Hayward Executive Airport
Airport Layout Plan Update

APPROVED FINAL NARRATIVE REPORT

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Chapter 1
Introduction

Chapter 1 – Introduction

INTRODUCTION

Hayward Executive Airport (HWD) is a 527-acre public facility that is owned by the City of Hayward and operated through the City's Department of Public Works. The airport aviation needs of the City of Hayward and surrounding communities and serves as a reliever to Oakland and San Francisco and San Jose International Airports. Since the Airport Master Plan for Hayward Executive Airport was completed in 2002 (2002 Master Plan), Hayward has experienced increased business jet traffic at the airport. In order to determine the impacts of this recent growth, the City sponsored an airport layout plan (ALP) update through a planning grant from the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). In June 2008, a contract was awarded to AECOM of Orange, California to prepare an updated airport layout plan and narrative report for Hayward Executive Airport.

This document comprises the Approved Final Narrative Report for the airport layout plan update that documents the research, analyses, and findings of the study. During the course of the study, an Interim Narrative Report was issued which documented the initial elements of the work program including inventory, forecasts of aviation demand, and facility requirements. The Interim Narrative Report was a working document and was superseded by the Draft Final Narrative Report. The Draft Final Narrative Report was superseded by the Final Narrative Report. This Approved Final Narrative report supersedes all previous versions and incorporates comments from the FAA and Caltrans, and will include an approved copy of the ALP.

PURPOSE AND SCOPE OF STUDY

The main objective of this study is to update the airport layout plan and to determine the FAA design standards to be applied at the airport along with the extent, type, and schedule of development needed to accommodate existing and expected traffic. The recommended development shall focus on developing a list of Capital Improvement Projects for the short (5-year) term and long-term (year 2020). The recommended development should satisfy FAA design standards, aviation demand, and consider proposed community development and other transportation modes. Above all else, the plan must be technically sound, practical, and economically feasible. The following objectives shall also serve as a guide during preparation of the study:

- To provide an effective graphic presentation of the ultimate development of the airport.
- To present the pertinent backup information and data which were essential to updating airport layout plan.
- To describe the various concepts and alternatives which were considered in the establishment of the proposed plan.
- To provide a concise and descriptive report so that the impact and logic of its recommendations can be clearly understood by the community the airport serves and by those authorities and public agencies that are charged with the approval, promotion, and funding of the improvements proposed in the airport layout plan update.

- To enhance reliability and safety of airport operations.

THE PLANNING PROCESS

A transportation planning study, such as this, is accomplished by following some fundamental, sequential steps that are briefly stated as an overview of the work to be accomplished. The initial step involves taking inventories of existing facilities and systems, documenting existing conditions, and coordinating activities with other agencies. Next, an assessment of design aircraft is undertaken and characteristics listed and then translated into a listing of required facilities and design standards. Once this list is determined it is possible to compare design standards with existing facilities to identify deficiencies. Alternative development concepts that satisfy the deficiencies are then developed and evaluated so that a recommended concept is identified. Once identified, the preferred alternative will then be detailed and examined in terms of a staged development plan.

It is should be noted that the airport layout plan update focuses on the airport and the planning of facilities within its property boundary. The evaluation of off-airport areas is considered only to the extent that off-airport land may need to be acquired for airport use, or to determine whether off-airport areas could be exposed to airport noise, subject to height restrictions, or affected by other safety considerations. The airport layout plan update is not intended as a comprehensive general development plan for the area surrounding the airport or community. However, it can be coordinated or incorporated into other community development programs.

PLANNING ISSUES

A Technical Advisory Committee (TAC) was established for the project for the purpose of monitoring the progress of work and providing input on the study. The TAC is comprised of members of businesses located on the airport, members of the neighboring community, and representatives from the City of Hayward, the FAA, and Caltrans Division of Aeronautics. The first TAC meeting was held in Hayward on August 26, 2008 and the purpose of the meeting was to identify planning issues for the airport. The second TAC meeting was held February 9, 2009, and the Interim Narrative Report was presented. A list of TAC members and notes from the TAC meetings are included as Appendix A of this report. A summary of the issues identified in the first TAC meeting are provided below.

- FAA Airport Design Standards. The primary issue which the airport layout plan update will be studying is a change in airport reference code at Hayward Executive Airport due to increased operations of jet aircraft.

- California Air National Guard (CANG) Property. The plan will address the former CANG property as an area to be reused by aviation uses.

- Fleet Mix. The fleet mix as presented in the 2002 Master Plan has changed. The airport layout plan update should reflect the changes.

- Regional Aviation Planning Committee (RAPC). The RAPC is currently updating its system plan and coordination between the two planning efforts should occur.

- Russell City Energy Plant. A power plant to be located near the airport was previously approved by the California Energy Commission in 2007. The power plant is controversial and there have been several efforts to prevent construction of the project including appeals by Mr. Rob Simpson, Californians for Renewable Energy (CARE) Hayward Area Planning Association (HAPA) and Citizens Against Pollution (CAP). Most recently the BAAQMD has issued a Prevention of Significant Deterioration (PSD) permit as the final regulatory approval for the project and unless further delayed by additional appeals construction is scheduled to start September 2010.

- Wide Area Augmentation System (WAAS) Approach. Hayward is on a list at the FAA to obtain a WAAS approach. The airport layout plan update should account for the new instrument approach procedure.

- Runway Safety Area Issues and Alternatives. The airport layout plan update will place a large emphasis on meeting runway safety areas standards at the airport.

- West A Street Extension. At the beginning of the ALP update project the City was designing an extension of West A Street. This project has been terminated.

GOALS AND OBJECTIVES

Planning can be defined as a rational process for formulating and meeting desired goals and objectives that properly express the benefits that such a plan will produce for its users. Goals are defined as desired ends relating to the physical, social, or economic context as to how the airport should develop and how it should be operated. It should be pointed out that goals might not entirely be attainable. Objectives, on the other hand, are specific and attainable actions, which lead to the attainment of goals. The goals and objectives serve as a foundation used to guide the planning process. They can also be used to rate the merits of alternative plans.

The following preliminary goals and objectives were developed based on the planning team's experience and the discussion of issues at the first TAC meeting.

GOAL NO. 1 – Function: The airport should accommodate current and projected aircraft design categories based and operating at the airport.

Objectives:

1. Provide through planning, an orderly and timely development of facilities adequate to meet current air transportation needs.
2. Develop the airport to match its current and forecasted role and demand.
3. Accommodate those classes of general aviation aircraft operations consistent with the airport role and demand.
4. The plan should be flexible.

GOAL NO. 2 – Safety: The operation of the airport related to all aspects of air transportation for the users, operators, and general public should be safe.

Objectives:

1. Minimize risk exposure to aviators and those living and working beneath navigable airspace.
2. Conformance with FAA regulations and airport design standards, identify design aircraft and associated airport design criteria, especially runway safety areas.

    - FAA Advisory Circular 150/5300-13, Airport Design (latest version)
    - FAR Part 77, Objects Affecting Navigable Airspace which forms the basis for zoning regulations to prevent obstructions to air navigation.

GOAL NO. 3 – Efficiency and Economy: The airport should maintain financial self-sustenance.

Objectives:

1. Maximize best possible use of existing facilities.
2. Make best use of airport property for landside development through application of appropriate airport design standards.
3. Maximize the ability to implement the plan.
4. Consider use of property not needed to accommodate long-term aviation demand for other revenue producing uses.
5. Identify means of local funding requirements, including revenue from possible non-aviation uses of airport property.
6. Minimize costs to users, operators, and general public.

GOAL NO. 4 – Environment: The airport should be developed and operated to minimize potentially adverse effects on the natural and human environment.

Objectives:

1. Develop and operate new airport facilities and correct deficiencies in existing aviation facilities in accordance with appropriate Executive Orders and appropriate Federal, State, and local environmental regulations. Such requirements include, but are not limited to:

    - FAA Order 1050.1E, Change 1, "Environmental Impacts: Policies and Procedures";
    - Applicable FAA Advisory Circulars, including FAA Order 150/5200-33B, "Wildlife Hazard Attractants on and Near Airports";
    - The California Environmental Quality Act (CEQA); and
    - City of Hayward regulations and ordinances.

GOAL NO. 5 – Land Use Compatibility: The airport should be developed in agreement with applicable land use plans to the extent practicable.

Objectives:

1. The revised airport layout plan should be consistent with the Hayward General Plan and other associated city-wide plans that address the airport and adjacent property.
2. The revised airport layout plan should provide information for off-airport land use planning and provide pertinent information for incorporation to the "Compatible Land Use Plan for Hayward Executive Airport" and subsequent policies promulgated by the Caltrans Division of Aeronautics.
3. The revised airport layout plan should incorporate appropriate FAA policies and procedures associated with land use compatibility.

Chapter 2
Executive Summary

Chapter 2- Executive Summary

INTRODUCTION

The findings, conclusions, and development recommendations of the airport layout plan update are highlighted in this executive summary. It is important to point out that the schedule of improvements proposed in this plan is contingent upon the availability of Federal, State, local funds, private investment, results of cost benefit analyses, and necessary environmental study and documentation. While improvements are scheduled for specific years in this plan, it must be remembered that it is the programming of the Airport Improvement Program by the FAA that will determine the timing of projects eligible for FAA funding assistance. Development projects at Hayward Executive Airport must be reconciled with the development priorities of other airports in the region. In terms of projects not eligible for FAA monies, the implementation will depend on the availability of local funds and private sources. Thus, the implementation of the recommendations will depend upon FAA programming and funding availability, completion of any environmental studies and any applicable mitigation, as well as the attainment of the projected traffic levels.

The following subsections highlight the existing airport, significant changes since the 2002 Master Plan, fleet mix and design aircraft, and the initial findings on required facilities. Details on the various airport layout plan elements can be found in subsequent chapters of this report. Chapter 3 describes the existing airport, significant changes since the master plan was prepared, and known fixed based operator expansion plans. Revisions to the fleet mix at, Hayward along with selection of the design aircraft, and the translation of the design aircraft into a list of required facilities, can be found in Chapters 4 and 5, respectively. Chapter 6 details the various alternatives studied during this ALP Update, and Chapter 7 contains the recommended development plan. Chapter 8 includes the costs of capital improvement projects. Environmental overview analysis performed as part of the ALP Update is contained in Chapter 9. Appendix A contains a list of Technical Advisory Committee members and notes of the meetings. To assist the reader, a glossary and list of abbreviations used in this report has been provided as Appendix B. Appendix C has pilot information flyers and Appendix D shows based aircraft data contained in the FAA Terminal Area Forecast (TAF). An independent review of the 2002 Master Plan forecasts was conducted and is included in Appendix E. Appendix F has information on airport reference code (ARC) B-I and B-II design standards. Detailed cost information is included in Appendix G. Four appendices related to the environmental overview are also included. Appendix H contains the 2005 Biological Assessment for Sulphur Creek, Appendix I includes detailed noise analysis, Appendix J contains the EDR report, and Appendix K includes references for the environmental overview.

AIRPORT ROLE

The airport will continue to serve in its present role as a reliever airport to Oakland International, San Francisco International, and San Jose International Airports, and significant changes in the reliever role are not expected. The airport will continue to primarily serve small, personal use aircraft and helicopters. However, the airport will also be planned to serve an increasing number of business aircraft (turboprops and business jets) in order to allow the airport to serve as an asset to the City and stimulant of the local economy.

EXISTING AIRPORT AND RECENT CHANGES

Hayward Executive Airport is situated along the northeastern portion of San Francisco Bay. The airport is owned by the City of Hayward and is located about 2.3 miles west of the City's central business district. Hayward Executive Airport is contained in the National Plan of Integrated Airport Systems (NPIAS) and is classified as a Reliever Airport. The function of a reliever airport is to reduce the aircraft mix at a Commercial Service primary airport and provide a less congested airport for smaller jet and general aviation operations. Hayward is a reliever airport for Oakland International Airport, San Francisco International Airport, and San Jose International Airport.

Hayward has two runways; Runway 10R-28L is 5,694 feet long and 150 feet wide with displaced thresholds of 815 and 676 feet on the 10R and 28L ends, respectively. Runway 10L-28R is 3,107 by 75 feet. Hayward has approximately 480 based aircraft and most of the landside development is on the north side of the airport.

Planning standards contained in FAA AC 150/5300-13, Airport Design, are applied throughout this planning study. Hayward Executive Airport was classified as an Airport Reference Code B-II in the 2002 Master Plan.

Since the 2002 Master Plan significant changes have been implemented at Hayward. These changes are summarized below:

- Runway 28L was extended 670 feet and Taxiway A1 was widened adjacent to the runway threshold.
- North side helicopter pads (six) were constructed.
- Ascend Development completed ParkAvion, a hangar complex adjacent to the airport administration building.
- The City purchased a 3,000 gallon Airport Rescue and Fire Fighting (ARFF) truck to be used at the airport.
- Approximately 16 acres of airport property were sold from the airport.
- The East Bay Municipal Utility District and San Francisco Public Utility Commission Water System Intertie project, and associated Skywest Pump Station were constructed.

FLEET MIX AND DESIGN AIRCRAFT

The forecasts from the 2002 Master Plan were used as a basis for the airport layout plan forecasts. This airport layout plan update retains the forecast of total based aircraft and operations, but revised the mix of aircraft. Based aircraft and operations forecasts from the 2002 Master Plan are presented in Tables 2-1 and 2-2, respectively.

Table 2-1
FLEET MIX CONTAINED IN 2002 MASTER PLAN

	Single Engine		Multi-Engine		Turboprop		Jet		Helicopter		
Year	#	%	#	%	#	%	#	%	#	%	Total
1998	363	85.8%	38	9.0%	10	2.4%	7	1.7%	5	1.2%	423
2005	388	85.5%	41	9.0%	11	2.4%	8	1.8%	6	1.3%	454
2010	401	84.4%	44	9.3%	14	2.9%	9	1.9%	7	1.5%	475
2015	413	83.1%	47	9.5%	18	3.6%	11	2.2%	8	1.6%	497
2020	426	82.2%	50	9.7%	20	3.9%	13	2.5%	9	1.7%	518

Source: 2002 Master Plan; AECOM analysis.

Table 2-2
ANNUAL AIRCRAFT OPERATIONS CONTAINED IN 2002 MASTER PLAN

Year	Annual Operations
1998	153,618
2005	173,200
2008	165,000
2010	188,250
2015	204,400
2020	221,800

Source: 2002 Master Plan.

In order to revise the forecasted mix of aircraft, historical based aircraft trends at competing airports were identified. Seven airports (Oakland International, San Francisco International, Livermore Municipal, San Jose International, Buchanan Field, Napa County, and Sonoma County) have similar facilities as Hayward and are judged to be competing airports. Based aircraft data for these airports was reviewed, and it was determined that in recent years Hayward has increased its market share of based business jet aircraft. This trend is expected to continue as corporate facilities are developed at the airport. Table 2-3 presents the revised based aircraft forecasts.

Table 2-3
BASED AIRCRAFT BY AIRCRAFT TYPE AT HAYWARD EXECUTIVE AIRPORT

	Single Engine		Multi-Engine		Jet		Helicopter		
Year	#	%	#	%	#	%	#	%	Total
2008	384	80.0%	54	11.3%	34	7.0%	8	1.7%	480
2010	374	78.7%	55	11.6%	38	8.0%	8	1.7%	475
2015	385	77.4%	59	11.9%	45	9.0%	8	1.7%	497
2020	394	76.0%	64	12.3%	52	10.0%	9	1.7%	518

Source: 2002 Master Plan (total aircraft); AECOM analysis (aircraft types).

From the revised based aircraft fleet mix operations, by type, were then forecasted (see Table 2-4).

Table 2-4
OPERATIONS BY AIRCRAFT TYPE AT HAYWARD EXECUTIVE AIRPORT

	Operations			
Aircraft Type	2008	2010	2015	2020
Single Engine	140,130	157,840	167,150	177,150
Multi-Engine	19,790	23,380	26,210	29,560
Jet	2,100	3,600	7,300	11,000
Helicopter	2,980	3,430	3,740	4,090
Total	165,000	188,250	204,400	221,800

Source: 2002 Master Plan (total operations);
AECOM analysis (operations by type).

As previously mentioned, the airport reference code (ARC) for Hayward is a B-II as indicated in the 2002 Master Plan. In recent years, Hayward has experienced increased use by corporate business jet aircraft. From April 2007 to April 2008, business jets accounted for approximately 2,100 operations. Business jet aircraft fly at least 500 annual operations; and therefore represent the design aircraft for Hayward Executive Airport. Table 2-5 summarizes business jet operations by airport reference code.

Table 2-5
SUMMARY OF BUSINESS JET OPERATIONS AT HAYWARD
(April 2007 to April 2008)

Approach Category	Airplane Design Group I	II	III	Total
B	240	744	0	984
C	524	246	0	770
D	186	168	4	358
Total	950	1,158	4	2,112

Source: City of Hayward ANOMS 8; AECOM analysis.

Operations of Approach Category C aircraft represented more than 500 operations from April 2007 to April 2008; and therefore, is the appropriate approach category to be applied at Hayward for existing conditions. Airplane Design Group II aircraft account for more than 1,100 operations meaning that the Group II designation is still relevant. The airport reference code to be applied at Hayward for existing conditions is C-II.

In order to determine the future airport reference code to be applied, business jet operations were forecasted, by airport reference code in 2020. Table 2-6 presents the forecasted operations. Prior to 2020 Approach Category D aircraft account for more than 500 operations and the airport reference code for Hayward would be D-II. The ALP update will reflect an ARC of C-II for the existing conditions and an ARC of D-II for the ultimate configuration. It is expected that operations of D-II aircraft will exceed 500 operations within the next five years.

Table 2-6
FORECAST OF BUSINESS JET OPERATIONS AT HAYWARD
(Year 2020)

Approach Category	Airplane Design Group I	II	III	Total
B	1,250	3,875	0	5,125
C	2,729	1,281	0	4,010
D	969	875	21	1,865
Total	4,948	6,031	21	11,000

Source: AECOM analysis.

To facilitate the review of FAA design standards at the airport, representative design aircraft were selected for existing and ultimate configurations. Based upon operations data, the Challenger 601 represents the existing design aircraft. This is an Airport Reference Code C-II aircraft. The Gulfstream IV (ARC D-II) is forecasted to be the ultimate design aircraft at Hayward.

FACILITY REQUIREMENTS

Chapter 5 presents the facility requirements deemed necessary to accommodate the aviation demand of C-II and D-II type aircraft. Listed below are the findings and conclusions of the analysis.

Airside

- When comparing FAA design standards for airport reference codes C-II and D-II it is seen that the standards are nearly identical. Since they are similar, and due to the fact that the airport will experience an increase in D-II operations, ARC D-II standards have been applied.

