CHAPTER 4
Hayward Executive Airport and Vicinity

4.1 Introduction

Hayward Executive Airport (HWD) is located in Alameda County approximately 15 miles southeast of the City of San Francisco. The Airport is located on the west side of Hayward, a city of 140,606 residents as of 2006[1] (see Figure 4-1).

The U.S. Army constructed Hayward Army Airfield in 1942 as a fighter base during World War II. In 1946 the Federal government declared the airport as "surplus property," and transferred the property to the City of Hayward in 1947 when it became known as Hayward Municipal Airport. From 1947 to 1962 the facility was expanded to include an administration building, control tower, and 20 additional acres bringing the total airport property to 710 acres. In 1962, the city council adopted the first airport layout and land use plan for Hayward Municipal Airport.

Over the next 40 years, the demand on Hayward Municipal Airport as a general aviation facility increased, and the surrounding population grew. The airport reached its peak in 1978 with an aircraft traffic count of 421,048, making it one of the busiest general aviation airports in the country. Operations have decreased since that time, and HWD's operations in 2009 totaled 132,000. In 1999, the name of the facility changed to Hayward Executive Airport.

4.2 Surrounding Airport Environs

4.2.1 Jurisdictions

HWD is owned and operated by the City of Hayward as a division of the Public Works Department. All airport facilities are located entirely within city boundaries.

4.2.2 Surrounding Land Uses

As shown in Figure 4-1, land uses in the vicinity of HWD include industrial, commercial, residential and recreational uses.. Industrial land uses predominate west and southwest of the Airport. To the northwest is residential San Lorenzo, which is a part of the Eden Planning Area. Commercial and residential uses are located east and south of the Airport along West A Street, Hesperian Boulevard, and Southland Drive. Beyond the industrial areas to the west are natural areas and the San Francisco Bay. The Skywest Golf Course and John F. Kennedy Memorial Park

[1] U.S. Census Bureau, www.census.gov, 2007.

are located along the northern boundary of the airport on airport property. Beyond San Lorenzo and the Eden Planning Area is the city of San Leandro. Northwest of the San Lorenzo Creek, the boundary between San Lorenzo and the City of San Leandro, are the residential neighborhoods of Manor and Bonaire.

The Longwood-Winton Grove residential neighborhood is located east of Hesperian Boulevard and north of Winton Avenue. Additional residential land uses, referred to as the Southgate neighborhood, are located east of Hesperian Boulevard and south of Winton Avenue. The Mount Eden neighborhood, located west of Hesperian Boulevard and south of West Winton Avenue, includes a mobile home park known as Eden Gardens Estates and other residential uses south of the mobile home park. Policies and land use guidelines for these neighborhoods are contained within specific area plans associated with the *City of Hayward General Plan* (City of Hayward, 1990; City of Hayward, 1994; City of Hayward, 1996; and City of Hayward 2002).

