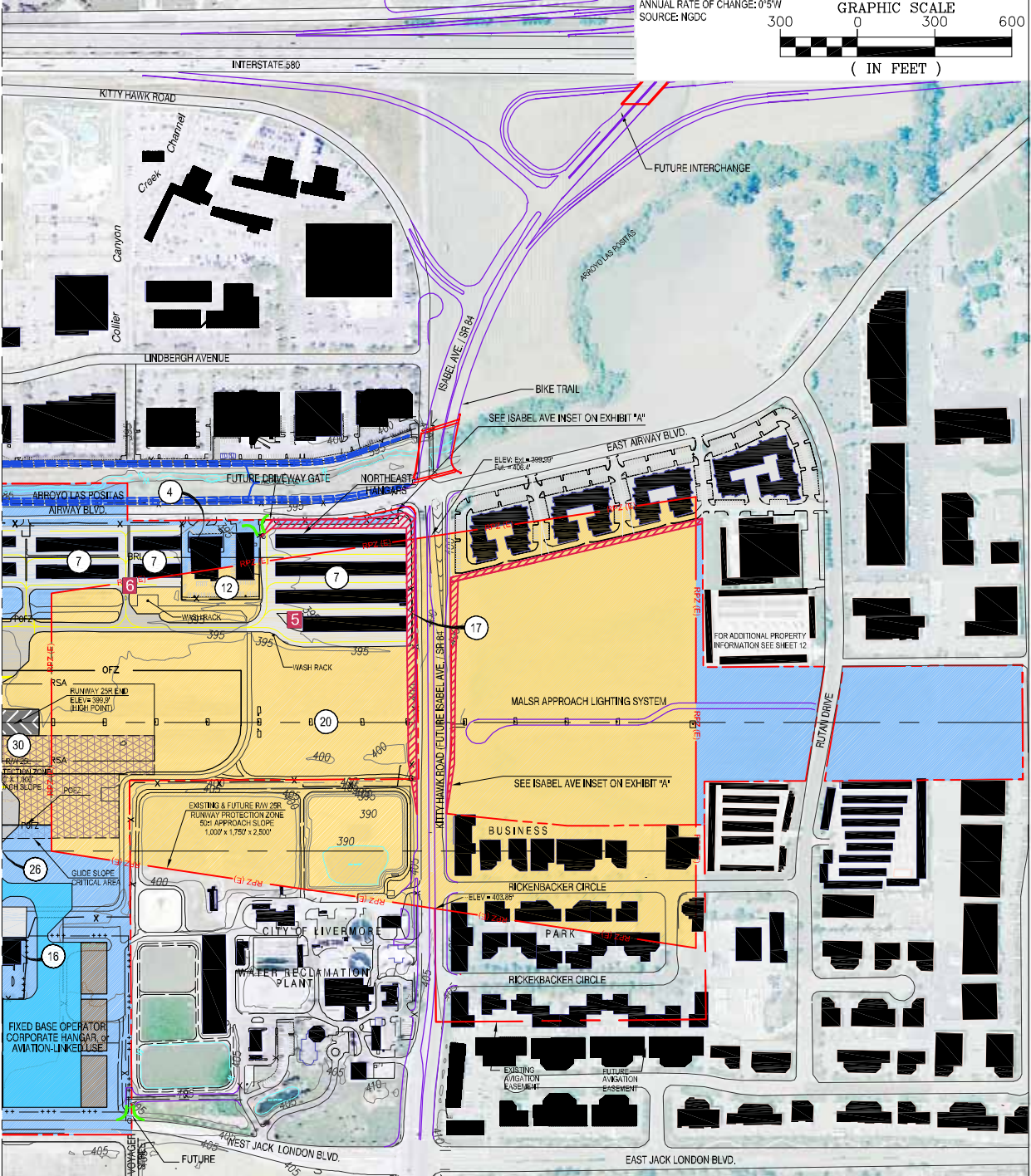
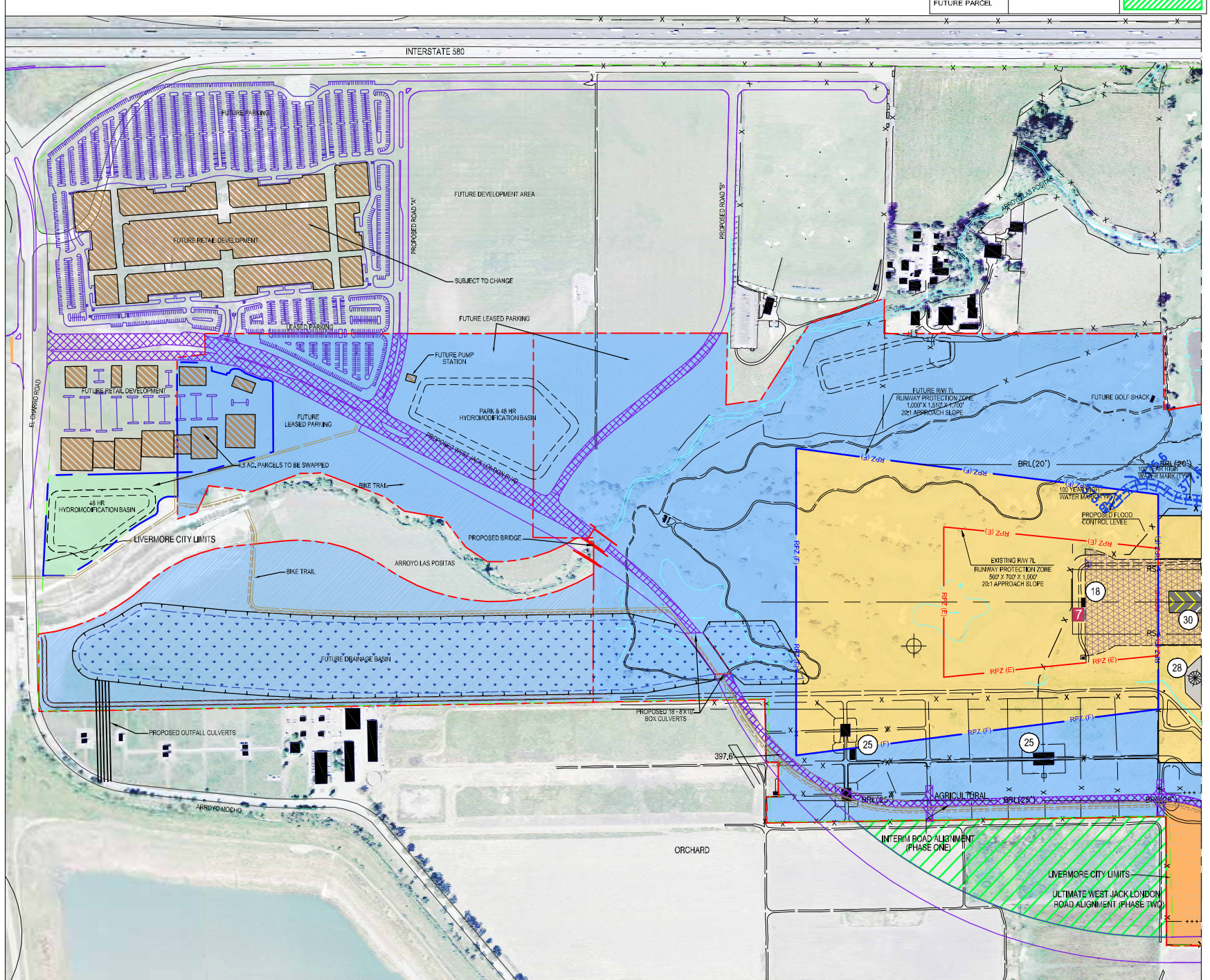
LEGEND			
	EXISTING	FUTURE	ULTIMATE
CONTOURS	[Dashed line]	[Dashed line]	[Dashed line]
ROF/RPZ BOUNDARY	[Red line]	[Blue line]	[Green line]
ILS CRITICAL AREA	[Cross-hatched square]	[Cross-hatched square]	[Cross-hatched square]
LEASED PROPERTY	[Red hatched square]	[Red hatched square]	[Red hatched square]
FUTURE ISABEL AVE ROW-EASEMENT	[Red hatched square]	[Red hatched square]	[Red hatched square]
TEMPORARY - NON AERONAUTICAL	[Orange hatched square]	[Orange hatched square]	[Orange hatched square]
FUTURE PARCEL	[Green hatched square]	[Green hatched square]	[Green hatched square]