- Airfield (runway) capacity is not sufficient to accommodate forecast operations. The 2002 Master Plan recommended an additional taxiway.

- The existing runway provides 98.02 percent coverage for a 10.5 knot (12 mph) crosswind and 99.96 percent for a 20 knot (23 mph) crosswind which meets the FAA recommendation of 95 percent wind coverage.

- The location of Hesperian Road and West Winton Avenue near the end or Runways 28L and 28R encroach on standard runway safety area (RSA) and runway object free area (ROFA).

- The existing threshold of Runway 10R is displaced 815 feet. The existing threshold of Runway 28L is displaced 676 feet.

- Current deviations from FAA standards include:

    - Runway safety area (RSA) beyond Runways 10R and 28L are not provided. The runway safety area should extend 1,000 feet beyond the runway end and is 500 feet wide. Only 595 feet of full RSA is provided beyond Runway 10R and 166 feet beyond Runway 28L.

    - Runway object free area (ROFA) should also extend 1,000 feet beyond the end of the runway and is 800 feet wide. Only 217 feet of full ROFA is available beyond Runway 10R and no ROFA is available beyond Runway 28L.

    - Runway protection zones (RPZs) associated with Runways 10R and 28L extend beyond airport property. Residential and commercial developments are not compatible land uses within an RPZ. Approximately 51 and 73 residences are included within the RPZs associated with Runways 10R and 28L, respectively. Commercial uses are also included within the RPZ for Runway 28L, including a gas station. There are five hangar buildings within the Runway 28R RPZ.

Landside

Table 2-7 presents the landside requirements as determined in the 2002 Master Plan. Landside requirements for this airport layout plan update are assumed to be the same as identified in the master plan. The landside requirements are assumed to be met through facilities shown on the current ALP and the planned fixed base operator (FBO) expansions.

To assist with meeting T-hangar requirements noted in the master plan, space should be designated for a small individual hangar park/complex. This park is to be constructed by private developers while following certain guidelines. These guidelines include regulations on time frames for obtaining permits, starting construction, and completing constructions.

ALTERNATIVE DEVELOPMENT CONCEPTS

The primary focus of this ALP Update was to develop a recommendation and list of projects to accommodate an airport reference code of C-II. Through the course of this study, it was discovered that an ARC of D-II is applicable for the long-term planning period (2020). Chapter 6 details the alternative development process undertaken during this ALP Update. Prior to developing any alternatives, opportunities and constraints at and adjacent to the airport were documented. While the focus of this study was on the primary runway and change in ARC, several other airside and landside issues were addressed, including the Runway 28R/Taxiway A conflict, East T-Hangars within the Runway 28R RPZ, Taxiway A/service road issue, and siting of a new airport traffic control tower. Landside issues addressed included the reuse of the California Air National Guard property, inclusion of a small individual hangar park/complex, a new general aviation terminal, location of the perimeter service road, Skywest Golf Course vehicle access and parking, and the proposed extension of West A Street.

Table 2-7
LANDSIDE REQUIREMENTS

Item	1998	2005	2010	2020
Based Aircraft	**423**	**454**	**475**	**518**
Aircraft in Hangars	303	341	369	426
Aircraft in T-Hangars	192	230	246	279
Aircraft in Conventional Hangars	97	111	123	147
Aircraft on Tie-Downs	120	113	106	92
Transient Aircraft	**N/A**	**44**	**47**	**56**
Hangar Area Requirements (square feet)	**427,000**	**466,600**	**512,300**	**603,000**
T-Hangar Area	229,600	275,600	295,300	334,700
Conventional Hangar Area	197,400	191,000	217,000	268,300
Apron Area Requirements (square yards)	**131,700**	**108,400**	**106,800**	**104,500**
Based Aircraft Apron	N/A	73,500	68,900	59,800
Transient Apron	N/A	34,900	37,900	44,700
Other Requirements				
Public Terminal Building (square feet)	N/A	7,900	9,100	11,800
Aircraft Wash Facility	Two Bays	Two Bays	Two Bays	Two Bays
Tenant Maintenance Shelter	Two Bays	Two Bays	Two Bays	Two Bays

Source: Formed by the Hayward Executive Airport Master Plan, 2002.

Runway 10R-28L

Once the opportunities and constraints were defined, primary runway alternatives were conceived and screened through an iterative process. Two rounds of screening were completed. During the first round, concepts were reviewed on a pass/fail basis of three criteria. These were designed to eliminate alternatives with fatal flaws. Round 1 evaluation criteria were:

- Whether or not the alternative directly impacted the community – primarily through land acquisition;
- Whether or not the alternative impacted any of the defined constraints documented in Chapter 6; and
- If the alternative could meet FAA design standards.

The second round of evaluation was more thorough and evaluated technical aspects such as useable runway lengths and locations of displaced thresholds, but also subjectively reviewed environmental considerations and project costs. Evaluation criteria for Round 2 were:

- The amount of useable runway length, and if the alternative accommodated less or more useable runway;
- Ability to meet FAA design standards or provide an acceptable level of safety;
- Impacts/constraints of the approach and threshold siting surfaces and location of displaced thresholds;
- An assessment of qualitative project costs; and
- A subjective review of potential environmental impacts.

Ten alternatives were conceived to meet FAA design standards associated with an ARC of D-II:

- **Alternative 1** – no action alternative.
- **Alternative 2** – 700-foot separation between runways.
- **Alternative 3** – close Runway 10L-28R.
- **Alternative 4** – full ROFA off Runway 10R
- **Alternative 5** – full RSA off Runway 10R
- **Alternative 6** – apply declared distances
- **Alternative 7** – EMAS (Engineered Materials Arresting System) on Runway 28L
- **Alternative 8** – EMAS on Runway 10R
- **Alternative 9** – EMAS on Runways 10R and 28L
- **Alternative 10** – maximize runway length within the existing airport boundary using EMAS

Seven of the ten alternatives (Alternatives 4 through 10) passed from Round 1 to Round 2. After the second round of screening was performed, Alternative 4 represented the recommended concept. However, refinements were required to this concept due to its impacts on the Skywest Golf Course and the San Lorenzo Neighborhood. Therefore, Alternative 4 was refined by translating the runway 196 feet, including EMAS on Runway 28L, and generally limiting the aircraft operating area to its present boundary.

The precedence of EMAS installations has been set by seven FAA funded general aviation and reliever airports. There are multiple airports that have installed EMAS – funded by the FAA – that have similar annual operations, runway lengths, and based jet aircraft without commercial service (see Table 2-8). For comparison, Hayward presently has 33 based jets, a 5,694-foot long runway, and had approximately 165,000 operations in 2008.

Table 2-8
GA AND RELIEVER AIRPORTS WITH EMAS

Airport	Commercial Service	No. of EMAS Systems	Installation Date	Length of RWY with EMAS	Longest RWY	Based Jets	No. of Operations (2008)
Greenville Downtown *Greenville, SC*	No	1	2003	5,393	5,393	18	76,622
Dutchess County *Poughkeepsie, NY*	No	1	2004	5,001	5,001	0	99,914
Teterboro *Teterboro, NJ*	Yes	1	2006	6,013	7,000	91	202,193
St. Paul Downtown *St. Paul, MN*	No	2	2008	6,491	6,491	35	126,079
Reading Regional Reading, PA	Yes	1	2009	6,350	6,350	11	91,258
Kansas City Downtown *Kansas City, MO*	Yes	1	2009	7,101	7,101	38	95,438
Smith Reynolds *Winston-Salem, NC*	Yes	1	2010*	6,655	6,655	18	59,569

* Additional project currently under contract.
RW – Runway; No. – Number
Source: http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=6279

The installation of EMAS at Hayward will increase the level of safety. The Refined Recommended Concept formed the basis for the airside improvements shown on the ALP Update.

Runway 28R / Taxiway A Issue

Taxiway A is located within the approach of Runway 28R. Aircrafts with tail heights greater than 10 feet penetrate the approach surface of Runway 28R and represent obstructions. Essentially, Taxiway A serves as an end around taxiway, allowing aircraft to traverse around the end of Runway 28R and accessing Runway 28L. A total of eight alternatives were developed to mitigate this issue, including a no action alternative. Alternatives varied from relocating the taxiway to relocating the runway threshold and closing the taxiway. The recommended alternative is to shorten Runway 28R 480 feet. Shortening the runway will allow airplane design group II aircraft to use Taxiway A without penetrating the Runway 28R approach surface. Runway 10L-28R will be reduced to 2,627 feet in length, which is longer than Palo Alto and San Carlos. It is recommended that a subsequent master plan analyze returning Runway 10L-28R to its present length and how to straighten Taxiway A.

Runway 28R Runway Protection Zone

There are five T-hangar buildings built in the 1960s/1970s and referred to as the East T-Hangars, that are located within the Runway 28R runway protection zone (RPZ). The RPZ should be kept clear of all objects, including hangars. Five alternatives, including a no action alternative, were developed to address this issue. The recommended alternative is to remove the East T-Hangars at the end of their useful life or as leases expire. Timing and removal of the hangars will be at the City's discretion. This alternative meets FAA design standards and does not change existing operations nor the existing airfield.

Taxiway A / Service Road

The service road running parallel to Taxiway A is partially located within the taxiway object free area. A portion of the service road also encroaches upon the taxiway safety area. Four alternatives (including a no action alternative) were developed to address this issue. Alternatives generally focused on relocating either the service road or the taxiway. The recommended alternative is to relocate the parallel portion of the service road northward 4 feet. Vehicles using the segment of service road that traverses the taxiway safety area must be in contact with the tower.

Airport Traffic Control Tower Siting

The current airport traffic control tower (ATCT) has several blind spots, including portions of Taxiway A. Three potential sites were identified. Site 1 is the current site of the ATCT. For this location a taller tower is required. Site 2 is located on the south side of the airport, adjacent to the intersection of Taxiways E and Z. This site is preferred as it provides good views of the entire airfield area and will help controllers view Oakland traffic entering Hayward's airspace from the north. The third potential site was located near the former California Air National Guard leasehold. While Site 2 is the preferred site, final location is at the discretion of the FAA and subject to special siting studies.

Landside

Landside requirements are primarily assumed to be met through development shown in the 2002 Master Plan and current/planned FBO developments. During the course of this ALP Update several landside items were discovered and addressed in this study.

- **Reuse of the California Air National Guard (CANG) lease.** The City of Hayward issued an Request for Proposals to redevelop the CANG lease for aviation uses. Hayward Airport Development Group, LLC was selected as the developer for the site. Conceptual plans include 16 large hangars capable of supporting a variety of aircraft sizes. The existing 60,099-square foot hangar will remain and will includes a defined space that will be used to house memorabilia and function as a museum open to the general public.

- **Small Individual Hangar Park/Complex.** Areas suitable for a Small Individual Hangar Park or Complex were identified. These hangars are intended for smaller general aviation aircraft. Hangars could be developed by the City or private developers. If private developers construct the complex, it will be subject to specific rules and guidelines, including required time frames for obtaining permits, breaking ground, and completion.

- **General Aviation Terminal.** While several FBOs provide terminal facilities, these are geared more towards corporate/business users. A general aviation terminal is necessary at a centralized location for visiting general aviation users. This facility can also support expanded airport administration office space as needed.

- **Perimeter Service Road.** Presently there is no service road connecting the north side of the airport to the south on the west end of the airport. Nor is there a service road available along the south side of the airport. A proposed alignment is included on the ALP.

- **Golf Course Access and Parking.** The existing golf course access road traverses the runway protection zones for Runways 10R and 10L. This road is not a through street and has very low traffic volumes. Also, vehicle parking for the golf course is located within the central portion of the runway protection zone of Runway 10R. While these represent deviations from FAA design standards, since they are existing conditions, it is proposed that they remain.

- **West A Street Extension.** Included in the City's General Plan is an extension of West A Street from the Target shopping center to Corsair Boulevard. Design for the West A Street extension was running parallel to this ALP Update. Two alignments were considered: 1) constructing a tunnel under Runway 10R-28L, including associated safety areas and 2) aligning the road on the northern side of the Skywest Golf Course, adjacent to the San Lorenzo neighborhood. This project has been halted.

The preferred landside alternative reflects development included in the 2002 Master Plan, planned FBO expansions/development, reuse of the CANG leasehold, a small individual hangar park/complex, a new general aviation terminal, a perimeter service road on the south and west sides of the airport, and the Hayward Hangars.

The refined airside and preferred landside alternatives formed the basis of this ALP Update.

RECOMMENDED DEVELOPMENT

The approved Airport Layout Plan (ALP), depicted in Figure 2-1, presents the overall development concept plan for Hayward Executive Airport as recommended in this ALP Update. This plan was based on the recommended development concept defined in Chapter 6 and refined based on input from the City, airport management, the FAA, stakeholders, and funding considerations. The main focus of this study was to enhance the airfield for the current business jet operations. Key recommendations are as follows:

- Locating a portion Sulphur Creek into a box culvert, as recommended by the FAA Runway Safety Action Team (RSAT).

- Translate Runway 10R-28L 196 feet and install Engineered Materials Arresting Systems (EMAS) on Runway 28L. It is also recommended that declared distances be applied to the runway and a clearway provided for Runway 28L. These improvements enhance the safety of the runway by providing full runway safety and object free area beyond Runway 10R end and full safety areas through the application of declared distances on Runway 28L end. The clearway also enhances operational safety of the airport. Displaced thresholds are required on both runway ends. Runway 10R's threshold is displaced 655 feet and Runway 28L's threshold is displaced 676 feet.

- Shorten Runway 28R 480 feet.

- Modifications to taxiways, such as extending taxiways to the south side of the airport, relocating Taxiway Z to provide 300 feet of runway/taxiway separation, and constructing a new exit taxiway for Runway 28L.
- Developing the south side of the airport for based corporate aircraft facilities.
- Additional based aircraft facilities on the north side of the airport.
- Construction of a 12,000-square foot two-story general aviation terminal facility.
- Upgrade the airfield electrical system and install LED airfield lights.

The primary focus of Phase 1 improvements are to provide airport reference code C-II/D-II facilities, consistent with current and future projected traffic. Therefore, in Phase 1 the runway is translated and additional safety areas provided and other airfield (taxiway) improvements are included. During Phase 1 work is also done to begin developing the south side of the airport for based aircraft. Development of the south side continues into Phase 2. A new airport traffic control tower is also included in Phase 2. Table 2-9 summarizes all development recommendations which are more fully described in Chapter 7.

COSTS AND FUNDING

Implementation of the recommended development plan will require the expenditure of $86.7 million during the 10-year planning period. The ALP Update capital improvement program will be funded from various sources including FAA, State, City/airport revenues, and private investments. Table 2-10 summarizes program expenditures.

As seen in Table 2-10, $41.0 million, or 46.3 percent, of the program is funded through FAA grants. Private investment accounts for $38.6 million (43.6 percent) of the program cost. The City/airport will fund $8.6 million (9.7 percent) and it is estimated that the state will fund $314,000 (0.4 percent).

Phase 1 costs account for roughly 71 percent of the total program, and includes translating the runway to enhance safety of the airport. This project represents approximately 15 percent of the total program costs ($13.4 million). This project provides facilities for airport reference code C-II/D-II aircraft currently using the airport.

Phase 2 costs include CANG Reuse Phases 4 and 5, runway crown correction, Corsair hangar construction, and construction of a new Airport Traffic Control Tower (ATCT). The new ATCT construction project costs approximately $6.1 million and represents approximately 24 percent of Phase 2 costs. The runway crown correction planned for 2016 will cost approximately $3.8 million which represents approximately 15 percent of Phase 2 costs.

City/airport funds represents the sponsors' matching share under the FAA AIP program and projects that are ineligible for AIP grants. Private investment generally at the airport represents based aircraft facility construction.

Figure 2-2 graphically depicts the location of the recommended improvement projects in each development phase. Project costs, along with the City/airport's share and funding sources for projects are also illustrated on the figure.

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°39'32.88"N
(ARP) COORDINATES (NAD 83)	LONGITUDE	122°07'18.30"W	122°07'20.32"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
14	AIR NATIONAL GUARD

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	37°39'31.99"N
	LONGITUDE	122°07'04.63"W	122°07'09.80"W
	ELEVATION[1]	37.1'	35.5'

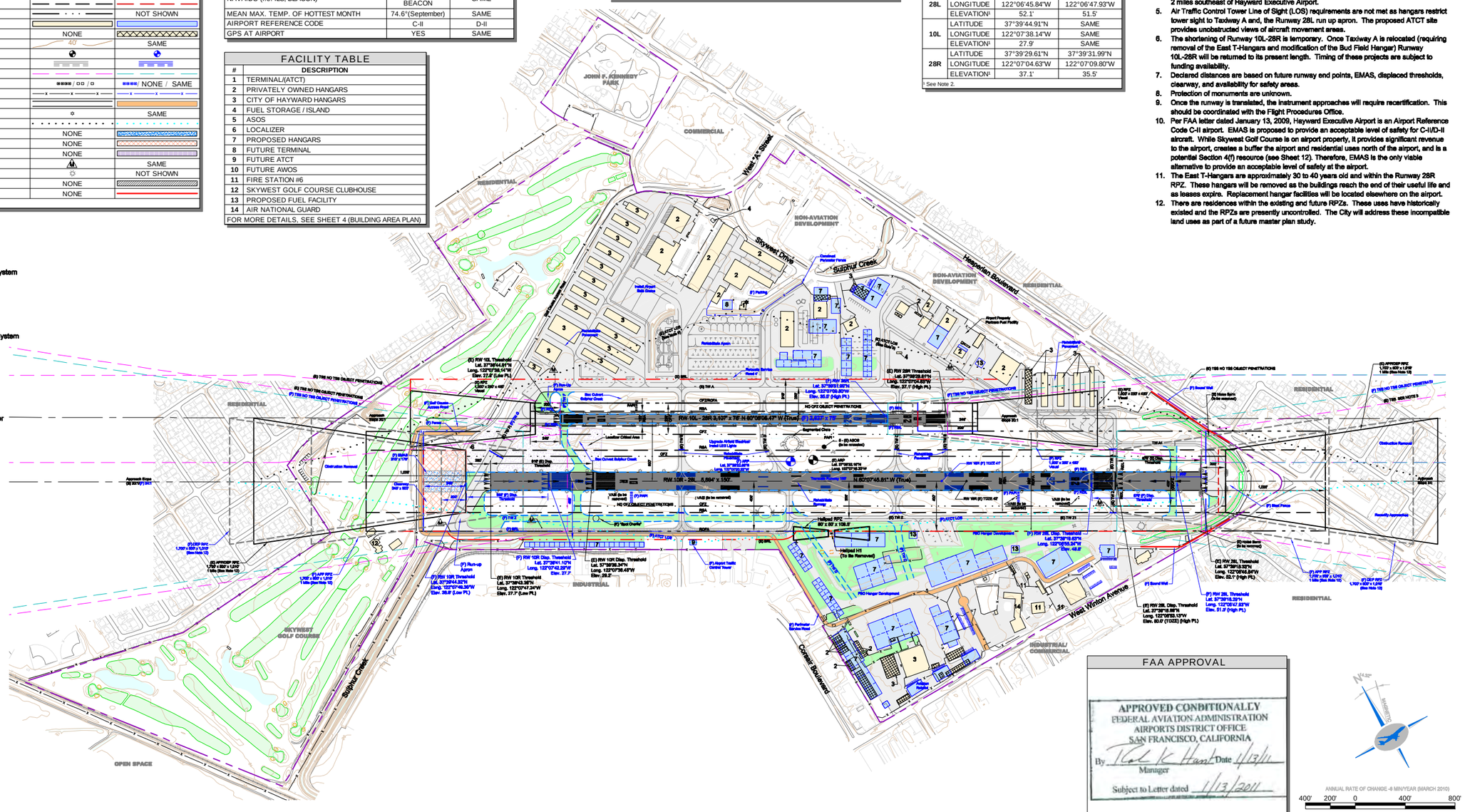
[1] See Note 2.