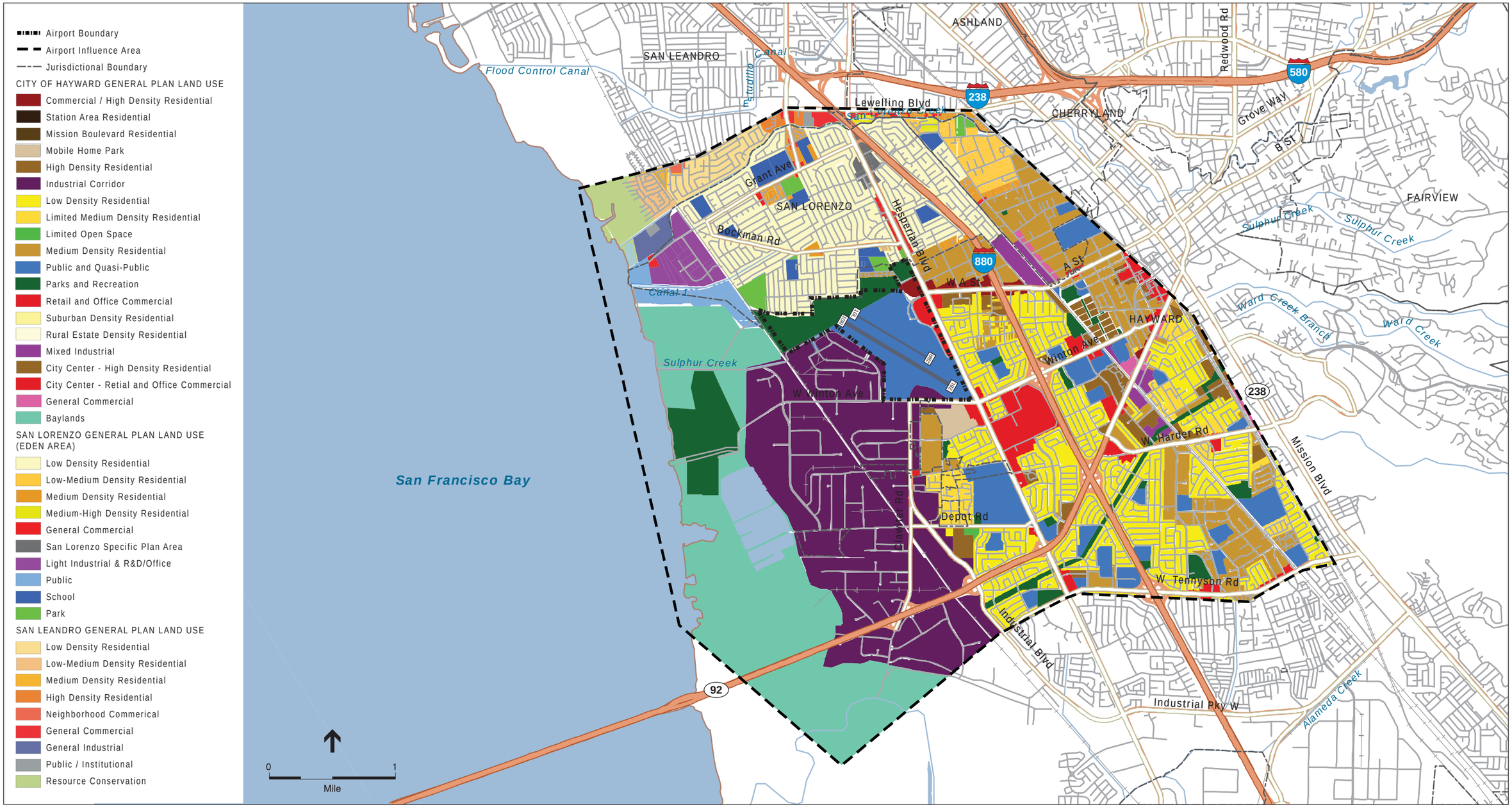
As shown in Figure 4-2, the predominant zoning in the vicinity of HWD is residential. In the City of Hayward, the single-family residential zoning district is primarily for single-family homes, group homes, or small state-licensed day care homes. Additional City of Hayward zoning districts in the HWD vicinity include an industrial district to the west, a neighborhood commercial district to the southeast, and mobile park, residential, and industrial districts to the south.

4.2.3 Alameda County Land Uses

The residential community of San Lorenzo, an unincorporated area of Alameda County, is located just north of Skywest Golf Course. This unincorporated urban community is part of the Eden Planning Unit of the County and is zoned for single-family residences by the County (see Figure 3-4). The *Eden Area General Plan* was , which was adopted on March 30, 2010 , is a comprehensive statement of the County's conservation and development policy for the Eden area, including policies for residential, commercial, retail, research and development, and industrial land uses.