NOTES:

1. RUNWAY ELEVATIONS PER NOAA OBSTRUCTION SURVEY CONDUCTED APRIL, 2003. (NAVD 88)
2. BUILDING ELEVATIONS PER AERIAL PLANIMETRIC SURVEY, SPRING OF 2007. BUILDING AND FLOOD CONTROL LEVEL ELEVATIONS ADJUSTED FROM NGVD 27 TO NAVD 88 USING AN INCREASE OF 2.64.
3. TOPOGRAPHIC CONTOURS SHOWN IN NGVD 27 DATUM.
4. ALL HYDROMODIFICATION BASINS (HMBs) TO DRAIN IN 48 HOURS OR LESS.
5. RUNWAY 7R-25L EXTENSION IS FOR PLANNING PURPOSES ONLY.

DATE: 8/20/07
ANNUAL RATE OF CHANGE: 0.5"W
SOURCE: NGDC

GRAPHIC SCALE
300 0 300 600
(IN FEET)



4.4.6 Noise Abatement Procedures

The City of Livermore instituted a *Voluntary Restraint from Night Flying* policy on January 14, 2002. This policy requests that aircraft operators, especially those operating jet aircraft, refrain from flying between the hours of 2200 hours and 0600 hours local time.

In addition to the flight procedures listed above, LVK also recommends that pilots avoid flying over residential neighborhoods, remain at traffic pattern altitude as long as practical before descending to land, climb as quickly as practical to pattern altitude on departures, and avoid abrupt maneuvering, power, and propeller changes.

4.5 Airport Planning Documents

4.5.1 Airport Protection Area

The City of Livermore approached the ALUC in June 1991 (Resolution 192-91) to request an amendment to the Alameda County ALUPP that would incorporate new policies and standards by establishing an Airport Protection Area (APA) around the airport. New or more intensive residential land use designations would be prohibited within the APA. Through the establishment of the APA, the City hoped to reduce potential exposure to and adverse effects associated with aircraft operations by preventing new residential land uses within the immediate airport vicinity. (Typical complaints from residents near airports are associated with noise exposure.)

On January 13, 1993, the ALUC adopted a resolution to restrict or prevent the encroachment of incompatible land uses (i.e., noise-sensitive residential uses) near the airport or under the flight pattern for the airport, and Chapters II and III of the 1987 *Land Use Policy Plan* were amended to provide for the APA.

4.5.2 Livermore Municipal Airport General Plan Amendment and Rezoning

As previously discussed in Section 4.3.1, due to its age, the need to update operation forecasts, and how planned land uses in jurisdictions around LVK have changed, the 1975 *Livermore Municipal Airport Master Plan* was rescinded by the City of Livermore in March 2010. In its place, the City adopted changes to the *General Plan* and City zoning ordinance to include an Airport Zoning District (AIR). The purpose of the change is to make current land use regulation more consistent with the underlying General Plan designation of Community Facilities – Airport (CF-AIR) so as to foster development that would allow for the safe and efficient operation of the Airport. As a part of this zoning change, two subdistricts, AIR-OP and AIR-SE, were created. Each subdistrict, as described in Section 4.3.1, is intended to guide development in these areas to allow for aviation and aviation-related land uses that will facilitate and support the safe operation of LVK. As part of this effort, forecasted fleet mix and operational numbers were updated to replace those from the rescinded 1975 *Master Plan*. The *General Plan* and zoning update were approved in March of 2010. Forecasted fleet mix and operational numbers are discussed below.

4.6 Existing and Future Airport Activity

As a part of the Livermore Municipal Airport General Plan Amendment and Rezoning effort, Coffman Associates, Inc. prepared unconstrained fleet mix and operations forecasts for LVK. These forecasts were approved by FAA in the fall of 2008.

4.6.1 Fleet Mix

As of 2008, 600 aircraft were based at LVK. While trends show a larger percentage of jet aircraft being based at LVK over the course of the 20-year planning period, the greatest number of aircraft at LVK will remain Single-Engine Piston. Table 4-1 presents the existing and forecast fleet mix for based aircraft at LVK.

TABLE 4-1
EXISTING AND FORECAST BASED FLEET MIX

Aircraft Type	2008	2030
Single Engine Piston	552	620
Multi-Engine Piston	39	73
Jet	6	20
Helicopter	3	7

Source: Coffman Associates, Inc. 2008.

4.6.2 Operations

Projections of aircraft operations at LVK are based on the number of operations per based aircraft and historical data. Table 4-2 presents the current and projected total number of aircraft operations by type of operation.

TABLE 4-2
EXISTING AND PROJECTED ANNUAL AIRCRAFT OPERATIONS

Type of Operation	2008	2030
Itinerant		
General Aviation	74,480	86,400
Air Taxi	1,500	3,800
Military	230	230
<i>Total Itinerant</i>	<i>76,210</i>	<i>90,430</i>
Local		
General Aviation	104,977	129,600
Military	70	70
<i>Total Local</i>	<i>105,047</i>	<i>129,670</i>
Total Operations	181,257	220,100

Source: Coffman Associates, Inc. 2008.