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. The shortening of Runway 10L-28R is temporary. Once Taxiway A is relocated (requiring removal of the East T-Hangars and modification of the Bud Field Hangar) Runway 10L-28R will be returned to its present length. Timing of these projects are subject to funding availability.
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 airport, 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



FAA APPROVAL

APPROVED CONDITIONALLY
FEDERAL AVIATION ADMINISTRATION
AIRPORTS DISTRICT OFFICE
SAN FRANCISCO, CALIFORNIA
By _____ Date 1/13/11
Manager
Subject to Letter dated 1/13/2011

ANNUAL RATE OF CHANGE -8 MIN/YEAR (MARCH 2010)

400' 200' 0 400' 800'

GRAPHIC SCALE

Figure 2-1
Airport Layout Plan

Table 2-9
SUMMARY OF RECOMMENDED IMPROVEMENTS

Project	Timing
Phase 1 (2010 – 2015)	
Relocate Sulphur Creek into Box Culvert	2011
Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas	2011
Extend Taxiway C	2011
Bud Field Aviation - Phase 1	2011
American Aircraft Sales – Hangar A	2011/2012
Install Airport Safe Drains	2012
Construct Terminal Building and Parking	2012
Obstruction Removal Runway 10R-28L	2012
Taxiway Z Realignment; Corsair Ramp	2012
Walter Imbrulia's Development	2012
Airport Property Partners Development	2012-2013
Construct Sound Walls and Blast Fence	2013
Taxiways C and E Pavement Rehabilitate	2013
CANG Reuse Phases 2 and 3	2013
Shorten Runway 28R	2013
Airfield Electrical Renovation and Improvements	2014
Translate Runway, Install EMAS, and Reroute Roads and Fencing	2014
Recertify Instrument Approaches	2014
Install PAPI Runway 10R-28L and New REIL on Runway 28L	2015
Relocate Airport Perimeter Road	2015
Pavement Rehabilitation - Tie-Down Ramp	2015
Wildlife Management Plan	2015
Phase 2 (2016 – 2020)	
CANG Reuse Phases 4 and 5	2016
Install REIL Runway 10L-28R	2016
Runway Crown Correction (Runway 10R-28L)	2016
Corsair Hangar Construction	2017
Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D	2018
New Airport Traffic Control Tower (ATCT) Construction	2018
American Aircraft Sales – Hangar B	2018
Construct Runway Exit	2019
American Aircraft Sales – Hangar C	2020

Source: AECOM

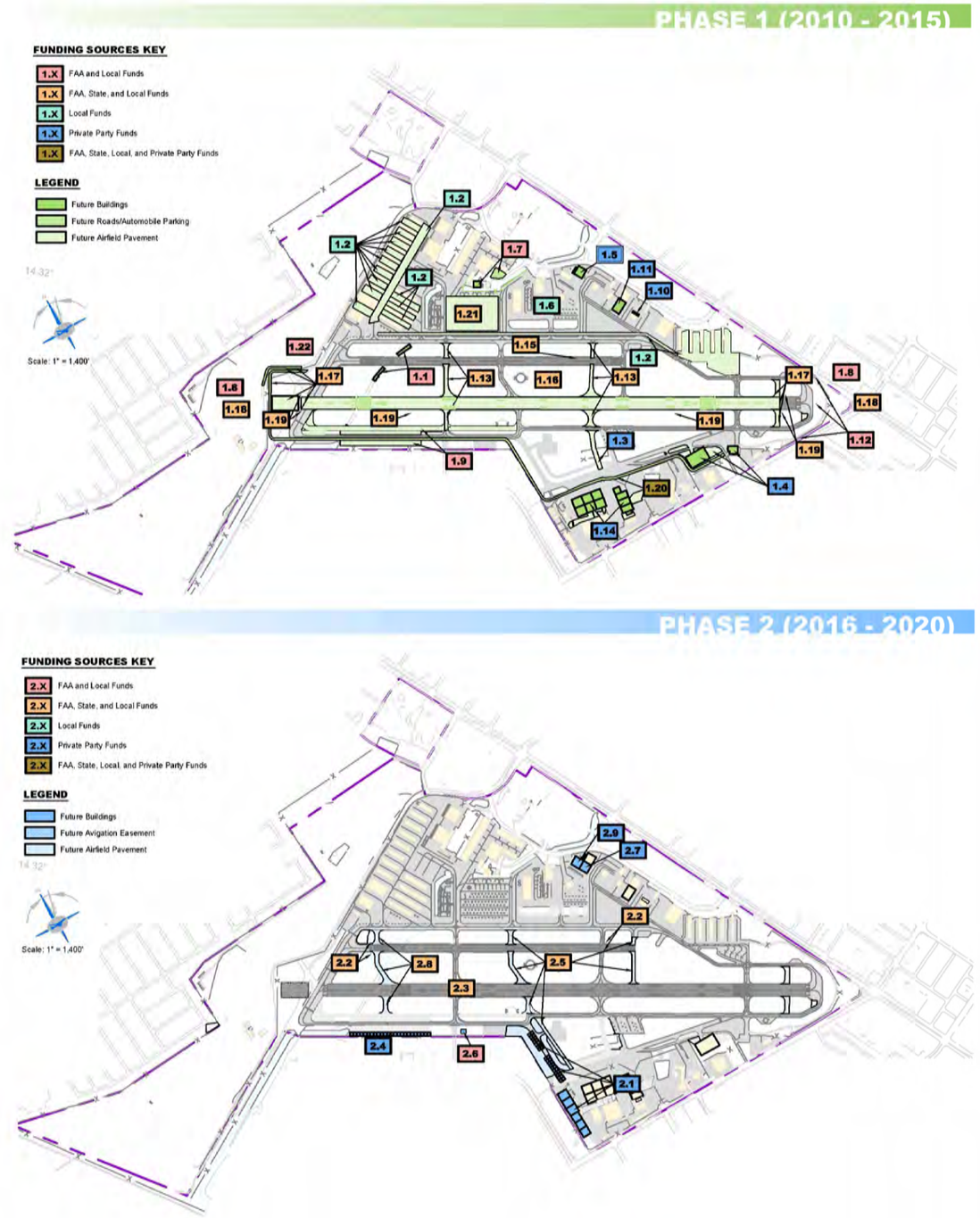
Table 2-10
SUMMARY OF CAPITAL IMPROVEMENT COSTS
(thousands of 2009 dollars)

Phase	FAA	State	Local	Private	Total	% Total
1 (2010 - 2015)	$ 29,259	$ 207	$ 7,399	$ 26,324	$ 63,189	71.4%
2 (2016 - 2020)	$ 11,693	$ 107	$ 1,192	$ 12,290	$ 25,282	28.6%
Total	$ 40,952	$ 314	$ 8,591	$ 38,614	$ 88,471	100.0%
% Total	46.3%	0.4%	9.7%	43.6%	100.0%	

Source: AECOM analysis.

ENVIRONMENTAL CONSIDERATIONS

Table 2-11 summarizes potential environmental constraints associated with ALP Update projects. Implementation of the proposed Phase 1 and 2 projects associated with the Hayward ALP Update will likely be subject to both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analysis. While some projects may be categorically excluded under NEPA, it is assumed that a supplemental environmental assessment (EA) would be required for NEPA evaluation of specific projects, to be determined by the FAA. A supplemental environmental impact report (EIR) may be required for CEQA. In support of these documents, a variety of technical reports would also likely require preparation; including, but not limited to: a formal wetland delineation (and associated permitting), an air quality assessment (dispersion modeling), and a traffic study. In addition, the Alameda County Airport Policy Plan should be updated to reflect this ALP Update.



	Project	City Cost	Project Cost	Timing
	Phase 1 (2010 - 2015)			
1.1	Relocate Sulphur Creek into Box Culvert	$ 320,000	$ 3,200,000	2011
1.2	Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas	$ 325,000	$ 325,000	2011
1.3	Extend Taxiway C	$ -	$ 1,900,000	2011
1.4	Bud Field Aviation - Phase 1	$ -	$ 8,792,410	2011
1.5	American Aircraft Sales - Hangar A	$ -	$ 1,274,375	2011/2012
1.6	Install Airport Safe Drains	$ 149,600	$ 149,600	2012
1.7	Construct Terminal Building and Parking	$ 1,021,500	$ 2,655,000	2012
1.8	Obstruction Removal Runway 10R-28L	$ 5,350	$ 53,500	2012
1.9	Taxiway Z Realignment; Corsair Ramp	$ 467,570	$ 4,675,700	2012
1.10	Walter Imbrulia's Development	$ -	$ 1,398,000	2012
1.11	Airport Property Partners Development	$ -	$ 1,450,000	2012-2013
1.12	Construct Sound Walls and Blast Fence	$ 791,302	$ 1,746,367	2013
1.13	Taxiways C and E Pavement Rehabilitation	$ 138,845	$ 1,688,450	2013
1.14	CANG Reuse Phases 2 and 3	$ -	$ 10,970,000	2013
1.15	Shorten Runway 28R	$ 24,500	$ 490,000	2013
1.16	Airfield Electrical Renovation and Improvements	$ 326,300	$ 3,563,000	2014
1.17	Translate Runway, Install EMAS, and Reroute Roads and Fencing	$ 3,429,373	$ 13,393,730	2014
1.18	Recertify Instrument Approaches	$ 25,000	$ 500,000	2014
1.19	Install PAPI and New REIL on Runway 28L	$ 10,500	$ 210,000	2015
1.20	Relocate Airport Perimeter Road	$ 26,496	$ 1,078,821	2015
1.21	Pavement Rehabilitation - Tie-Down Ramp	$ 327,505	$ 3,575,050	2015
1.22	Wildlife Management Plan	$ 10,000	$ 100,000	2015
	Phase 1 Total	**$ 7,398,840**	**$ 63,189,002**	
	Phase 2 (2016 - 2020)			
2.1	CANG Reuse Phases 4 and 5	$ -	$ 6,188,000	2016
2.2	Install REIL Runway 10L-28R	$ 17,250	$ 345,000	2016
2.3	Runway Crown Correction (Runway 10R-28L)	$ 354,800	$ 3,848,000	2016
2.4	Corsair Hangar Construction	$ -	$ 3,944,000	2017
2.5	Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D	$ 126,261	$ 1,562,610	2018
2.6	New Airport Traffic Control Tower (ATCT) Construction	$ 605,750	$ 6,057,500	2018
2.7	American Aircraft Sales - Hangar B	$ -	$ 1,087,500	2018
2.8	Construct Runway Exit	$ 87,930	$ 1,179,300	2019
2.9	American Aircraft Sales - Hangar C	$ -	$ 1,070,000	2020
	Phase 2 Total	**$ 1,191,991**	**$ 25,281,910**	
		$ 8,590,831	**$ 88,470,912**	

Figure 2-2
ALP Update Improvements

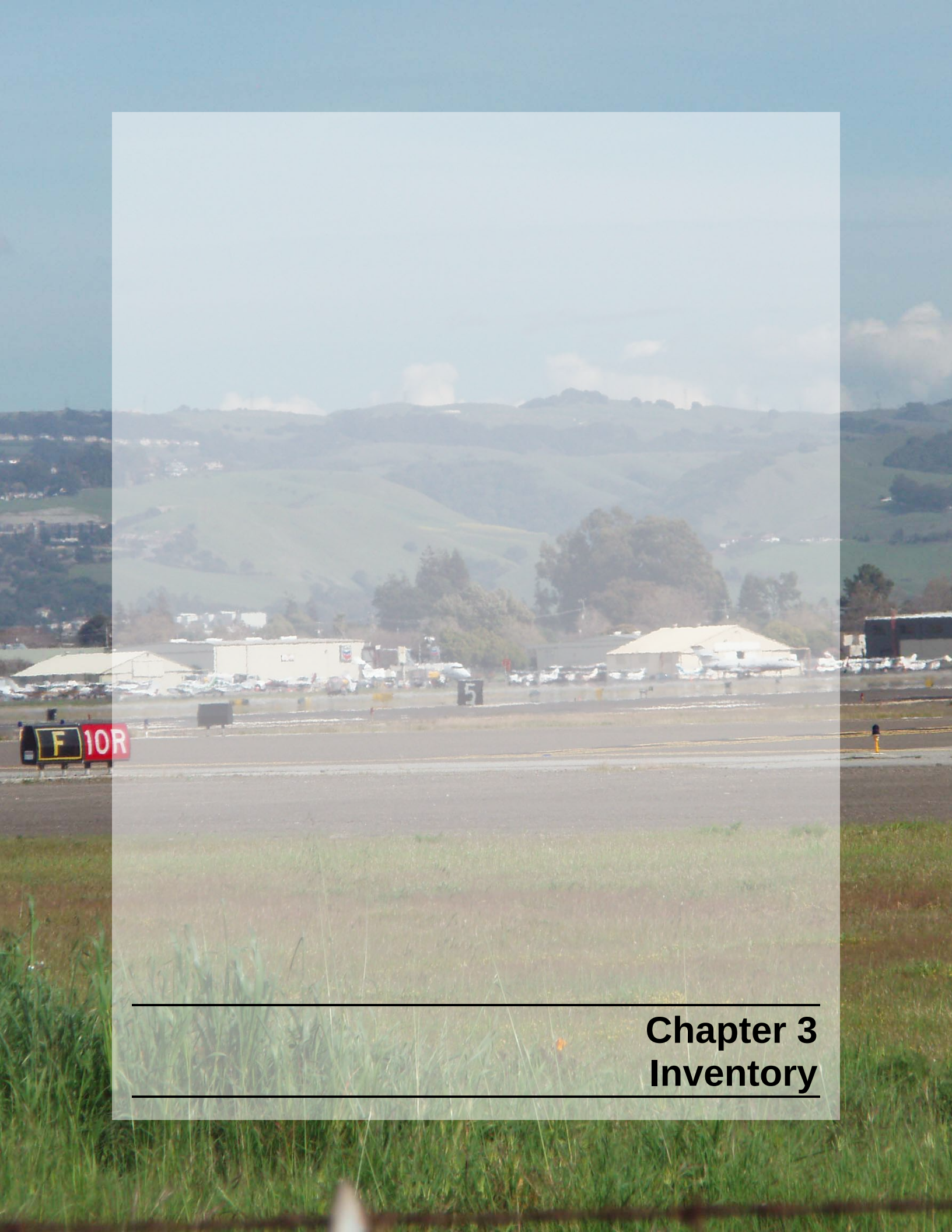
Table 2-11
POTENTIAL ENVIRONMENTAL CONSTRAINTS RELATED TO PROPOSED PHASE 1 AND 2 PROJECTS

	Phase 1 Development (2011 - 2015)																						Phase 2 Development (2016 - 2020)								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22*	1	2	3	4	5	6	7	8	9
Land Impact Catatories																															
Farmland																															
Compatible Land Use														✓	✓								✓								
Fish, Wildlife, Plants	✓							✓				✓						✓									✓				
Endangered Species and Plants	✓																														
Energy Supply and Natural Resources																															
Geology and Seismicity																															
Water Impact Catetgories																															
Water Quality	✓					✓	✓	✓	✓			✓	✓	✓			✓			✓	✓		✓		✓	✓	✓	✓		✓	
Wetlands	✓																														
Floodplains	✓							✓	✓		✓																				
Wild and Scenic Rivers																															
Coastal Resources	✓																														
Atmospheric Impact Categories																															
Air Quality			✓		✓				✓		✓			✓	✓		✓			✓			✓			✓	✓		✓		✓
Noise			✓						✓		✓	✓		✓	✓		✓			✓			✓			✓	✓				
Community Impacts																															
Historic, Architectural, Archaeological, and Cultural Resources	✓		✓				✓							✓									✓								
Department of Transportation 4(f)																	✓														
Social Impacts																															
Transportation		✓			✓						✓			✓						✓			✓						✓		✓
Environmental Justice																	✓														
Children's Environmental Health and Safety Risks																	✓														
Induced Socioeconomic Impacts																															
Employment, Population, Housing							✓																				✓				
Utilities		✓					✓				✓									✓						✓		✓			
Other																															
Hazardous Materials, Pollution Prevention, and Solid Waste			✓	✓			✓		✓		✓			✓			✓						✓				✓	✓		✓	
Construction Impacts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Light Emissions							✓														✓					✓		✓			

Phase 1 Projects
1. Relocate Sulphur Creek into Box Culvert
2. Rehabilitate Zipper Lane, East T-Hangar and West T-Hangar Areas
3. Extend Taxiway C
4. Bud Field Aviation - Phase 1
5. American Aircraft Sales - Hangar A
6. Install Airport Safe Drains
7. Construct Terminal Building and Parking
8. Obstruction Removal Runway 10R-28L
9. Taxiway Z Realignment; Corsair Ramp
10. Walter Imbrulia's Development
11. Airport Property Partners Development
12. Construct Sound Walls and Blast Fence
13. Taxiways C and E Pavement Rehabilitation
14. CANG Reuse Phases 2 and 3
15. Shorten Runway 28R
16. Airfield Electrical Renovation and Improvements
17. Translate Runway, Install EMAS, and Reroute Roads and Fencing
18. Recertify Instrument Approaches
19. Install PAPI and New REIL on Runway 28L
20. Relocate Airport Perimeter Road
21. Pavement Rehabilitation - Tie-Down Ramp
22. Wildlife Management Plan*

Phase 2 Projects
1. CANG Reuse Phases 4 and 5
2. Install REIL Runway 10L-28R
3. Runway Crown Correction (Runway 10R-28L)
4. Corsair Hangar Construction
5. Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D
6. New Airport Traffic Control Tower (ATCT) Construction
7. American Aircraft Sales - Hangar B
8. Construct Runway Exit
9. American Aircraft Sales - Hangar C

* Because the details of the Wildlife Management Plan are unknown, potential impacts cannot be determined at this time.