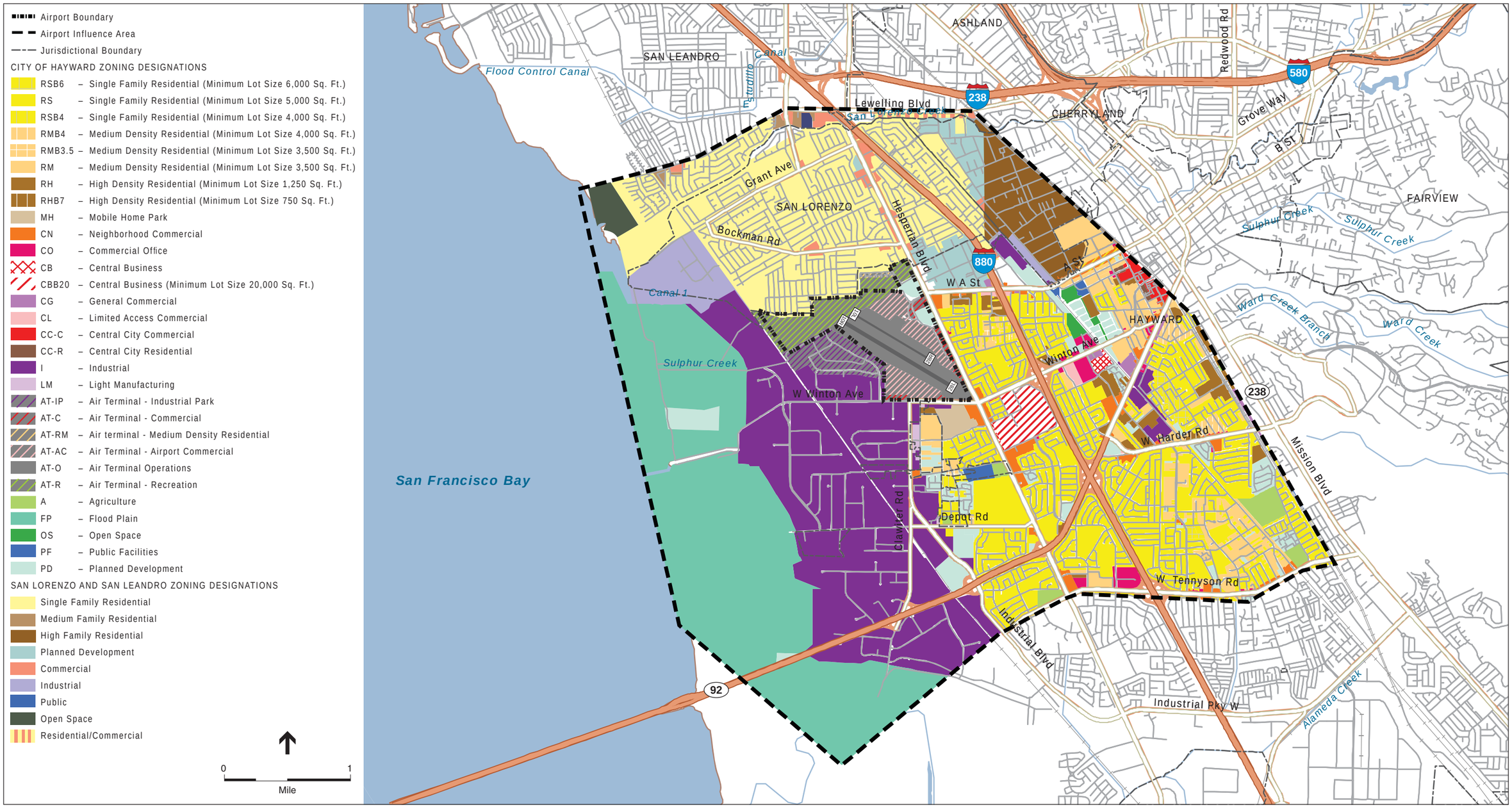
4.2.4 Noise-Sensitive Land Uses

The Longwood-Winton Grove, Mount Eden, Southgate, and San Lorenzo neighborhoods contain noise-sensitive land uses including residences, schools, and parks. The Longwood-Winton Grove neighborhood includes the Longwood School and Park and Saint Joachim School. The Mount Eden neighborhood includes Chabot College and Greenwood Park, and the Southgate neighborhood includes Gansberger Park. The San Lorenzo neighborhood contains Bohannon High School and Del Ray Elementary School, McConaghy Estate Regional Park, and the San Lorenzo Community Center and Park.



SOURCE: ESA Airports, ESRI, City of Hayward, 2010

Figure 4-1
General Plan Land Use Designations in Vicinity of Hayward Executive Airport



SOURCE: ESA Airports, ESRI, City of Hayward, 2010

Figure 4-2
Generalized Existing Zoning in Vicinity of Hayward Executive Airport

4.2.5 Future Airport Vicinity Land Uses

The airport is located in the City of Hayward's Industrial Corridor Focus Area. The goals for this focus area include the conversion of some warehouse space to office or research and development, and an increased density of employees. The plan suggests the creation of multiple industrial zoning districts and changes to regulatory requirements such as parking and minimum parcel size.

4.3 Land Use Planning Policies and Regulations

The State of California requires all local governments to enact a general plan which establishes policies to guide future development. 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 City of Hayward and Alameda County general plans that are applicable to the ALUCP for HWD.

4.3.1 City of Hayward General Plan, Adopted 2002, Amended through June 22, 2010

The *City of Hayward General Plan* was updated in 2002. No significant changes to land use patterns were proposed as part of the *General Plan*; therefore, only limited cases will occur in which noise levels would exceed those considered normally acceptable for the intended use. The *General Plan* designates land uses in vicinity of airport as commercial uses, medium and high-density residential, hotel, commercial, and office uses within the Airport planning district. The predominant zoning in the vicinity of HWD remains residential.

The Airport is in the City of Hayward (City) Air Terminal (AT) zoning district. The AT District applies to a special area occupied primarily by aviation-oriented commercial, industrial, and public uses. Additionally, non-aviation commercial facilities are encouraged, provided that they do not pose a hazard to airport operations. As indicated in Figure 4-2, two AT subdistricts are located outside the boundary of HWD. These include the Air Terminal-Industrial Park (AT-IP) located west of the Airport, and the Air Terminal-Medium Density Residential (AT-RM) subdistrict north of the Skywest Public Golf Course.

The *City of Hayward General Plan* states the following airport land use compatibility related policies:

Guidelines for the Review of New Development:

A.1 Indoor noise level shall not exceed an Ldn of 45 dB in new housing units.

A.3 If the primary noise source is aircraft or a railroad, noise levels in new residential development exposed to an exterior Ldn of 60 dB or greater should be limited to a maximum instantaneous noise level in bedrooms at night of 50 dB(A). Maximum

instantaneous noise levels in bedrooms during the daytime and in other rooms should not exceed 55 dB (A).

C. Locate noise-sensitive uses away from noise sources unless mitigation measures are included in development plans. Protect schools, hospitals, libraries, churches, convalescent homes, and other noise sensitive uses from noise levels exceeding those allowed in residential areas.