Chapter 3
Inventory

Chapter 3– Inventory

INTRODUCTION

The intent of this inventory is to identify conditions at the airport that have changed since the publication of the Master Plan in 2002. Specifically, this chapter documents the existing airport, the airspace and navigational aids (NAVAIDS), known development expansion plans, the California Air National Guard (CANG) lease area, current deviations from Federal Aviation Administration (FAA) design standards and known environmental data. Facilities documented within this Airport Layout Plan Update are in addition to those documented in the 2002 Master Plan.

The data contained in this chapter, and the current master plan, serve as a point of reference for additional analysis. A comprehensive inventory of existing facilities is made to assess the ability to accommodate larger aircraft that now operate at Hayward in accordance with current FAA design criteria. By comparing the existing facilities with design standards for larger, business jet or corporate aircraft, non-standard conditions can be determined. Once the deficiencies are identified, alternative development concepts can be formulated to address the non-standard conditions. The development concepts will then be evaluated and ultimately, a recommended development program prepared.

AIRPORT HISTORY

Throughout the years, Hayward Executive Airport has been known by a variety of names, served as a military base, civilian airport, and now a reliever to Oakland, San Francisco and San Jose International Airports serving general aviation and corporate jet aircraft. The airport was the home to some prestigious military aircraft and fighter wings. When the airport was constructed in 1942, it was known as the Hayward Army Air Field. The airport was constructed to serve as an auxiliary field to Chico Army Air Field. In the 1940s the airport was home primarily to P-38 fighter aircraft. Sources indicate that the field may have also been known as Russell City Army Air Field because of the unincorporated area outside of Hayward city limits, where the airport was located.

In the 1940s, the airfield came under control of Hamilton Field. In 1946 the Hamilton Field became a civilian airport and in August 1947, the airport, comprising of 690 acres, was deeded to the City of Hayward. With the transferring of ownership to the City the airport was renamed as Hayward Municipal Airport. In 1954 the Civil Aeronautics Administration released the City from compliance with the Quitclaim Deed provision which prohibited the use of airport property for manufacturing and industrial purposes. Several years later, a study was done which recommended retaining the airport, rather than turning the land into an industrial park. Coincident with an agreement made by the City with an airport management and development company (1963), the airport received another name change, and became know as Hayward Air Terminal. In 1960 an air traffic control tower was erected.

The Skywest Public Golf Course was built in 1964, on airport property. In 1965, the FAA released all remaining airport property, including aircraft operating areas, from the National Emergency Provision of the Quitclaim Deed. The following year, the FAA released five parcels (totaling 369 acres) from all conditions, reservations and restrictions of the Quitclaim Deed, permitting the sale of and/or long-term lease of the land for non-aviation uses. The first land sale occurred in 1967 (167 acres).

In June 1968, Runway 10L-28R was extended from 1,800 feet to 3,100 feet and four T-hangar buildings were constructed. The City terminated its agreement with the airport management company in 1970. The City resumed airport management and currently maintains, manages, and operates the airport. Several developments adjacent to the airport occurred in the 1970s, including the Manzella's Seafood Loft restaurant, Festival Cinema, an apartment complex, and the Vegabond Motel. Aviation development in the 1970s consisted of 20 T-hangars and 6 executive hangars. Peak operations (421,048) at Hayward were recorded in 1978.

Additional non-aviation and aviation development continued since the 1980s to today. Significant non-aviation developments include the Executive Inn, the Home Depot shopping center, and the Target shopping center. Aviation development primarily has consisted of hangars – six T-hangars and eight executive hangars in 1983 and more recently the Ascend hangar development. During the 1990s two planning studies were conducted, including a Strategic Business Plan (1997) and an Airport Master Plan (2002).

Today, the airport is known as Hayward Executive Airport, a name that was instituted January 1999. Figure 3-1 illustrates land areas released from the airport since the original quitclaim deed to the City.

EXISTING AIRPORT

Hayward Executive Airport is situated along the northeastern portion of San Francisco Bay. The airport is owned by the City of Hayward and is located about 2.3 miles west of the City's central business district. The airport is located about six nautical miles southeast of Metropolitan Oakland International Airport, 12.3 nautical miles east of San Francisco International Airport, and 20 nautical miles northwest of Mineta San Jose International Airport. A three-member Council's Airport Committee was created for policy recommendations related to airport rates, land use changes, and other matters that affect airport users.

Alameda County is included in the Association of Bay Area Governments (ABAG), which covers nine counties and includes 25 airports (four commercial, two military, and 19 general aviation). Hayward Executive is one of nine public regional or commercial airports operating in the San Francisco Bay Area. The other airports are Metropolitan Oakland International, Livermore, San Francisco International, San Carlos, Palo Alto, Mineta San Jose International, Sonoma County, Nut Tree, Napa County, Marin County, Concord, South County, Half Moon Bay, and Reid Hillview Airports (see Figure 3-2).

Hayward Executive Airport is located near Interstate 880 and State Road 92. I-880 is an interstate highway in the San Francisco Bay Area connecting San Jose and Oakland. State Road 92 is an east-west highway which crosses over the San Francisco Bay and connects Half Moon Bay with San Ramon. Ground access is provided via West Winton Ave and Hesperian Blvd. respectively, onto West A Street to Skywest Drive. The location of the airport and the local highway system is graphically presented in Figure 3-3, Vicinity Map.

Hayward Executive Airport is contained in the National Plan of Integrated Airport Systems (NPIAS) and is classified as a Reliever Airport. Reliever airports are defined as general aviation airports that provide general aviation access to the surrounding area and have 100 or more based aircraft or 25,000 annual itinerant operations. In the NPIAS there are 274 airports designated as reliever airports. These 274 airports have an average of 232 based aircraft each, which is 29 percent of the nation's total general aviation fleet. Hayward has approximately 480 based aircraft. The function of a reliever airport is to reduce the aircraft mix at a commercial service primary airport and provide a less congested airport for smaller jet and general aviation operations. As previously mentioned, Hayward is a reliever airport for Metropolitan Oakland International Airport, San Francisco International Airport, and Mineta San Jose International Airport.

For comparison, a general aviation (GA) airport is one that serves a community that does not receive scheduled commercial air service. There are 2,574 airports in the nation with this designation and these airports account for 40 percent of the Nation's general aviation fleet. Reliever airports are also general aviation airports that serve general aviation users near large congested commercial airports.

Figure 3-1
Airport Properties

Source: Regional Airport System Plan, 2000.

Figure 3-2
San Francisco Bay Area Airports

Figure 3-3
Vicinity Map

The airport is classified as a Metropolitan-Business/Corporate Airport in the California Aviation System Plan (CASP). This is a functional classification developed by the State to categorize airports based on an airport's function, services provided, and role in the aviation system. Hayward is included in the Bay Area Region (Region 3) of the CASP. This region is comprised of Sonoma, Napa, Marin, Solano, Contra Costa, San Francisco, Alameda, San Mateo, and Santa Clara Counties.

Planning standards contained in FAA AC 150/5300-13, Airport Design, are applied throughout this planning study. Hayward Executive Airport is currently classified as an Airport Reference Code B-II airport. This category includes aircraft with approach speeds greater than 91 knots but less than 121 knots, wingspans from 49 feet, up to, but not including, 79 feet, and tail heights from 20 feet, up to, but not including, 30 feet. One of the purposes of this study is to determine the appropriate airport reference code and associated FAA design standards that should be applied to the airport. The applicable airport reference code and FAA design standards will be further defined in the following chapters.

Meteorological Considerations

Meteorological considerations are based on weather observations taken at the airport as obtained from the National Climatic Data Center (NCDC). It consists of 78,450 weather observations. These observations were taken at Hayward Airport over the period 1999 through 2008. The analysis resulted in the preparation of wind roses which are contained on the Airport Layout Plan.

The existing runway configuration provides 98.02 percent coverage for a 10.5-knot crosswind, 99.22 percent coverage for a 13-knot crosswind, 99.85 percent coverage for a 16-knot crosswind, and 99.96 percent coverage for a 20-knot crosswind. FAA states in AC 150/5300-13 that the allowable crosswind is 10.5 knots for Airport Reference Codes A-I and B-I, 13 knots for Airport Reference Codes A-II and B-II, 16 knots for Airport Reference Codes A-III, B-III and C-I through D-III, and 20 knots for Airport Reference Codes A-IV through D-VI. The coverage provided by the present runway meets the FAA recommendation of 95 percent crosswind coverage, for any Airport Reference Code, thus additional runways for improved crosswind coverage are not required.

The average wind speed is 6.3 knots and calm wind conditions (less than 4 knots) prevail approximately 24.2 percent of the time. Wind speeds of 17 knots (19 mph) and greater are infrequent and occur approximately 1.3 percent of the time.

Based on the wind data provided by the NCDC, Instrument Flight Rules (IFR) weather conditions occur 6.4 percent of the time. These are periods when cloud ceilings are less than 1,000 feet above ground and/or visibility less than 3 miles. NCDC data indicates that periods of IFR are most likely to occur during July (12.4 percent), August (12.2 percent), and September (8.2 percent). These three months account for approximately 43 percent of all IFR conditions throughout the year. When ceilings are below 300 feet or visibility is less than 1 mile, the airport is closed. Based upon available NCDC data, the airport appears to be closed less than 6.2 percent of the time.

The airport reference temperature, which is defined as the mean maximum temperature of the hottest month is 74.6° and occurs in September. This is based on historical data compiled by the Western Regional Climate Center (WRCC) at the Oakland Museum station (station 046336), approximately seven miles northwest of Hayward Executive Airport. The average total annual precipitation is 23.13 inches. These are based on weather observations for the period 1970 through 2009.

Airfield Description

Hayward has two parallel Runways designated 10R-28L and 10L-28R, with a runway centerline to runway centerline separation of 500 feet. Runway 10R-28L is the primary runway and is 150 feet wide by 5,694 feet long. Runway 28L has a displaced threshold of 676 feet and Runway 10R has an 815-foot displaced threshold. Runway 10L-28R is 3,107 feet long and 75 feet wide. There are no displaced thresholds on Runway 10L-28R. Both runways feature medium intensity runway edge lighting (MIRL).

Runways 10R and 28L are equipped with a four-light visual approach slope indicator (VASI), which are located on the left side of Runway 28L and on the right side of Runway 10R. The VASIs are 50 to 60 years old, and require frequent maintenance. Consideration should be given to replace VASIs with PAPIs (precision approach path indicators). Runways 10L and 28R are equipped with four-light PAPIs, located on the left side of either runway. Runways 10R and 28L also have runway end identifier lights (REILs), providing positive, and rapid identification of the landing threshold to pilots.

The runways are served by several taxiways. Taxiway A is the primary parallel taxiway, located 252 feet from Runway 10L-28R (runway centerline to taxiway centerline). Taxiway Z functions as a parallel taxiway for Runway 10R-28L. Separation from the runway varies from 400 feet on the westerly side of the field to 300 feet on the easterly side. The transition occurs at Taxiway D, which is the approximate midpoint of the runway. Since landside development is currently on the north side of the field, Taxiway Z is not frequently used. Helicopter training operations occur on Spot Charlie, located on Taxiway Z, approximately abeam of the Runway 10R displaced threshold.

Taxiway F serves as an entrance taxiway to Runways 10R and 10L, Taxiways A1 and Z1 serve as entrance taxiways to Runway 28L, and Taxiway B serves as an entrance taxiway to Runway 28R. Taxiways A, B, C, D, E, and Z serve as exit taxiways for Runway 10R-28L and Taxiways C, D, and E function as exit taxiways for Runway 10L-28R. With the exception of Taxiway Z, all taxiways are lit with medium intensity taxiway edge lights (MITL). Taxiway Z is unlit.

The runup apron for Runway 28R is located near the intersection of Taxiway A and B. This runup area serves smaller aircraft which will depart on Runway 28R. Runway 28L's runup apron is located north of Taxiway A, near the East T-Hangar development. Aircraft with tall tail heights may penetrate the approach surface for Runway 28R.

SIGNIFICANT CHANGES SINCE THE 2002 MASTER PLAN

Since the 2002 Master Plan was completed, a number of the recommended improvements were implemented. This section documents changes made to the airport since the last master plan. Most changes described herein are also depicted on the 2007 Airport Layout Plan. Table 3-1 lists the Airport Improvement projects which have occurred since the master plan. Changes are located on Figure 3-4.

Table 3-1
RECENT AIRPORT IMPROVEMENT PROJECTS AT HAYWARD
(2002 through 2008)

Year	AIP Project Number	Description
2002	12	Construction - Rehabilitate entrance taxiway to Runway 28L; Taxiway A1 widening; Runway 10R-28L overlay; relocate wind cone, segmented circle and traffic pattern indicators.
2003	13	Design – Taxiway Z realignment and associated ramp; North side transient Helipad. Construct - PAPI Runway 10L; Runway 10L-28R overlay.
2007	14	Construct north side transient Helipad and parking apron, including drainage and markings.
2008	15	Airport Layout Plan Update (this project).

Source: City of Hayward.

Airside Facilities

The term "airside" as used in this report relates principally to the airfield facilities, or landing area, and includes the runway and taxiway system, the runway approach areas and the associated appurtenances such as airfield lighting, visual and navigation aids. One might argue that the aircraft parking aprons are also part of the airside operating element, however, we prefer to consider aprons as part of the "landside"

Legend:

- (A) Runway 28L Extension
- (B) Pavement Failing
- (C) Ascend Development (ParkAvion)
- (D) Helicopter Parking Area
- (E) ARFF Equipment
- (F) Airport Property Released in November 2005
- (G) Water Line

Figure 3-4
Existing Airport

because apron planning considerations are more intimately associated with passenger terminal or FBO operations which are classified in the landside element.

Runway 10R/28L Extension (AIP 12)

Runway 28L was extended 670 feet, making Runway 10R-28L 5,694 feet long (it was 5,024 feet). This was done by rehabilitating and widening the entrance taxiway and designating the pavement as runway. The landing threshold for Runway 28L was retained in the same location creating a 676-foot displaced threshold. The entire runway received an overlay as part of this project. The project included widening of Taxiway A1, relocation of the wind cone, segmented circle and traffic pattern indicators. This is Area A on Figure 3-4.

Pavement Strengths

The pavement strength on Runway 10L-28R is 13,000 pounds for single wheel landing gears. Runway 10R-28L has a pavement strength rating of 30,000 pounds for single wheel and 75,000 for dual wheel landing gear configurations. Pavement in some apron areas is failing, specifically, pavement in the West T-Hangar area, where loss of aggregate can be found (Area B on Figure 3-4). These areas have the potential for contributing to foreign object debris (FOD) and should be rehabilitated. Pavements on Taxiway Z are also rapidly deteriorating.

Due to the increase at jet traffic at the airport, taxiway pavements appear to be deteriorating. The City recently developed a pavement management plan.

Landside Facilities

The landside facilities consist of those airport elements that support the various activities of the airport except for the navigation and maneuvering of aircraft. The exception to this categorization is the aircraft parking apron, which, due to its relation with passenger terminals and FBOs is considered a landside component.

Recent Hangar Development near the Control Tower

Ascend Development recently constructed a hangar complex near the Airport Traffic Control Tower. The development, referred to as ParkAvion, added 138,853 square feet of hangar and office space. The hangar complex has 15 hangars capable of accommodating large jets, as well as groups of smaller aircraft. The location on the airport is shown on Figure 3-4 (Area C) and Figure 3-5 depicts the ParkAvion development (site plan).

Helicopter Parking Area

A helipad and six parking positions have been constructed on the north side of the airport, located east of the Taxiway A and E intersection. The existing helipad, south of Runway 10R-28L, remains and is used for helicopter training. This is shown as Area D on Figure 3-4.

ARFF Equipment

The City recently purchased a 3,000 gallon Airport Rescue Fire Fighting (ARFF) truck (Oshkosh T3000). This vehicle is stationed at Fire Station #6, on West Winton Avenue (Area E on Figure 3-4). The fire station has direct access to the airfield. An agreement between the City Fire Department and the airport has been reached to provide Airport Rescue and Firefighting training of Fire Department staff. The ARFF truck is available to respond to incidents on the entire airport.

Airport Property

Approximately 16 acres were released from the airport in November 2005. The property was deemed as surplus and release of airport property was approved by the FAA. A major street (West A Street)

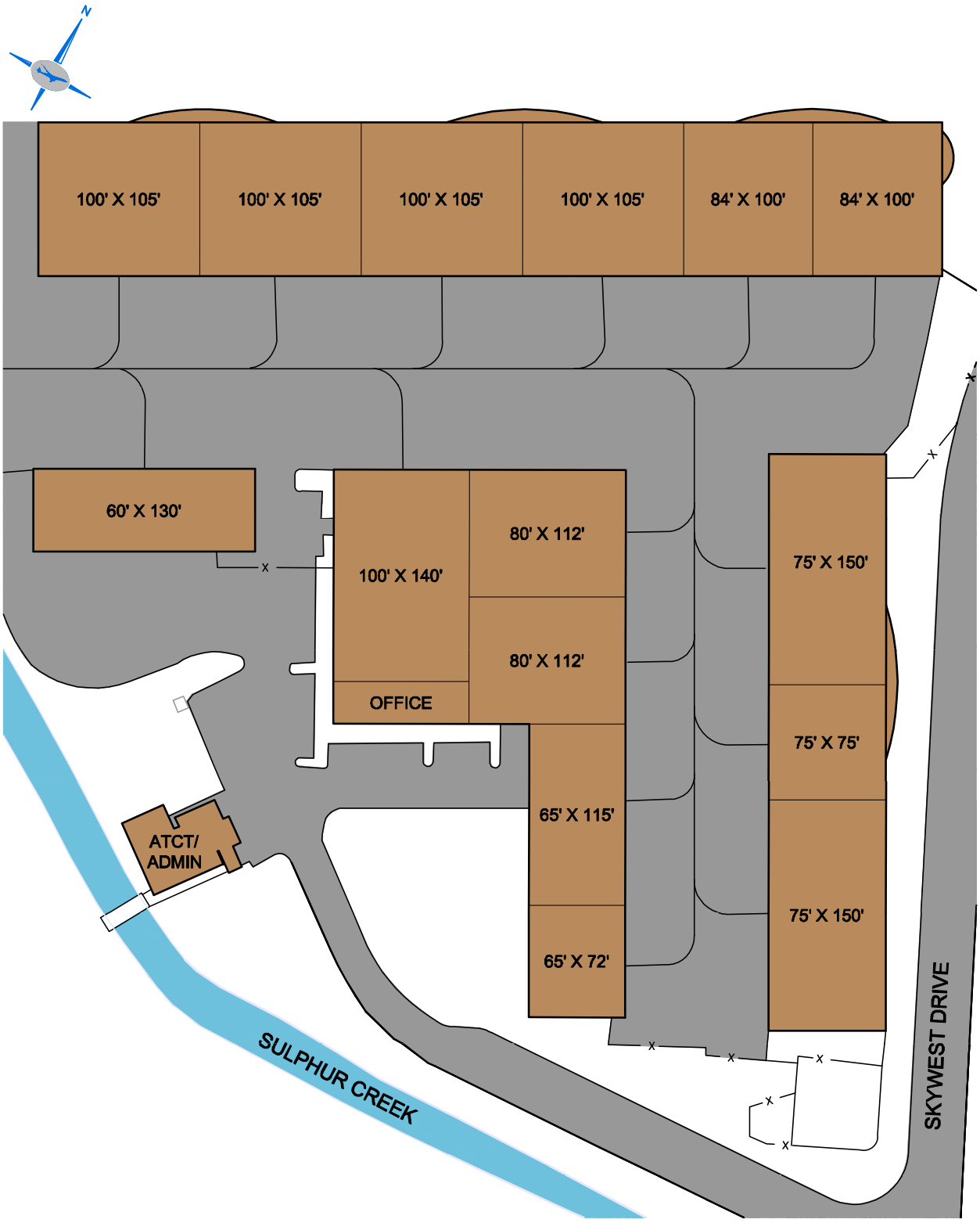


Figure 3-5
Ascend Development – ParkAvion

segregates the property from the airfield. A movie theater was previously located on the property, along with a gas station and some other commercial development and the property has subsequently been developed as a Target shopping center and is shown as Area F on Figure 3-4.

Water Line

The East Bay Municipal Utility District (EBMUD) joined with the San Francisco Public Utility Commission (SFPUC) and the City of Hayward, to construct an emergency water system connection (SFPUC-CoH-EBMUD Emergency Water System Intertie Project). A 36-inch water line was installed connecting the EBMUD and SFPUC distribution systems. The project constructed about 1.5 miles of pipe. The Skywest Pump Station is located on the southwestern corner of Skywest Drive and Hesperian Boulevard and is capable of pumping 30 million gallons of water per day (MGD). Location of the Skywest Pump Station and the general pipe alignment can be seen on Figure 3-4 (Area G).

Russell City Power Plant

A power plant proposal, known as the Russell City Energy Plant, locates a power plant approximately two miles southwest of the airport. The California Energy Commission (CEC) previously approved this project in 2007. The power plant project is controversial and there have been several efforts to prevent construction. Although FAA and Caltrans Division of Aeronautics commented during the CEC review process, questions still remain regarding the effects of emissions from the Russell City Power Plant on aviation. The issue is to what extent high-velocity invisible plume – emitted from the power plant stack – could affect aircraft using Hayward Airport.

Airport Operations

This subsection summarizes the recent historical levels of aviation activities at the airport in terms of based aircraft and aircraft operations. The turnaround in the general aviation industry that began with the passage of the General Aviation Revitalization Act in 1994 encountered setbacks in 2002. The tragic events of September 11th and their aftermath impacted the demand for general aviation products and services, both negatively and, in some cases positively. A positive impact is that business jets may be preferred as a more secure form of executive travel. The continued weak U.S. economy, declining industry profits, and increased corporate accountability, may account for a large part of the declining demand for general aviation aircraft in 2002. General aviation activity at FAA air traffic facilities was, for the most part, flat in 2002, declining less than one percent.

Business and corporate aviation continues to be a bright spot for the general aviation industry. Increased growth in fractional ownership companies and corporate flying has continued to expand the market for jet aircraft, though at reduced annual numbers. Numerous trade journal articles suggest that the fallout from September 11th has spurred interest in fractional or corporate aircraft ownership provided new growth opportunities for the on-demand charter industry.

Between 2002 and 2007, operations generally declined (see Table 3-2). Operations declined from 152,312 in 2002 to 145,744 in 2007. This is an average of over 0.5 percent decline every year. The main decline was between 2002 and 2005, where the average decline was 6.4 percent per year. Since 2005, annual operations have experienced an increasing trend.

Based aircraft at Hayward have experienced a strong upward trend, and have grown about 32 percent since 2000 (from 364 to 480 based aircraft). Table 3-3 shows historical based aircraft at Hayward. With the exception of 2008, based aircraft have increased every year. In 2008, a slight decrease of seven based aircraft was noticed. Both, the FBOs and City noticed an increase in based aircraft, with FBOs slightly outpacing City hangars. Aircraft in the “Other” represent primarily single-engine aircraft, but also include multi-engine and turboprop aircraft.

Table 3-2
ANNUAL AIRCRAFT OPERATIONS

	Itinerant				Local		Total			
Year	Air Carrier	Air Taxi	GA	Military	GA	Military	Itinerant	Local	Night	Total
1985	0	3,598	108,372	296	130,918	14	112,266	130,932	N/A	243,198
1986	0	6,948	121,986	455	131,752	22	129,389	131,774	N/A	261,163
1987	0	7,030	128,644	484	137,640	32	136,158	137,672	N/A	273,830
1988	0	5,523	125,670	533	118,774	16	131,726	118,790	N/A	250,516
1989	0	4,161	122,111	621	125,433	8	126,893	125,441	N/A	252,334
1990	0	4,148	128,243	1,303	131,231	45	133,694	131,276	N/A	264,970
1991	0	4,557	94,753	470	104,441	32	99,780	104,473	N/A	204,253
1992	0	5,018	86,294	328	87,491	9	91,640	87,500	N/A	179,140
1993	0	2,660	84,291	315	77,810	18	87,266	77,828	N/A	165,094
1994	0	979	75,374	581	82,277	28	76,934	82,305	N/A	159,239
1995	0	702	62,564	123	89,630	6	63,389	89,636	N/A	153,025
1996	0	492	70,313	68	100,129	0	70,873	100,129	N/A	171,002
1997	0	378	73,845	95	110,096	150	74,318	110,246	N/A	184,564
1998	0	115	60,895	130	94,116	74	61,140	94,190	N/A	155,330
1999	1	466	70,180	87	111,198	34	70,734	111,232	N/A	181,966
2000	4	803	69,294	60	100,946	20	70,161	100,966	N/A	171,127
2001	0	744	65,541	133	98,854	46	66,418	98,900	N/A	165,318
2002	N/A	N/A	N/A	N/A	N/A	N/A	64,552	87,760	N/A	152,312
2003	N/A	N/A	N/A	N/A	N/A	N/A	65,617	84,225	N/A	149,842
2004	N/A	1,205	66,788	114	N/A	N/A	68,106	68,074	3,922	140,102
2005	N/A	1,236	61,421	70	N/A	N/A	62,715	61,895	3,574	128,184
2006	N/A	1,938	62,326	77	N/A	N/A	64,364	66,069	3,039	133,472
2007	N/A	2,419	65,410	39	N/A	N/A	67,880	77,864	4,231	149,975
2008	355	2,036	61,587	27	47,928	1	64,005	86,430	3,249	153,684

Note: N/A = Data Not Available.
Source: 1985 – 2001 FAA Terminal Area Forecast; 2002 – 2007 FAA Monthly Traffic Count; 2008 Air Traffic Activity System.

Table 3-3
HISTORY OF BASED AIRCRAFT

	FBO			FAA TAF / City of Hayward			
Year	Helicopter	Jet	Other Aircraft	Helicopter	Jet	Other Aircraft	Total
1985	N/A	N/A	N/A	7	0	609	616
1986-1987	N/A	N/A	N/A	7	6	654	667
1988	N/A	N/A	N/A	7	0	654	661
1989	N/A	N/A	N/A	5	6	654	665
1990	N/A	N/A	N/A	5	5	654	664
1991	N/A	N/A	N/A	5	6	550	561
1992	N/A	N/A	N/A	6	5	575	586
1993	N/A	N/A	N/A	6	5	503	514
1994-1999	N/A	N/A	N/A	6	5	445	456
2000	5	N/A	88	2	N/A	289	364
2001	6	N/A	120	2	N/A	289	417
2002	7	N/A	129	3	N/A	293	432
2003	6	N/A	113	2	N/A	322	443
2004	11	9	116	5	0	307	448
2005	10	13	107	5	0	314	449
2006	13	15	121	6	0	322	477
2007	13	14	128	6	0	326	487
2008	18	33	112	5	0	312	480

Note: N/A = Data Not Available.
Source: 1985 – 1999 FAA Terminal Area Forecast; 2000 – 2008 Alameda County Assessors Report

Jet aircraft based at Hayward have nearly tripled in the last 4 years. These aircraft are stored in FBO facilities and include the following models: Citations (Mustang, X, and CJ) Falcons (50 and 900) Gulfstreams (200, G-IV), and Lears (25, 35, 55, and 60). FBOs which cater to jet aircraft and have based jets include Ascend Development (ParkAvion), Atlantic Aviation Services, Bud Field Aviation, SP Aviation, and Airport Property Partners.

CURRENT DEVIATIONS FROM FAA DESIGN STANDARDS

Deviations from FAA design standards, as noted on the current airport layout plan (ALP), are described below. These are deviations from airport reference code B-II FAA design standards.

- **Runway 10R Runway Safety Area (RSA)**: FAA design standards require an area 300 feet beyond the end of the runway and 150 feet width along the length of the runway to be clear. A service road, located 237 feet from the runway end, crosses through the RSA.

- **Runway 10R Object Free Area (OFA)**: An area 500 feet wide and 300 feet beyond each runway end is required to be clear. Only 237 feet beyond the runway end is clear between the runway and the service road.

- **Runway 28L Runway Safety Area**: Only 117 feet of clear RSA is provided. The RSA is traversed by the noise berm and the service road.

- **Runway 28L Object Free Area**: The standard requires 300 feet of an OFA beyond the end of the runway to be clear. Full width OFA is not available beyond the end of Runway 28L. The noise berm and service road also traverse the runway OFA.

- **Runway 28L Obstacle Free Zone (OFZ)**: The standard requires 200 feet of an OFZ beyond the end of the runway to be clear, while existing conditions only provide 10 feet. Again, the noise berm and service road penetrate the OFZ.

The 2002 Master Plan mitigated the deviations noted above through the application of declared distances. Declared distances are applied to an airport to enhance safety, and are used to provide full safety area by declaring distances available for takeoff and landing distance requirements which account for full safety areas. Declared distances are applied when standard safety areas beyond the runway threshold are not met. The declared distances noted on the current ALP are not sanctioned by the FAA, pending removal of obstacles noted in Airspace Case 2003-AWP-431-NRA, by the FAA Flight Procedures Office.

The airspace case determined that 15 obstacles penetrate the 40:1 departure surface applied to Runway 10R. This surface is applied to the departure end of Runway 10R and is used to identify objects which could pose a hazard to aircraft. When an object penetrates the departure surface mitigation is required. Seven of the 15 obstacles may be eliminated by applying the “35-foot rule” concerning existing obstacles (existing objects which penetrate the departure surface by 35 feet or less would not require mitigation). The other eight would still penetrate the departure surface. Of the eight objects, six are trees which could be lowered, topped, or removed. The other two are a building and an antenna, which are in close proximity to each other and located 1,877 feet from the departure end Runway 10R and 780 feet left of the runway centerline.

While it is desirable to clear all objects from the runway protection zone (RPZ), some uses are permitted, provided they are outside of the runway object free area (ROFA), and do not interfere with navigational aids. Land uses specifically prohibited from the RPZ are residences and places of public assembly (such as churches, schools, hospitals, office buildings, shopping centers and other uses with similar concentrations of persons typify places of public assembly). Fuel storage facilities may not be located in the RPZ. The RPZ is divided into two components: the central portion of the RPZ and the controlled activity area. The central portion of the RPZ is the same width as the runway object free area, and extends the entire length of the RPZ. Automobile parking facilities are not permitted within the central portion of the RPZ. Trees located within the RPZ should not be allowed to penetrate approach and

departure surfaces. Through discussions with the FAA it has been discovered that future roads will be deterred from being within the RPZ.

The following deviations from FAA Airport Reference Code B-II design standards are also found at Hayward:

- **Runway 28R RPZ**: Within the Runway 28R RPZ the holding apron and runup area is located for Runway 28L. The apron is located within the central portion of the RPZ. The southern portion of five hangar buildings are located within the controlled activity area of the RPZ.

- **Runway 28L RPZ**: Approximately six residences and a shopping center parking lot are found within the RPZ. The intersection of West Winton Avenue and Hesperian Boulevard is within the RPZ and during peak traffic times becomes congested. The intersection is within the central portion of the RPZ. Additionally, a gas station is located on the northern corner of the West Winton Avenue/Hesperian Boulevard intersection. Gas stations within RPZ are prohibited. The existing gas station should be removed/relocated outside of the RPZ.

- **Sulphur Creek**: The FAA conducted a Runway Safety Action Team (RSAT) site visit at the airport on August 2, 2007. This visit reviewed action taken from previous visits and reports. Two items were reviewed during the visit. The first item recommended by the RSAT was the establishment of a local RSAT which meets on a routine basis. This has been done and the status of this item has been modified to continuous. The other item was the addition of airfield signs to warm pilots of movement areas not visible by the tower. Signs have been installed.

  A significant item discovered by the team is the presence of drainage ditches (Sulphur Creek) located within the RSA of Runway 10L-28R. The FAA recommends that the City take immediate action to eliminate this hazard to aircraft by placing load-bearing drain grates to cover and level the area. Another alternative would be placing the creek in a box culvert.

Sulphur Creek and the Skywest Golf Course pose wildlife attractant hazards. Geese are regularly observed at the golf course. At times, these geese will enter the active air operations area and are attracted to Sulphur Creek. During the night time, geese sometimes seek refuge on the warm runway pavement.

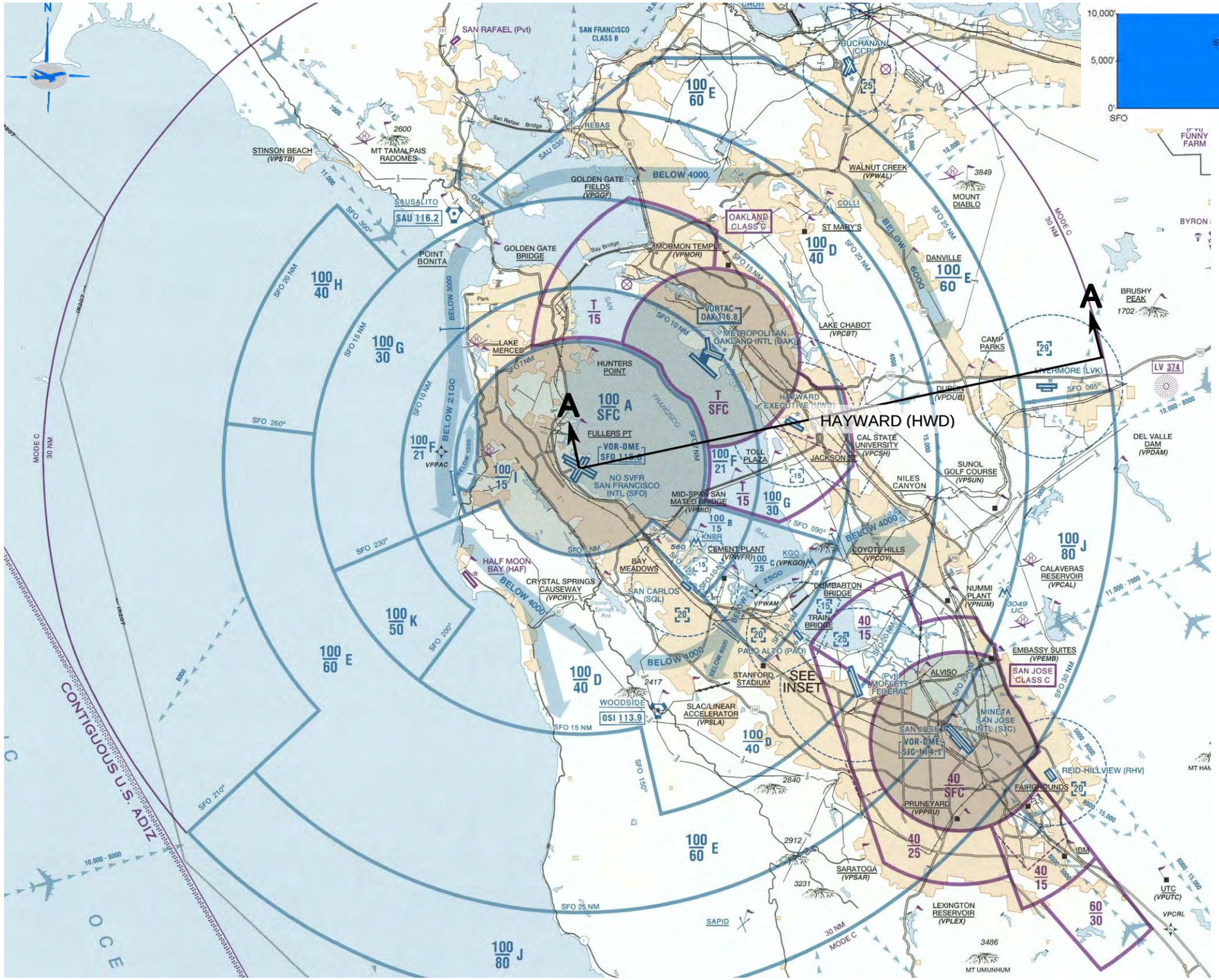
AIRSPACE AND NAVIGATIONAL AIDS

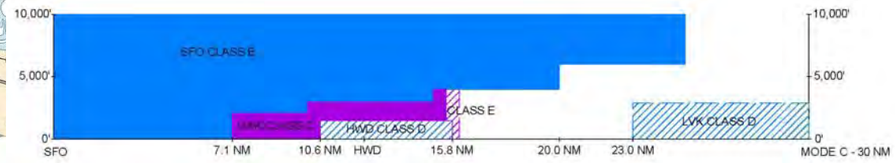
Airspace

The airspace surrounding Hayward Executive Airport is defined around San Francisco International Airport Class B airspace. All other airspace categories are modified to allow the full Class B airspace to be available for SFO. The airspace in the vicinity of Hayward is depicted on Figure 3-6. This figure shows the San Francisco VFR Flyway Planning Chart and notes suggested visual flight rules (VFR) routes, navigational aids, and airports located in the San Francisco Bay Area. It also shows the airspace structure above and around Hayward Airport.

Controlled airspace means an area in which some or all aircraft may be subject to air traffic control. It is a generic term that covers the different classification of airspace (Class A, Class B, etc.) and defined dimensions within which air traffic control service is provided to instrument flight rules (IFR) and VFR flights in accordance with the airspace classification. The various controlled airspace areas found in the vicinity of Hayward are discussed below.