4.3.1.1 City of Hayward Noise Element Policies

The City of Hayward *General Plan Noise Element* states that "Other significant sources of noise in the community, including aircraft operations in the vicinity of the Hayward Executive Airport and at Oakland International Airport, railroad train operations along the Union Pacific Railroad lines, and the Bay Area Rapid Transit system, are expected to remain essentially as they are today." Therefore, the same noise policies adopted in the 2002City of Hayward *General Plan* continue to apply.

The 2002 City of Hayward *Noise Element* includes several policies that are related to aircraft and airport noise. These include the following relevant policies:

Policy: The City will seek to protect the public health, safety and welfare against the adverse effects of excessive noise.

1. Provide educational materials and assistance to the community regarding noise mitigation, and promote the full disclosure of potential noise impacts within new infill development.
2. Continue to review new development to assure compatibility with surrounding land uses and compliance with accepted noise standards.
3. Encourage mitigation of noise through appropriate site planning, building orientation, and building materials.
4. Cooperate with adjacent jurisdictions and other agencies involved in noise mitigation, and work with transportation companies and/or agencies to mitigate noise impacts.
8. Continue to monitor the effectiveness of noise control programs at the Hayward Executive Airport.

4.3.2 City of Hayward Ordinance 91-16 Airport Noise Ordinance

The City of Hayward implemented Hayward Ordinance 91-16, the Airport Noise Ordinance in February 1, 1992, in an effort to reduce noise impacts from aircraft operations without impairing the ability of the airport to serve the aviation needs of the community and national air transportation system. (A copy of the ordinance is provided in Appendix H.)

The City maintains a system of four permanent noise monitors that records actual sound levels 24 hours per day. The ordinance specifies maximum noise levels associated with each monitoring location. The maximum noise limits identified in the ordinance, expressed and measured as Single Event Noise Exposure Levels (SENELs), are summarized in Table 4-1 below:

TABLE 4-1
CITY OF HAYWARD NOISE LIMITS, ORDINANCE 91-16

Monitoring Site	Site 1	Site 2	Site 3	Site 4
Daytime Aircraft Noise Limit (7:00 AM to 11:00 PM)				
Runway 28L/28R	98	98	98	98
Runway 10L/28R	98	98	100	99
Nighttime Aircraft Noise Limit (11:01 PM to 6:59 AM)				
Runway 28L/28R	95	95	95	95
Runway 10L/28R	95	95	97	96

Source: Hayward City Ordinance, Ordinance 91-16

Aircraft operators who exceed the specified noise levels may be cited, fined, or penalized through restricted access to and operating privileges at the airport. Exceptions are provided for Oakland International Airport operations, ambulance operators, Stage III aircraft, operations for safety or those directed by air traffic control, and military aircraft.

4.3.3 Eden Area General Plan, Alameda County, California, Update March 2010

The Airport lies within the City of Hayward and is not subject to Alameda County *General Plan* policies. However, the following County policies are discussed since the community adjacent to the airport to the northwest is San Lorenzo, an unincorporated area within Alameda County. The unincorporated community of San Lorenzo is included as part of the *Eden Area General Plan* prepared by Alameda County. The *Plan* is a statement of Alameda County's conservation and development policy for the Eden area. Land use designations in the vicinity of the airport in unincorporated Alameda County are predominantly suburban and low-density residential, and limited neighborhood commercial along major arterials.

4.3.4 City of San Leandro General Plan, Adopted in 2002, Amended through 2015

The *City of San Leandro General Plan* was updated in 2002. No significant land use changes to land use patterns are proposed as part of the *General Plan*, and therefore there will only be limited cases where noise levels will exceed those considered normally acceptable for the intended use. The *General Plan* designates land uses in the vicinity of the airport as commercial uses, light industrial, and residential. The predominant zoning in the vicinity of HWD is industrial.

The *City of San Leandro General Plan* states the following airport land use compatibility related policies:

3.10 Conversion of Non-Residential Land to Housing and Public Uses

Encourage the development of new housing on underutilized commercial and industrial sites which meet the following criteria: Sites which are not constrained by external environmental factors, including freeway, railroad, and airport noise.

37.01 Monitoring of Airport Plans

Actively and aggressively participate in forums and discussions regarding operations and expansion plans for Oakland International Airport. Seek local representation on task forces, commissions, and advisory boards established to guide airport policies and programs.

37.02 Mitigation of Airport Noise

Pursue mitigation of airport noise impacts to the fullest extent possible. Support and advocate for operational practices, changes to aircraft, new technologies, and physical improvements that would reduce the number of properties in San Leandro that are impacted by noise.

37.06 Airport Safety Zones

Regulate land uses within designated airport safety zones, height referral areas, and noise compatibility zones to minimize the possibility of future noise conflicts and accident hazards.

4.4 Existing Airport Land Uses

Existing Facilities at Hayward Executive Airport are shown in Figure 4-3, which is the 2010 version of the HWD airport layout plan (ALP). The airport is located on a 520-acre site approximately two miles west of the City of Hayward's business district.