- **Class B Airspace.** Class B airspace consists of the airspace surrounding airports that serve at least 5 million enplaned passengers annually and whose total operations count 300,000 (of which 240,000 are air carriers and air taxi). A Class B designation contributes to the efficiency and safety of operations. The airspace should be designed in a circular configuration around the primary airport of which the outer limits should not exceed 30 NM laterally and 10,000 feet MSL vertically. This airspace will then be subdivided into three concentric circles at 20 NM and 10NM. These airspace areas generally consist of a surface area with an additional layer above it, resembling an upside-





Section A – A

LEGEND

AIRPORTS

Paved Runways — NAME (NAM)

Unpaved Runways — NAME (NAM)

NAVIGATIONAL AIDS

NDB — DCW 262

VORTAC — PPS 121.8

AIRSPACE INFORMATION

CLASS B AIRSPACE — CLASS B SURFACE AREA

EXAMPLES OF CLASS B AIRSPACE ALTITUDES

70 — CEILING IN HUNDREDS OF FEET MSL

30 — FLOOR IN HUNDREDS OF FEET MSL

MODE C (SEE F.A.R. 91.215/AIM.)

CLASS C AIRSPACE — CLASS C SURFACE AREA

MODE C (SEE F.A.R. 91.215/AIM.)

Class D Airspace

Class E (sfc) Airspace

40 — Ceiling of Class D Airspace in hundreds of feet. (A minus ceiling value indicates surface up to but not including that value.)

SUGGESTED VFR FLYWAY AND ALTITUDE

2600 — 6700

IFR DEPARTURE ROUTES

IFR ARRIVAL ROUTES

MOUNTAIN TOP OR PEAK AND SPOT ELEVATION

12256

Source: San Francisco VFR Flyway Planning Chart, December 17, 2009.

Figure 3-6
Airspace in the Vicinity of Hayward Executive Airport

down wedding cake. Usually at the 30 NM lateral limit, there is a Mode C veil where all aircraft are required to be flying with a working Mode C transponder. Pilots are required to obtain air traffic control (ATC) clearance prior to entering Class B airspace. Within Class B airspace, air traffic controllers are required to separate aircraft operating under VFR from aircraft operating under IFR, but are not required to separate VFR operations from one another. The nearest Class B airspace starts approximately five nautical miles west of Hayward and is associated with San Francisco International Airport.

- **Class C Airspace.** Class C airspace consists of the airspace surrounding airports that have an operational airport traffic control tower (ATCT), are serviced by radar approach control, and accommodate minimum levels of aviation activity as specified by the FAA. Class C airspace is individually tailored for the airports they serve. These airspace areas generally consist of a surface area with an additional layer above it, resembling an upside-down wedding cake. Pilots are required to establish two-way radio communications with the ATC facility providing air traffic services prior to entering Class C airspace and must maintain those communications while in the airspace. Within Class C airspace, air traffic controllers are required to separate aircraft operating under VFR from aircraft operating under IFR, but are not required to separate VFR operations from one another. The nearest Class C airspace starts approximately 4,000 feet northwest of Hayward's airport reference point and is associated with Metropolitan Oakland International Airport.

- **Class D Airspace.** This is generally airspace from the surface to 2,500 feet above the airport elevation surrounding those airports that have an operational control tower. The area is generally defined as all area within five statute miles (4.3 nautical miles) of the airport; however, the circular configuration can be tailored when instrument approach procedures are published for an airport. Hayward is designated as Class D airspace. Hayward's Class D airspace has a ceiling up to but not including 1,500 feet above the airport elevation.

- **Class E Airspace.** There is one type of Class E airspace in the vicinity of Hayward which starts at the surface. Class E airspace is controlled airspace, but is the least stringent controlled airspace classification in terms of pilot certification, aircraft equipment, entry requirements, etc. No separation services are provided to VFR aircraft in the Class E airspace area. The closest Class E airspace starting at the surface is approximately five nautical miles east of the airport.

Hayward Airport has three published instrument approach procedures, all of which are classified as non-precision instrument approaches. An instrument approach procedure is a series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a point where a landing may be made visually. The procedure provides protection from obstacles that could jeopardize safety of aircraft operations by providing a specific clearance over obstacles. There are two types of procedures - precision and non-precision instrument approaches. A precision approach procedure is one in which an electronic glide slope is provided that gives the pilot glide path, or specific descent profile guidance. A non-precision approach is a procedure in which no electronic glide slope is provided. In this case the pilot is provided with directional, or azimuth, guidance only. Table 3-4 summarizes the instrument approaches for Hayward and Oakland International's Runway 29 and navigational aids for the airports. It shows the NAVAID, location of the NAVAID, type of procedure and the lowest landing minima.

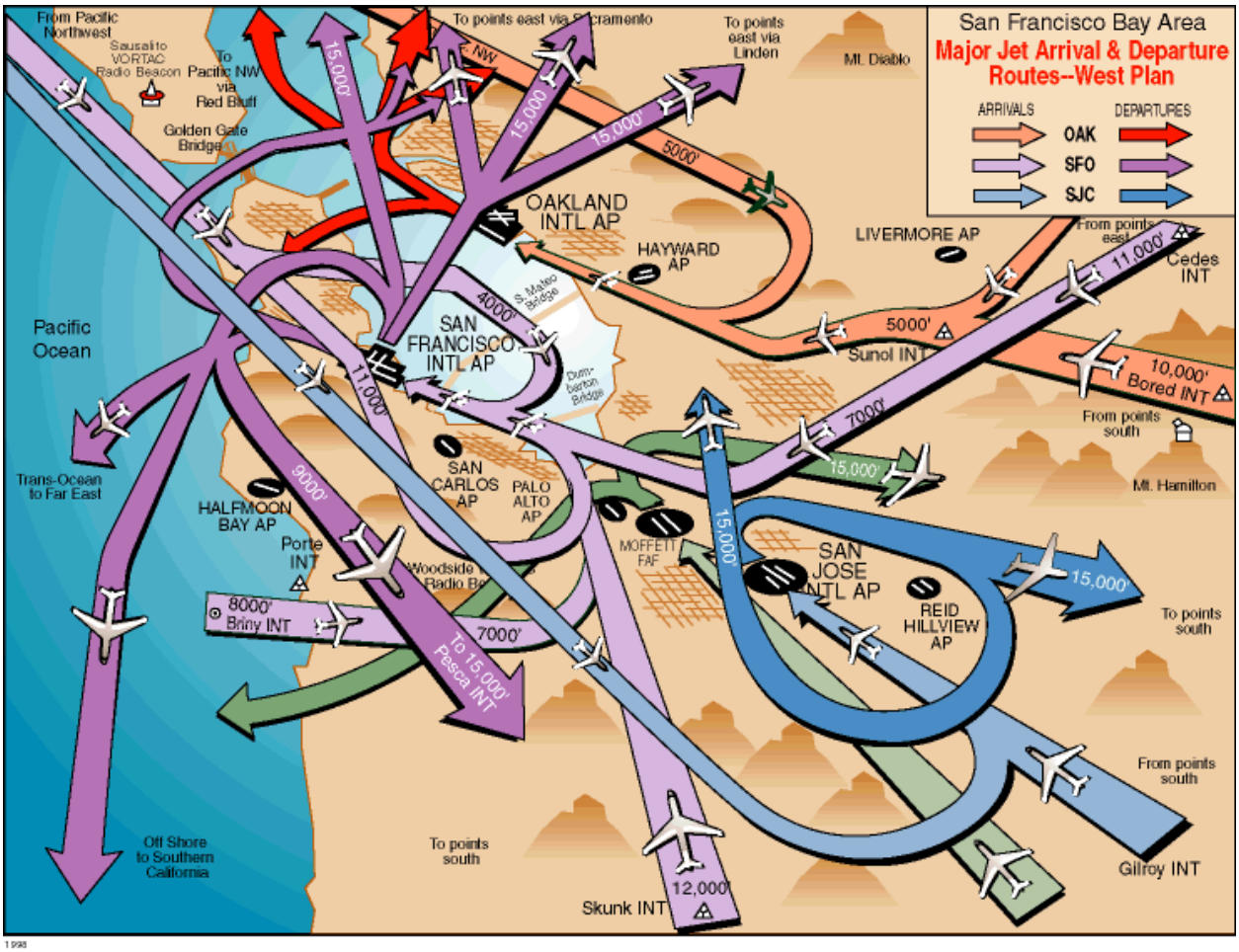
Oakland Arrival Traffic Interactions

Over time, controllers have found that having aircraft arrive via pre-approved routes provides for a more orderly traffic flow, and reduces the need for communication between agencies. Air traffic in the Bay Area flows in two primary directions, depending upon weather conditions, West-Flow and Southeast-Flow. During VFR conditions, West-Flow is used and Southeast-Flow is in effect during IFR conditions. Figures 3-7 and 3-8 graphically depict West-Flow and Southeast-Flow operations (respectively) for primary airports in the Bay Area.

Table 3-4
INSTRUMENT APPROACH PROCEDURES
AT HAYWARD AND OAKLAND AIRPORTS

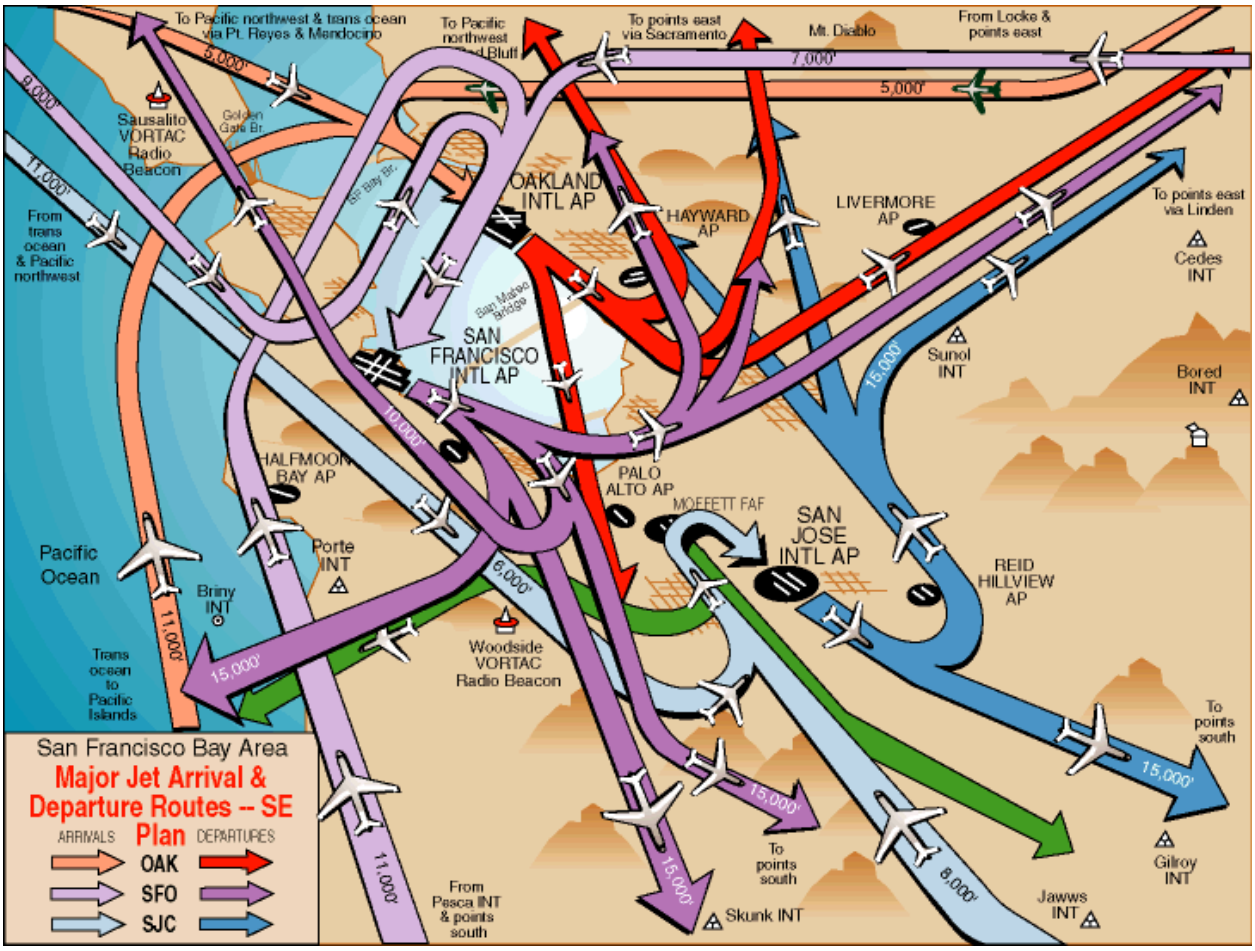
Airport	NAVAID	Location	Procedure	Lowest Minima
Hayward	RNAV (GPS)	Satellite	RNAV (GPS) Y RWY 28L	500-1
	RNAV (GPS)	Satellite	RNAV (GPS) Z RWY 28L	300-1
	LOC/DME	Airport	LOC/DME RWY 28L	400-1
Oakland	ILS	Airport	ILS RWY 29	200-½
	RNAV (GPS)	Satellite	RNAV (GPS) RWY 29R	600-1
	RNAV (GPS)	Satellite	RNAV (GPS) RWY 29	300-½

Source: United States Government Flight Information Publication, U.S. Terminal Procedures: U.S. Department of Transportation.



Source: Northern California TRACON

Figure 3-7
West-Flow Arrival and Departure Routes



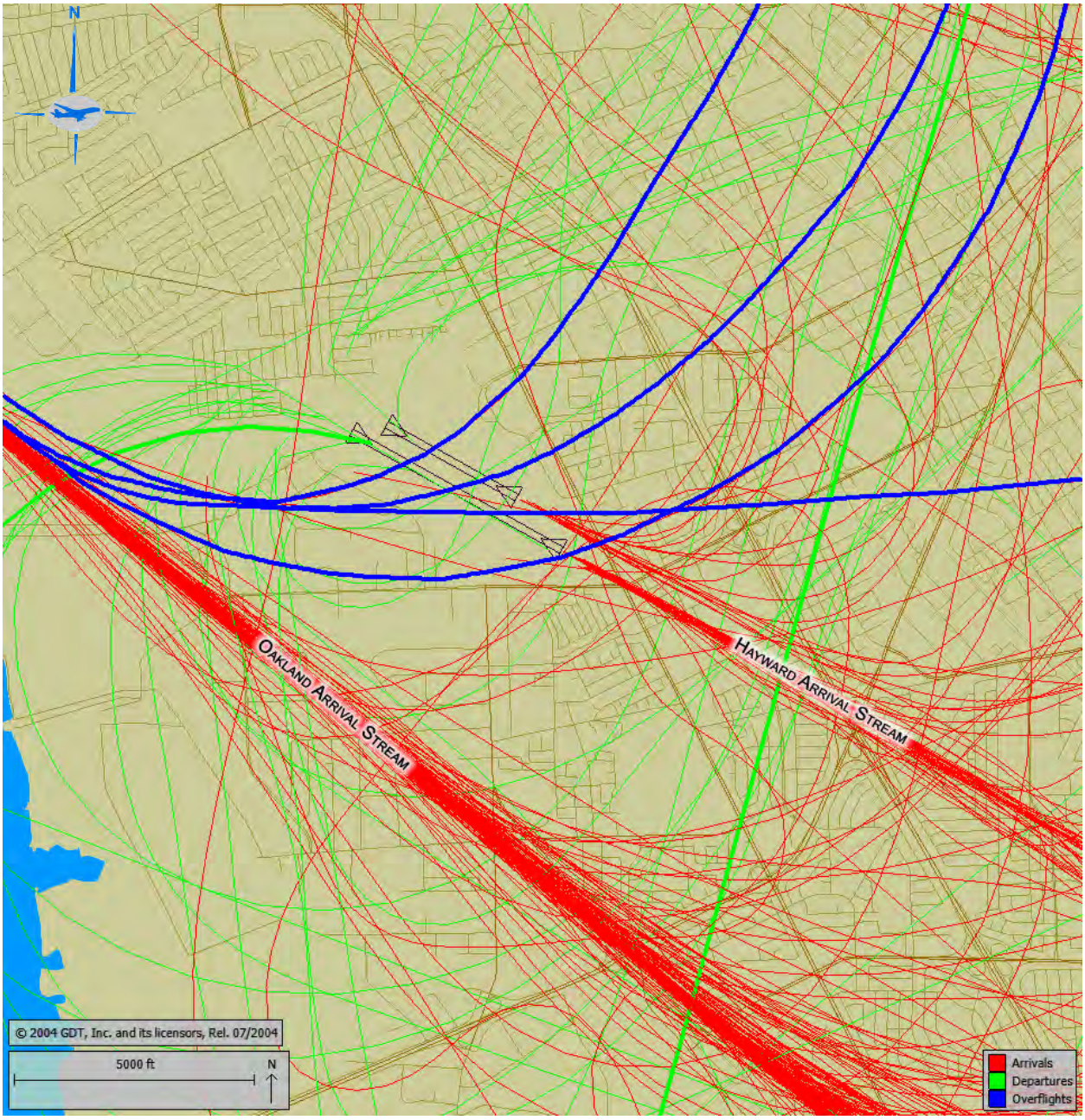
Source: Northern California TRACON

Figure 3-8
Southeast-Flow Arrival and Departure Routes

Due to Oakland's proximity to Hayward, there are many interactions of Oakland and Hayward traffic. A primary arrival stream and departure route to/from Oakland (Runway 11-29) is located approximately one mile west of Hayward Executive Airport. During West-Flow departures from Hayward Runway 28L remain under 1,500 feet, and turn left under the primary Oakland arrival stream. Southeast-Flow departures on Runway 10R remain under 1,500 feet and turn right under the primary Oakland departure route. Touch and go's conducted on Runway 10R-28L occur between Hayward Airport and the Oakland arrival stream.

A letter of agreement has been established between Oakland and Hayward air traffic control. This letter of agreement gives Oakland air traffic the right to use Hayward Class D airspace without warning or coordination.

There have been recent incidents where Oakland arrivals have descended into Hayward Class D airspace without permission from Hayward air traffic controllers. Additionally, there have been recent occurrences where Oakland traffic has crossed over Hayward airport unannounced. Figure 3-9 provides a snapshot of flight tracks from the Airport Noise and Operations Monitoring System (ANOMS 8) depicting a week's worth of operations in July 2008 operations. Red lines indicate arrivals to either Oakland or Hayward and green lines represent departures. Lines shown in blue denote Oakland traffic that has overflown Hayward Airport.



Source: ANOMS 8 and AECOM.

Figure 3-9
Flight Tracks

Local Operating Procedures

This section describes the local operating procedures at Hayward Executive Airport. Information regarding traffic patterns, noise abatement, and helicopter operating procedures is available to pilots through flyers available at the airport. A copy of these flyers are included in Appendix B of this report. Local procedures are designed to avoid noise sensitive areas.