4.4.1 Airside Facilities

Airside facilities include two runways, seven taxiways, and airport lighting (identification, runway and taxi, and approach lighting). Airside facilities at HWD also include airfield lighting, identification lighting, runway and taxiway lighting, visual approach lighting, runway end identification lighting, pavement markings, two helipads, and navigational aids.

4.4.2 Landside Facilities

Existing facilities at HWD include an air traffic control tower and general aviation facilities that include hangars with multiple units and fixed base operators (FBOs). Other uses include Skywest Golf Course, commercial uses along Hesperian Boulevard, a restaurant and industrial enterprise along West Winton Avenue, a fire station, and the California Air National Guard (presently being released back to HWD).

Landside facilities at HWD include approximately 131,400 square yards of aircraft parking apron, 221 city-owned enclosed T- hangars, 14 conventional hangars, approximately 137 parking spaces, fuel storage facilities totaling 84,000 gallons, an aircraft wash facility, a tenant maintenance

LEGEND

DESCRIPTION	EXISTING	FUTURE
AIRPORT BOUNDARY		SAME
AIRFIELD PAVEMENT		
BUILDING RESTRICTION LINE (BRL)		
RUNWAY OBJECT FREE AREA (ROFA)		
RUNWAY SAFETY AREA (RSA)		
OBSTACLE FREE ZONE (OFZ)		NOT SHOWN
BUILDINGS		
BUILDINGS TO BE REMOVED	NONE	
GROUND CONTOURS	40	SAME
AIRPORT REFERENCE POINT (ARP)		
HOLD POSITION MARKINGS		
THRESHOLD SITING SURFACE		
PAPI/VASI/LOCALIZER	/ /	NONE / SAME
AIRPORT PERIMETER FENCE		
ROAD		
ROTATING BEACON		SAME
ATCT LINE OF SIGHT		
EMAS	NONE	
CLEARWAY	NONE	
LOCALIZER CRITICAL AREA	NONE	
MONUMENT *		SAME
RUNWAY LIGHTS		NOT SHOWN
PAVEMENT TO BE DEMOLISHED	NONE	
SOUND WALL	NONE	

* SEE NOTE 8.

AIRPORT DATA

DESCRIPTION		EXISTING	FUTURE
AIRPORT ELEVATION (MSL)		52'	SAME
AIRPORT REFERENCE POINT	LATITUDE	37°39'32.10"N	37°39'32.76"N
(ARP) COORDINATES (NAD 83)	LONGITUDE	122°07'18.30"W	122°07'19.61"W
NAVAIDS (i.e. ILS, BEACON)		LOCALIZER BEACON	SAME
MEAN MAX. TEMP. OF HOTTEST MONTH		74.6°(September)	SAME
AIRPORT REFERENCE CODE		C-II	D-II
GPS AT AIRPORT		YES	SAME

FACILITY TABLE

#	DESCRIPTION
1	TERMINAL/(ATCT)
2	PRIVATELY OWNED HANGARS
3	CITY OF HAYWARD HANGARS
4	FUEL STORAGE / ISLAND
5	ASOS
6	LOCALIZER
7	PROPOSED HANGARS
8	FUTURE TERMINAL
9	FUTURE ATCT
10	FUTURE AWOS
11	FIRE STATION #6
12	SKYWEST GOLF COURSE CLUBHOUSE
13	PROPOSED FUEL FACILITY

FOR MORE DETAILS, SEE SHEET 4 (BUILDING AREA PLAN)

DEVIATIONS FROM FAA DESIGN STANDARDS

DESIGN STANDARD		REQUIRED	EXISTING	ACTION
RSA LENGTH BEYOND END OF RUNWAY	10R	1,000'	595'	TRANSLATE RUNWAY/INSTALL EMAS/REMOVE NOISE BERM/APPLY DECLARED DISTANCES
	28L	1,000'	166'	
ROFA LENGTH BEYOND END OF RUNWAY	10R	1,000'	217'	
	28L	1,000'	0'	

RUNWAY END DATA

RUNWAY		EXISTING	FUTURE
10R	LATITUDE	37°39'43.36"N	37°39'44.32"N
	LONGITUDE	122°07'47.24"W	122°07'49.36"W
	ELEVATION[1]	27.7'	26.6'
28L	LATITUDE	37°39'15.33"N	37°39'16.29"N
	LONGITUDE	122°06'45.84"W	122°06'47.93"W
	ELEVATION[1]	52.1'	51.5'
10L	LATITUDE	37°39'44.91"N	SAME
	LONGITUDE	122°07'38.14"W	SAME
	ELEVATION[1]	27.9'	SAME
28R	LATITUDE	37°39'29.61"N	SAME
	LONGITUDE	122°07'04.63"W	SAME
	ELEVATION[1]	37.1'	SAME

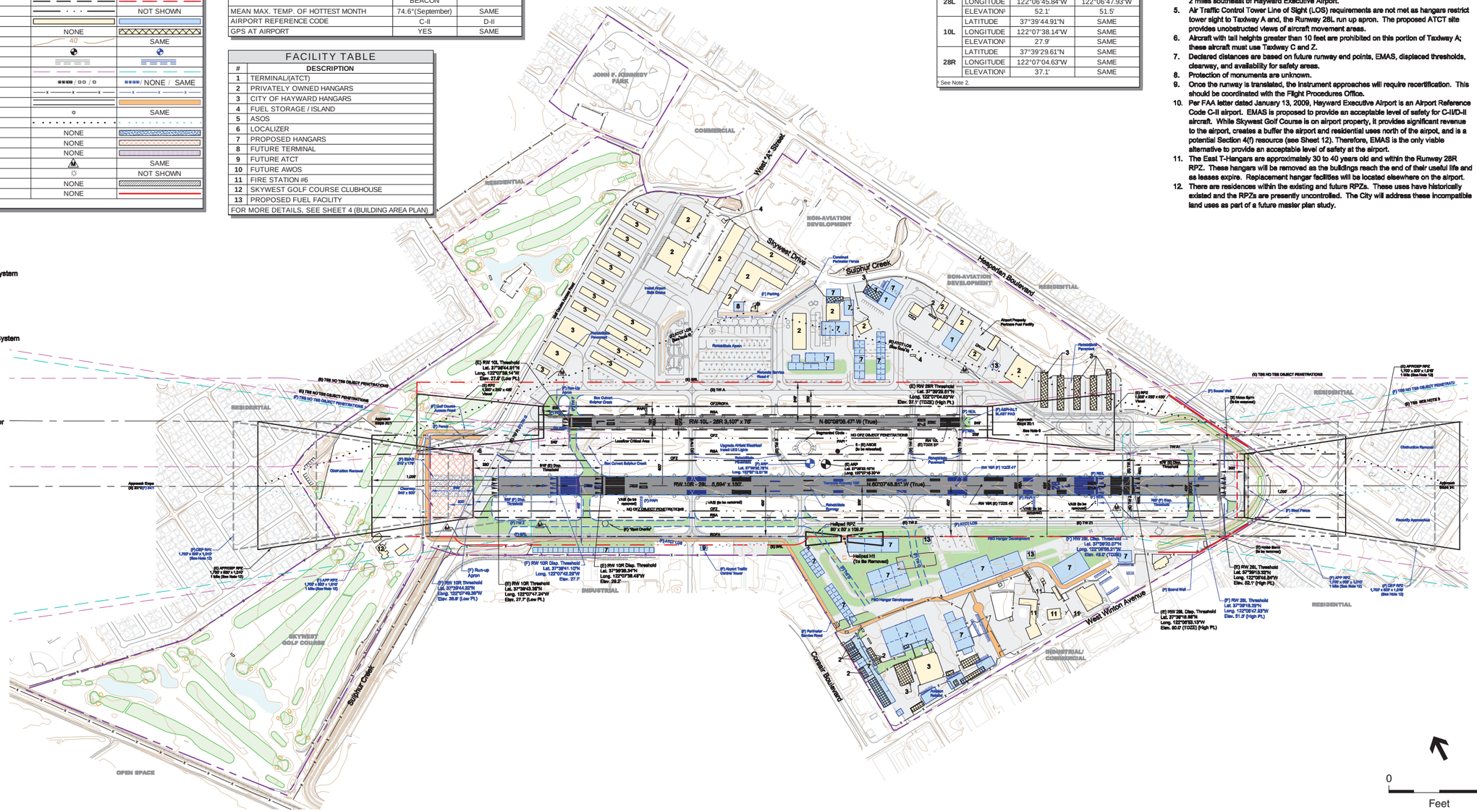
* See Note 2.

NOTES:

1. California Coordinate System, Zone 3 NAD 83.
2. All elevations are in NAVD 88. All future elevations are estimated.
3. Threshold Siting Surfaces are shown in plan view on Sheet 5 and profile view on Sheets 5 through 8. There are penetrations to the Threshold Siting Surfaces.
4. The City of Hayward has not been sectioned. The nearest section corner is approximately 2 miles southeast of Hayward Executive Airport.
5. Air Traffic Control Tower Line of Sight (LOS) requirements are not met as hangars restrict tower sight to Taxiway A and, the Runway 28L run up apron. The proposed ATCT site provides unobstructed views of aircraft movement areas.
6. Aircraft with tail heights greater than 10 feet are prohibited on this portion of Taxiway A; these aircraft must use Taxiway C and Z.
7. Declared distances are based on future runway end points, EMAS, displaced thresholds, clearway, and availability for safety areas.
8. Protection of monuments are unknown.
9. Once the runway is translated, the instrument approaches will require recertification. This should be coordinated with the Flight Procedures Office.
10. Per FAA letter dated January 13, 2009, Hayward Executive Airport is an Airport Reference Code C-II airport. EMAS is proposed to provide an acceptable level of safety for C-II/D-II aircraft. While Skywest Golf Course is on airport property, it provides significant revenue to the airport, creates a buffer the airport and residential uses north of the airpot, and is a potential Section 4(f) resource (see Sheet 12). Therefore, EMAS is the only viable alternative to provide an acceptable level of safety at the airport.
11. The East T-Hangars are approximately 30 to 40 years old and within the Runway 28R RPZ. These hangars will be removed as the buildings reach the end of their useful life and as leases expire. Replacement hangar facilities will be located elsewhere on the airport.
12. There are residences within the existing and future RPZs. These uses have historically existed and the RPZs are presently uncontrolled. The City will address these incompatible land uses as part of a future master plan study.