Noise Sensitive Areas

Noise sensitive areas are located north and west of Runways 10L and 10R and north, east, and south of Runways 28R and 28L. It is recommended that pilots avoid over-flight of these noise sensitive areas.

Traffic Patterns

After hours Hayward Airport changes from Class D to Class E airspace or Class G airspace (uncontrolled), depending on it's proximity to the Oakland arrivals.

- **Runway 10L –** has a left traffic pattern with a traffic pattern altitude (TPA) of 850 feet mean sea level (MSL). This runway is closed 9 PM to 7 AM, local hours.

- **Runway 10R –** has a right traffic pattern with a TPA of 650 feet MSL. This is the preferred runway for "touch and go" and "stop and go" activities during IFR conditions.

- **Runway 28L –** has a left traffic pattern with a TPA of 650 feet MSL. There are two departure paths for non touch and go operations. One leads across the center of the airport, the other follows the railroad line south and east. This is the preferred runway for "touch and go" and "stop and go" activities during VFR conditions.

- **Runway 28R –** has a right traffic pattern with a TPA of 850 feet MSL. There are no straight-out departures and it is only to be used by single-engine aircraft. It is expected that all departures turn right before the golf course and high performance single engine aircraft operations are prohibited. This runway is closed from 9 PM to 7 AM.

"Touch and go" and "stop and go" operations are prohibited between 9 PM and 7 AM Monday through Saturday and 9 PM and 10 AM on Sundays and/or holidays on Runway 10R-28L. "Touch and go" and "stop and go" procedures are prohibited on Runway 10L-28R between 7 AM and 10 PM hours on Sundays and/or holidays and are not recommended all other times. Takeoffs on Runway 28R are prohibited from 7 PM Friday to 10 AM Saturday and from 7 PM Saturday to noon Sunday.

Helicopter Operations

All helicopter operations are conducted from the helipads or "Spot Charlie". Spot Charlie is the designated location for autorotation and landing training. All helicopter training traffic is to be kept southeast of Runway 10R-28L, over the industrial area, at or below 500 feet MSL.

Navigational Aids

An inventory of the navigational aids and air traffic services available at the airport is as follows:

- **Airport Traffic Control Tower (ATCT)** - The airport is equipped with a control tower which is operated 7 AM to 9 PM local time. After hours Hayward Airport changes from Class D to Class E airspace or Class G airspace.

- **Localizer –** A localizer provides runway centerline guidance to pilots and is usually 1,000 feet from the end of a runway on the extended runway centerline. Its useful volume extends to 18 nautical

miles for the path up to 10 degrees either side of the course. The useful volume for the angle of 35 degrees of the course extends up to 10 NM. The localizer at Hayward is located close to the 10R runway end, offset between the two runways due to obstructions.

- **Very High Frequency Omni-Directional Range/Tactical Air Navigation (VORTAC)** – This navigational aid provides azimuth (direction) and distance information to the pilot. The Oakland (OAK) VORTAC is located approximately 6.0 nautical miles northwest of the airport and is used for the non-precision VOR approaches into Hayward. The OAK facility is designated as an "H" (High Altitude) facility which means it is usable from altitudes of 1,000 to 60,000 feet above the ground. Up to altitudes of 14,500 feet MSL the facility is usable within 100 nautical miles of the station, and at altitudes of 18,000 to 45,000 feet MSL the facility is usable within 130 miles of the station. Portions of the OAK VORTAC's signal are obstructed and unusable.

  The VOR is unusable as follows:

  - From 35 to 45 degrees beyond 35 nautical miles below 7,000 feet MSL
  - From 307 to 318 degrees beyond 10 nautical miles all altitudes
  - From 318 to 360 degrees beyond 10 nautical miles below 4,000 feet MSL
  - From 318 to 360 degrees beyond 26 nautical miles below 5,000 feet MSL

  Additionally, the distance measuring equipment (DME) of the OAK VORTAC is unusable as follows:

  - From 40 to 65 degrees beyond 30 nautical miles below 4,100 feet MSL
  - From 307 to 323 degrees beyond 30 nautical miles below 1,500 feet MSL
  - From 330 to 360 degrees beyond 26 nautical miles below 5,000 feet MSL
  - From 330 to 360 degrees beyond 34 nautical miles below 7,500 feet MSL
  - From 350 to 30 degrees beyond 20 nautical miles below 3,500 feet MSL

- A UNICOM is available at the airport. This service provides local traffic pattern advisories but is not used for air traffic control purposes.

Assistance from the Flight Service Station (FSS) is available to pilots in the Hayward Airport area through the Oakland FSS. This facility is located at Metropolitan Oakland International Airport which is about 6 miles northwest of Hayward. The services which are provided by the FSS include:

- Issuance of Notices to Airmen (NOTAM's)
- Dissemination of Pilot Reports (PIREP's) to interested parties
- Issuance of weather data and National Airspace System (NAS) information
- VFR advisory service
- Direction finding assistance to "lost" aircraft
- Pilot briefing service
- Flight plan assistance

In addition to the above navigational aid, the airport is equipped with the following visual aids. These are provided to assist pilots in locating the airport at night or during periods of reduced visibility.

- **Rotating Beacon** – a visual aid that indicates the location of an airport. Alternating white and green beams indicate an airport with beacons located either on or close to an airport. The beacon at Hayward Airport is located on top of the control tower.

- **Precision Approach Path Indicator (PAPI)** – provides vertical visual glide path information to approaching pilots and consists of a two, three, or four boxes of lights usually located on the left side of the associated runway. Runways 10L and 28R are equipped with a four-light PAPI on the left side of the runway. The PAPI system can usually be seen for up to five miles during the day and up to 20 miles at night. PAPI systems are replacing the VASI systems.

- **Runway End Identifier Lights (REIL)** – are two synchronized flashing lights, one on each side of the runway landing threshold, which provide rapid and positive identification of a runway end to approaching pilots. Runways 10R and 28L are equipped with REIL.

- **Visual Approach Slope Indicator (VASI)** – A VASI is a system of lights that provides pilots visual descent guidance information. It is usually located on the left side of a runway and can be seen for up to five miles during the day and 20 miles at night. Runways 10R and 28L are equipped with a four-light VASI, which are located on the left side of Runway 28L and on the right side of Runway 10R. The VASIs are 50 to 60 years old, and require frequent maintenance. Consideration should be given to replace VASIs with PAPIs (precision approach path indicators).

FBO EXPANSION PLANS

FBOs which cater to jet aircraft were interviewed to learn their expansion plans at Hayward Executive Airport. This section documents the expansion plans/desires of Ascend Development, Atlantic Aviation Services, Bud Field Aviation, SP Aviation, Airport Property Partners, and American Aircraft Sales. Figure 3-10 depicts where these FBOs are presently located, along with the location where they will expand, if known.

Ascend Development

Ascend Development, who recently developed ParkAvion (Area A on Figure 3-10), seeks to further expand development at the airport. They are in the process of finalizing a site plan to develop the Epic Aviation parcel (Area A1 on Figure 3-10). Figure 3-11 shows their planned development which includes approximately 73,000 square feet of hangar space and a self service fuel island. Additionally, Ascend Development would like to develop parcels adjacent to Epic Aviation. No specific plans for these areas have been defined. Proposed hangar development is shown in light blue.

Atlantic Aviation Services

While Atlantic Aviation Services leases approximately 8 acres, they have no space available for expansion on their existing leasehold (Area B on Figure 3-10) to expand. Presently, Atlantic Aviation occupies two 25,000-square foot hangars for a total of 50,000 square feet of hangar space. They would like to construct and occupy an additional 25,000-square foot hangar.

Bud Field Aviation

Bud Field Aviation (Area C on Figure 3-10) has prepared construction plans to develop approximately 13 acres south of the runway (Area C1 on Figure 3-10). The plan is to develop approximately 254,000 square feet of hangar space (divided into 16 hangars) and a fuel facility. Present plans include one odd shaped 10,000-square foot hangar, a 40,000-square foot hangar (160 feet by 250 feet), two 14,400-square foot hangars (120 feet by 120 feet), three 14,850-square foot hangars (110 feet by 135 feet), three 23,625-square foot hangars (135 feet by 175 feet), and six 10,000-square foot hangars (100 feet by 100 feet). Two 15,000-gallon underground tanks are planned and will store Jet A fuel. Avgas will be provided via a tanker truck on site. Figure 3-12 depicts Bud Field Aviation's proposed site plan. Proposed hangars are shown in light blue.

SP Aviation

Currently SP Aviation (located at Area D on Figure 3-10) does not have sufficient room to house their aircraft. SP Aviation hangars their Gulfstream IV at Bud Field Aviation. SP Aviation reports that they do not have adequate space within their hangar to perform maintenance on their aircraft. This situation is especially true when the Gulfstream IV requires maintenance. SP Aviation also does not have sufficient ramp space to conduct run ups and other maintenance.

SP Aviation is a partner to redevelop the CANG property and will be relocating their operations and aircraft to the large hangar on that side.

Airport Property Partners

Airport Property Partners (Area E on Figure 3-10) is in the process of expanding their facility. The new development area (noted as Area E1 on Figure 3-10) is adjacent to their current location. Airport Property Partners currently operates out of a trailer. As seen in Figure 3-13, Airport Property Partners plans to develop their leasehold. The expansion includes approximately 16,200 square feet of FBO space attached to one of the existing hangar buildings. In addition, a second fuel facility is proposed within the planning period.

American Aircraft Sales

American Aircraft Sales (Area F on Figure 3-10) currently sells smaller general aviation type aircraft; however, their existing business plan is to expand to include sales of newer more upscale aircraft, including jets. As part of this expansion American Aircraft Sales will be removing their existing building and replacing it with two 11,990-square foot hangars and one 11,780-square foot hangar, along with 1,600 square feet of office space.

The development will occur in three phases, with Phase 1 occurring in 2011-2012, Phase 2 by 2018 (estimated), and Phase 3 by 2030 (estimated). Actual timing of the latter phases is dependent upon market demand. Phase 1 constructs Hangar A and the office space; Phase 2 constructs Hangar B; and, Phase 3 constructs Hangar C (see Figure 3-14).

ON-AIRPORT LAND USES

On-airport land uses at Hayward Executive Airport can be divided into the following categories: airfield operations, general aviation revenue support, aviation related revenue support, non-aviation related revenue support, ground access/vehicular circulation, and recreational. The airfield operations area surrounds the runways and taxiway system. Adjacent to the airfield operations are the general aviation revenue support areas. Aviation related revenue support areas are on the southern part of the airport along West Winton Avenue. Non-aviation revenue support areas are located both on the south side along West Winton Avenue and along the entire area of airport property along Hesperian Blvd, separated from the airfield by Skywest Drive. All the roads and automobile parking facilities are considered ground access/vehicular circulation. The golf course and park are considered recreational uses.

One major change has occurred to airport land since the 2002 Master Plan, the release of 16 acres in November 2005, which was subsequently developed as a commercial shopping center. The 16 acres were previously used as a movie theater, a gas station, and other non-aviation related revenue supporting uses and was secluded from the airfield by a major road (West A Street). The FAA deemed the property as surplus property, allowing for it to be released from FAA grant assurances. Otherwise, uses of airport land have not significantly changed since the 2002 Master Plan.

The 17-acre California National Guard area has been returned to the City. The City subsequently selected a developer for the property to be developed for aviation and aviation related uses.

It is important to note that the Skywest Golf Course is located on airport property and occupies about 127 acres. The water features on the golf course tend to attract geese and other water fowl, which can be hazardous to aircraft.

CALIFORNIA AIR NATIONAL GUARD FACILITY

California Air National Guard Facility History

The California Air National Guard (CANG) moved onto land adjacent to the airport in 1949. When the CANG first moved to Hayward, it was home to the 61st Fighter Wing, which included the 194th Fighter Squadron. The 61st Fighter Wing was re-designated as the 144th Fighter Bomber Wing in November of 1950. During this time, the wing included the 192nd and 191st Fighter Squadrons of Reno, Nevada and Salt Lake City, Utah, respectively.

Legend:

Existing Location	Expansion Area	FBO
A	A1	Ascend Development
B	Not identified	Atlantic Aviation Services
C	C1	Bud Field Aviation
D	D1	SP Aviation
E	E1	Airport Property Partners
F	F1	American Aircraft Sales

Figure 3-10
Location Map,
FBOs Catering to Jet Aircraft

Figure 3-11
Proposed Ascend Development

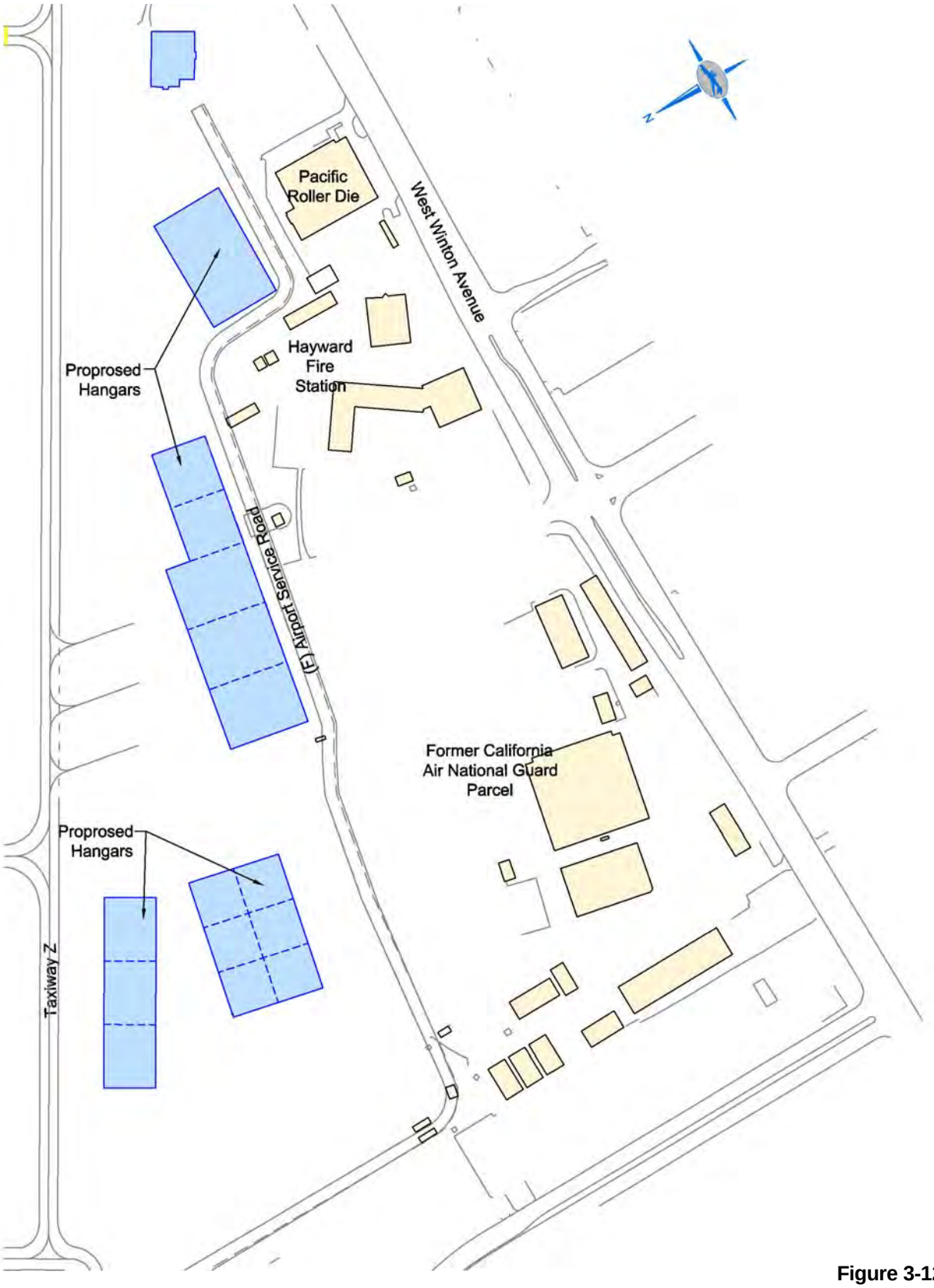


Figure 3-12
Proposed Bud Field Development

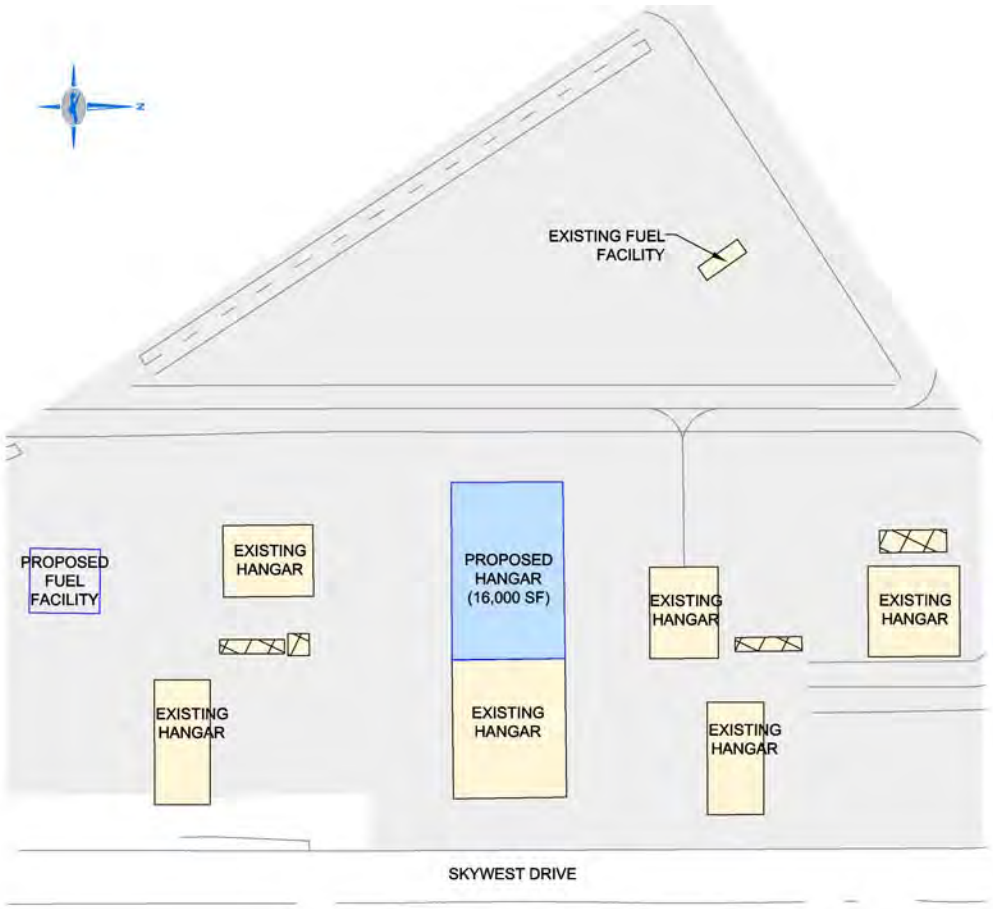


Figure 3-13
Proposed Airport Property Partners Development

Figure 3-14
American Aircraft Sales Development

The P-51D and P-51H were flown at Hayward from 1948 until October 1954. The P-51D/H earned prominence early on as the Air Force's most respected aerial gunnery competitors. While flying the P-51, the unit qualified for the first all-jet worldwide gunnery meet, held June of 1953. The 144th Fighter Bomber Wing used borrowed F-86A Sabre jets and placed fifth in the competition.