ABBREVIATIONS:

APP	Approach
ARP	Airport Reference Point
ASOS	Automated Surface Observing System
ATCT	Airport Traffic Control Tower
BRL	Building Restriction Line
DEP	Departure
Disp.	Displaced
(E)	Existing
Est.	Estimated
EMAS	Engineered Materials Arresting System
(F)	Future
FBO	Fixed Based Operator
GPS	Global Positioning Satellite
IFR	Instrument Flight Regulations
ILS	Instrument Landing System
LOS	Line of Sight
NPI	Non-Precision Instrument
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
Pt.	Point
REIL	Runway End Identifier Lights
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RW	Runway
TDZE	Touchdown Zone Elevation
TOFA	Taxiway Object Free Area
TSS	Threshold Siting Surface
TW	Taxiway



SOURCE: AECOM, 2010; and ESA, 2010

Figure 4-3
HWD Layout Plan

shelter, an airport control tower, and administrative offices. A full range of aviation services are available at HWD, including aircraft rental, charter, flight training, aircraft fueling, aircraft repair and maintenance and aviation supplies.

4.4.3 Runways

The existing runway configuration at HWD includes two parallel runways aligned in an east/west pattern. The two runways are designated Runways 10L-28R and 10R-28L. Runway 10R-28L serves as the primary runway and is 5,694 feet long by 150 feet wide. Runway 10L-28R is 3,107 feet long by 75 wide and primarily serves local training and small propeller-driven aircraft operations. Both runways are constructed of asphalt.

4.4.3.1 Runway Approaches

Land uses northwest of Runway 10L-28R include a golf course within 0.2 mile, residential uses between 0.2 and 1.5 miles north of runway, and industrial and Bay beyond (see Figure 4-1). Land uses southeast of the runway include residential and mall within 0.5 miles of the runway, and predominantly medium and high residential beyond. Land uses around Runway 10R-28L are the same as those described for 10L-28R.

4.4.4 Taxiways

Seven entrance/exit taxiways are available for use along Runway 10R-28L. Five exit taxiways are available for use along Runway 10L-28R. Taxiway A is the full length parallel taxiway serving both runways and provides access to the general aviation facilities on the east and southwest locations of the Airport.

4.4.5 Typical Flight Procedures

The City of Hayward has established voluntary noise abatement operational procedures in an effort to reduce aircraft noise. The following briefly describes the noise abatement operational procedures and quiet flying techniques at HWD.

Departure Runway 28L. Jets, large twin-engine, and turboprop aircraft should depart this runway from the blast fence using the displaced threshold. Air traffic control (ATC) directs all instrument flight rule (IFR) departures to maintain runway heading until reaching 400 feet mean sea level (MSL). For departures to the west, aircraft should initiate a 270-degree left turn, crossing midfield to the west.

Departure Runway 28R. Only single-engine aircraft should depart from Runway 28R. Departing aircraft should turn right at, or before, the golf course. Runway 28R is closed and unlit when the tower is not in operation.

Departures 10L and 10R. All aircraft departing these runways should maintain runway heading until above Southland Mall (approximately one-half mile from the airport boundary). Runway 10L is closed when the tower is not in operation.

Touch-and-go and Stop-and-go procedures are not recommended between 9:00 p.m. and 7:00 a.m. Monday through Saturday. Touch-and-go and stop-and-go procedures are not recommended on both runways before 10:00 a.m. on Sundays and/or holidays.

In addition to the procedures listed above, HWD provides noise abatement procedures which recommends that pilots avoid overflying residential neighborhoods, gaining as much altitude as quickly as practical, and adjusting the propeller angle and engine speed to reduce engine and propeller noise (see also Section 4.6.3).

4.5 Proposed Airfield Facility Improvements[2]

4.5.1 Airfield

Based on existing and forecast operational levels, additional airfield capacity is not needed, and no new runways are needed. The *Master Plan* proposes designation of the existing runway 28L entrance taxiway as part of the runway and using this pavement for departures to the northwest, extension of runway 28R 250 feet southwest, relocation of taxiway Z, construction of a new exit taxiway, installation of additional lighting and construction of a noise wall for Runway 10-L.

4.5.2 Building Area

It is estimated that HWD will require up to an additional 176,000 square feet of aircraft storage hangar space in the future. This includes conventional hangar areas, including executive hangars, and T-Hangar area. The *Master Plan* also proposes a single location for transient aircraft passengers at a public terminal building at the Airport. The estimated long-term need is an 11,800 square foot public terminal building.

4.6 Airport Planning Documents

4.6.1 Hayward Executive Airport Master Plan

The Hayward Executive Airport *Master Plan* was adopted by the City of Hayward in April 2002. The plan includes an inventory of existing facilities and activity at the airport, forecasts of future airport activity, a discussion of aviation facility requirements, a presentation of development alternatives, a recommended airport master plan concept, a financial plan, and environmental reconnaissance.

The HWD ALP, as part of the Master Plan, is a graphical representation of the airport described in the Master Plan. The ALP underwent a complete review and update in 2010. The update was undertaken because aircraft operations indicated that the airport had transitioned from a B2 to a C2/D2 Airport Reference Code designation. Thus, the main objective was to update the ALP and

[2] Airport facility improvements are described in greater detail in the *Airport Layout Plan Update Final Narrative Report*.

to determine the FAA design standards that needed to be applied at the airport along with the extent, type, and schedule of development required to accommodate existing and expected traffic.

In order to meet FAA design standards for a C2/D2 airport, the 2010 ALP proposes translation of Runway 10R-28L 196 feet to the northwest. In doing so, the runway object free area (ROFA) for Runway 10R-28L remains entirely on Airport property. Furthermore, the ALP also shortens Runway 28R by 480 feet. This will allow certain aircraft to use Taxiway A without penetrating the approach surface.

4.6.2 Strategic Business Plan for Hayward Executive Airport

The *Strategic Business Plan for Hayward Executive Airport* was completed in 1997. The plan was developed to identify economic development opportunities for the City of Hayward at the airport and to improve the financial position of the airport and its businesses and industries. The plan recommended updating the *Master Plan*, evaluating the impacts of the 1992 Performance-Base Noise Ordinance, preparing a marketing plan for the airport, expanding aviation development, expanding non-aviation development, attracting additional general aviation services, developing a general aviation terminal complex, and preparing a lease review and evaluation.

4.6.3 FAR Part 150 Study

The City of Hayward developed and adopted a FAR Part 150 Study in 1988, establishing procedures for airport noise compatibility planning. The plan recommended establishing departure and approach procedures, developing a program to provide pilot and community awareness, constructing a noise berm at the Runway 28L end, relocating the Runway 28L run-up area, providing additional exit taxiways, and acquiring an Automated Surface Observation System (ASOS). These recommendations have been implemented.

4.7 Existing and Future Airport Activity

The *Hayward Executive Airport Master Plan* outlines existing and forecasted activity at the airport. General aviation airports typically measure airport activity using the number of based aircraft and total annual operations (takeoffs and landings). Since 1989, general aviation operations have accounted for more than 98 percent of all operations at the airport.

4.7.1 Fleet Mix

The existing based aircraft fleet mix is composed of single-engine piston aircraft, but also includes multi-engine piston, turboprop, turbojet, and helicopter aircraft. Table 4-2 presents the existing fleet mix for based aircraft at HWD as published in the 2010 revised ALP.

TABLE 4-2
EXISTING BASED FLEET MIX

Aircraft Type	Percentage of Based Fleet
Single-Engine Piston	80
Multi-Engine Piston	11.3
Jet	7
Helicopter	1.7

Source: *HWD ALP Update Narrative Report*, 2010.

Projections of aircraft operations at HWD are based on the number of operations per based aircraft and historical data. Historically, based aircraft operations have made up 50 percent of total annual operations or about 300 to 400 operations per based aircraft. After increasing between 1984 and 1989, total based aircraft at HWD gradually declined to approximately 423 aircraft in 1998. The number of based aircraft at HWD has increased since 1998 to its current number of 475.

TABLE 4-3
PROJECTED BASED AIRCRAFT BY AIRCRAFT TYPE: 1998 – 2025

Year	Total	Single Engine	Multi-Engine	Turboprop	Jet	Helicopter
1998 (actual)	424	363	38	10	7	6
2005 (actual)	477	387	42	12	17	19
2010 (actual)	475	366	55	14	46	8
2015	497	413	47	18	11	8
2020	518	426	50	20	13	9
2025	544	440	54	23	16	11

Source: Coffman Associates, Inc., 2002, and *HWD ALP Update Narrative Report*, 2010.

The projected annual operations presented in Table 4-3 represent a future scenario between increasing operations per based aircraft and static operations per based aircraft. This planning forecast projects annual operations growing at an annual rate of 1.7 percent. It is likely that based aircraft levels will fluctuate above and below the levels provided in the planning forecast.

4.7.2 Runway Use

Most of the departures at HWD are to the west on either Runway 28L or Runway 28R. Table 4-4 provides a summary of runway use at HWD.

TABLE 4-4
RUNWAY USE PERCENTAGES AT HWD

Runway	Single Engine Piston	Multi-Engine Piston	Turboprop	Business Jet
10L	2.5%	0.0%	0.0%	0.0%
10R	2.5%	5.0%	5.0%	5.0%
28L	30.0%	55.0%	95.0%	95.0%
28R	65.0%	40.0%	0.0%	0.0%

Source: FAA, Coffman Associates, Inc., 2002.

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