A year later, November 1954, the 194th Fighter Squadron transitioned from the piston engine, propeller driven P-51 to F-86A jet aircraft and was relocated to Fresno. The 144th Fighter Bomber Wing moved to Fresno in 1957.

194th Fighter Squadron P-51's at Hayward

The airport was also home to the 129th Air Rescue Squadron. This squadron was organized in the 1950s and served alongside the 103rd Pennsylvania Air National Guard Squadron during the Korean War.

The 129th Air Resupply Squadron was established April 1955. This squadron was initially equipped with Curtiss C-46D Commandos and later (1958) equipped with Grumman SA-16A Albatrosses. During 1958 the C-46Ds were phased out and the troop was re-designated the 129th Troop Carrier Squadron. Four years later, the troop reached Group status and was designated as the 129th Troop Carrier Group.

May 1, 1980 changed the station of the 129th Troop Carrier group from Hayward to NAS Moffett Field. The unit also changed roles and missions. In 2008, another significant change occurred for the CANG, as they closed the doors on most of its facility at Hayward.[1]

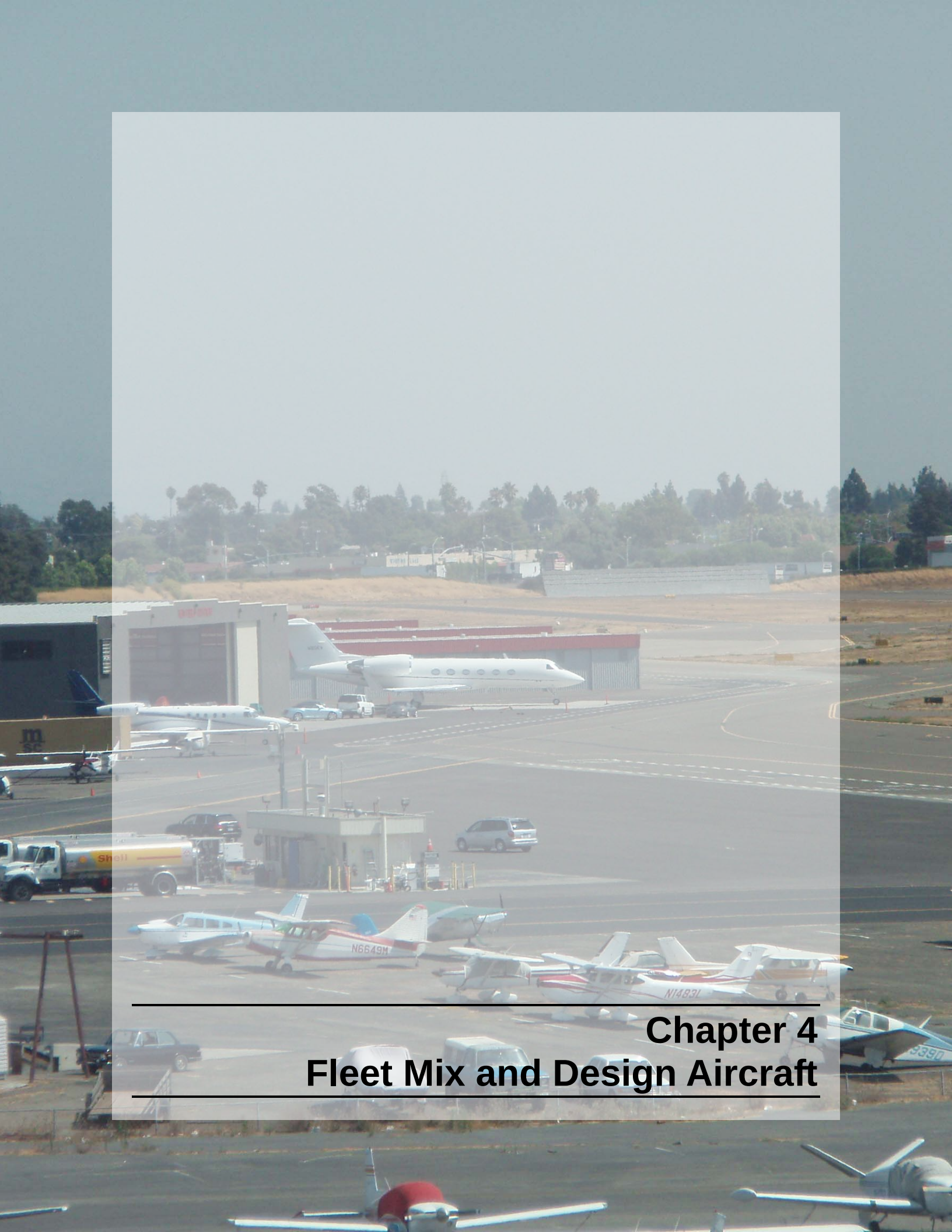
Buildings and Facilities

With the exception of the large hangar, it is anticipated that all CANG buildings on the 17-acre parcel will be removed. The large hangar will be refurbished. No buildings within the former CANG leasehold are considered as historical buildings.

Current Status

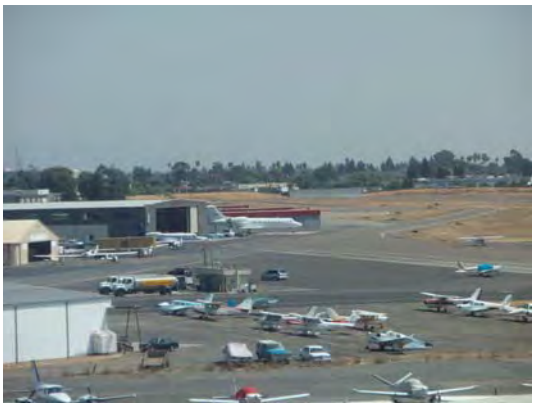
The 17-acre site will be developed by Hayward Airport Development Group, LLC. In November 2008 a Record of Decision was issued and submitted as evidence, that the Department of the Air Force and the Air National Guard had exhibited due diligence in fully mitigating all concerns related to the known areas of contamination and what, if any, further monitoring or clean-up actions maybe necessary to fully release the site from the Notice of Required Action by the State of California Department of Toxic Substances (DTSC.)

[1] http://www.militarymuseum.org/HaywardANGB.html



Chapter 4
Fleet Mix and Design Aircraft

Chapter 4 – Fleet Mix and Design Aircraft



PURPOSE AND SCOPE

The current master plan for the airport was prepared in 2002 and included a forecast of aviation demand that projected traffic at Hayward through the year 2020. Overall forecasts of operation and based aircraft are judged to be reasonable, and therefore, the 2002 Master Plan forecast will be used as a point of reference for this analysis. The purpose of this chapter is to define the current fleet mix and design aircraft applicable to Hayward Executive Airport. This chapter is not intended to replace the forecast prepared as part of the 2002 Master Plan, but rather, reassesses the fleet mix at Hayward and determines the appropriate design aircraft for the airport layout plan.

Data from the current master plan will be referenced herein. Hayward's competitive market area will be reviewed and refined. Once the market area is defined, data from the Terminal Area Forecast (TAF) will be used to identify Hayward's market share of business jet aircraft in the Bay Area and based aircraft trends. The fleet mix identified in the master plan will then be revised. Lastly, the design aircraft for Hayward will be defined, based on data from the Airport Noise and Operations Monitoring System.

Since this airport layout plan (ALP) update has been prompted by the recent increase in business jet traffic at Hayward Executive Airport, the focus of this analysis will be on business or corporate jets at the airport and defining the fleet mix to account for recent and current business jet activity.

2002 MASTER PLAN AVIATION DEMAND FORECAST

As part of the Airport Master Plan (2002), Aviation Demand Forecasts were prepared. Forecasts were prepared for based aircraft and annual aircraft operations at Hayward, through the year 2020 and used 1998 as the base year.

Based Aircraft

Hayward Executive Airport's current Master Plan defined Hayward's service area in terms of zip codes. County assessor data was used to determine based aircraft owner's places of residence and through the analysis it was determined that 95 percent of Hayward's based aircraft owners were by residents of East Bay communities. These communities include Hayward, San Lorenzo, Oakland, Fremont, Newark, Union City, and Castro Valley. The airport service area was defined by 25 zip codes that surrounded the airport.

During preparation of the master plan forecast, other forecasts, such as the FAA Terminal Area Forecast (TAF), Metropolitan Transportation Commission (MTC) San Francisco Bay Area Regional Airport System Plan (RASP) update, and Caltrans were taken into consideration. Additionally, an analysis of local and regional population forecasts was considered in the forecast of based aircraft at Hayward.

The 1998-2015 FAA TAF projected static levels of aircraft operations at Hayward (184,564 through 2015) and a gradual decline of based aircraft from 453 in 2000 to 438 in 2015. The MTC San Francisco Bay Area RASP Update projected three alternative scenarios in the 1994 RASP update: 1) No Build, 2) Master Plan Development, and 3) Optimization. Scenario 1 projected 597 based aircraft and 244,720 annual operations at Hayward; Scenario 2 projected 533 based aircraft and 255,000 annual operations;

and Scenario 3 projected 665 based aircraft and 372,400 annual operations by 2020. Caltrans, through its aeronautics division, prepares the California Aviation System Plan or CASP. The most current CASP (1998) adopted the MTC RASP forecasts.

The master plan expected local and regional populations to increase. The City of Hayward population was forecast to increase from 124,200 in 1995 to 141,300 in 2020 (0.5 percent increase annually). Alameda County population was expected to grow from 1,345,900 in 1995 to 1,588,400 by the year 2020. Hayward based aircraft were forecast at 454, 475, 497, and 518 in 2005, 2010, 2015, and 2020, respectively. Based aircraft forecasts of the RASP and 2002 Master Plan are found in Table 4-1.

Table 4-1
BASED AIRCRAFT FORECASTS

Forecast	Based Aircraft
MTC RASP – No Build	597
MTC RASP – Master Plan Development	533
MTC RASP – Optimization	665
2002 Master Plan	518

Notes: MTC RASP forecast represents year 2010.
2002 forecast represents year 2020.
Source: 2002 Master Plan; AECOM analysis.

In 1998 the based aircraft mix was 85.8 percent single engine, 9 percent multi-engine, 2.4 percent turboprop, 1.7 percent business jet, and 1.2 percent helicopter. To project the future based aircraft fleet mix, the Master Plan compared the 1998 fleet mixes to the national fleet mix average. At Hayward, single-engine aircraft and multi-engine aircraft historically had a stronger presence than the national average and turboprop, business jet, and helicopter did not have the same levels of representation as the national fleet mix average. Through this comparison, based aircraft fleet mix was forecast in the master plan, as seen in Table 4-2.

Table 4-2
2002 MASTER PLAN FLEET MIX

	Single Engine		Multi-Engine		Turboprop		Jet		Helicopter		
Year	#	%	#	%	#	%	#	%	#	%	Total
1998	363	85.8%	38	9.0%	10	2.4%	7	1.7%	5	1.2%	423
2005	388	85.5%	41	9.0%	11	2.4%	8	1.8%	6	1.3%	454
2010	401	84.4%	44	9.3%	14	2.9%	9	1.9%	7	1.5%	475
2015	413	83.1%	47	9.5%	18	3.6%	11	2.2%	8	1.6%	497
2020	426	82.2%	50	9.7%	20	3.9%	13	2.5%	9	1.7%	518

Source: 2002 Master Plan; AECOM analysis.

As can be seen in the table, the master plan projected that the percentage of single engine aircraft would decrease slightly (3.6 percent) throughout the planning period. This difference was accounted for by increases in the other aircraft types. The business jet and turboprop categories were expected to account for most of the difference noted.

Aircraft Operations

Annual aircraft operations were forecast by applying an average number of operations per based aircraft. The master plan compared operations per based aircraft to the FAA forecast and under two scenarios: 1) where operations per based aircraft stay constant, and 2) where the number of operations per based aircraft increases. Scenario 1 forecast operations per based aircraft at a ratio of 363, while Scenario 2 increased the operations per based aircraft ratio from 400 to 493 over the 2005-2020 time period. The selected forecast was a combination of the two scenarios, projecting operations to increase from 173,200 in 2005 (381 operations per based aircraft) to 188,250 in 2010 (396 operations per based aircraft),

204,400 in 2015 (411 operations per based aircraft), and 221,800 in 2020 (428 operations per based aircraft) respectively. The selected scenario estimates an average annual rate of growth by 1.7 percent.

The master plan indicated that 0.2 percent of operations were air taxi operations. Air taxi operations were therefore forecast at 350, 380, 410, and 440 in 2005, 2010, 2015, and 2020 respectively.

Historically, local and itinerant operations each accounted for approximately 50 percent of total operations. In the 1990s, though, local operations grew due to an increase in flight training at Hayward. The master plan assumed an increase in business jets and therefore forecast local operations to have a weaker representation in 2020. The master plan projected local operations to represent 61 percent of total operations in 2005 and 58 percent in 2020. Respectively, itinerant operations were forecast to represent 39 percent of total operations in 2005 and 42 percent in 2020.

Since the master plan projected annual operations as a number of operations per based aircraft, the mix of operations by aircraft type was the same as the fleet mix of based aircraft. Therefore, single engine operations accounted for approximate 85.8 percent of total operations, or roughly 148,400 operations.

It is important to note that the 2002 Master Plan forecasts were prepared prior to the tragic events of 9/11. The master plan was finalized prior to the effects of these events could be ascertained. As previously noted, business jets may now be preferred as a more secure form of executive travel.

COMPETITIVE MARKET AREA AIRPORTS

Several potential competitive market areas (CMAs) have been and can be defined for Hayward Executive Airport. CMAs as defined in the 2002 Master Plan, RASP, and analysis of market areas by an FBO were used in developing a broad competitive market area for this study. The goal of developing this market area is to determine trends in based aircraft, and the mix of based aircraft at Hayward and competing airports.

The market area for this ALP update has been broadly defined as the San Francisco Bay Area. This market area definition matches the CMA assumed in the RASP. There are a total of 23 airports within the 9 Bay Area counties. Figure 4-1 depicts the airports within the Bay Area and defines the broad CMA.

The broad market area was subsequently refined through a screening analysis. The screening was performed to remove airports which do not have facilities to support business jet aircraft. Critical facilities for business jet aircraft are runway length and availability of Jet A fuel. Typically, business jets require a minimum runway length of 5,000 feet. Business jet operators are also more likely to operate at airports that have an instrument approach procedure. Business jets may be based at an airport which have shorter runways, no Jet A fuel available, or no instrument approaches, but these airports are judged not to directly compete with Hayward. Table 4-3 presents a listing of airports and pertinent facility information, including longest runway length, availability of jet fuel, and if there is an instrument approach available, for each airport. Competing airports are highlighted on the table. The other airports are judged to not compete with Hayward as a base airport for business jets and removed from subsequent analysis. Non-highlighted airports represent the Refined CMA and include Oakland International, San Francisco International, Livermore Municipal, San Jose International, Buchanan Field, Napa County, and Sonoma County.

Three airports in the Refined CMA are air carrier airports: Oakland International, San Francisco, International, and San Jose International. As such, Bay Area air carrier airports often experience delays. The MTC prepared a Regional Airport Capacity and Delay study in 2000. According to the study San Francisco average arrival delays are 4 minutes departure delays are 6 minutes per departing flight during VRF conditions. In IFR conditions, San Francisco experiences significant delays, with arrival delays of approximately 149 minutes per flight and departure delays up to 8.6 minutes per flight. Oakland delays are not as extreme as San Francisco's and average arrival and departure delays are 1.6 minutes and 3.8 minutes per flight, respectively. San Jose arrival and departure delays are 1.5 and 4.3 minutes per flight.

Figure 4-1
San Francisco Bay Market Area

Table 4-3
SAN FRANCISCO BAY MARKET AREA AIRPORTS

Airport	Three Letter Identifier	Distance from Hayward (NM)	Runways [a]	Jet A Fuel	Control Tower	Instrument Approach Procedure
Hayward	HWD	-	150'x5,694'	Yes	Yes	Yes
Oakland Int'l	OAK	6.0	150'x10,000'	Yes	Yes	Yes
San Carlos	SQL	10.7	75'x2,600'	Yes	Yes	Yes
Palo Alto	PAO	11.9	70'x2,443'	Yes	Yes	Yes
San Francisco Int'l	SFO	12.3	200'x11,870'	Yes	Yes	Yes
Livermore Municipal	LVK	14.5	100'x5,253'	Yes	Yes	Yes
Half Moon Bay	HAF	20.0	150'x5,000'	No	No	Yes
San Jose Int'l	SJC	20.0	150'x11,000'	Yes	Yes	Yes
Buchanan Field	CCR	20.1	150'x5,001'	Yes	Yes	Yes
Reid-Hillview	RHV	24.3	75'x3,100'	Yes	Yes	Yes
Byron	C83	25.6	100'x4,500'	No	No	Yes
Napa County	APC	34.1	150'x5,931'	Yes	Yes	Yes
Gnoss Field	DVO	35.6	75'x3,300'	Yes	No	Yes
Sonoma Valley	0Q3	37.3	45'x2,700'	No	No	No
Rio Vista	O88	37.7	75'x4,200'	No	No	Yes
Sonoma Skypark	0Q9	38.8	40'x2,480'	No	No	No
Petaluma	O69	42.6	75'x3,600'	Yes	No	Yes
South County	E16	42.7	75'x3,100'	No	No	Yes
Nut Tree	VCB	43.8	75'x4,700'	Yes	No	Yes
Angwin-Parrett	2O3	57.2	50'x3,217'	No	No	No
Sonoma County	STS	60.6	150'x5,115'	Yes	Yes	Yes
Healdsburg	O31	70.0	60'x2,707'	No	No	No
Cloverdale	O60	78.6	60'x3,155'	No	No	Yes

Notes: [a] Represents length of longest runway.
Source: FAA Form 5010-1; AECOM analysis.

FLEET MIX

The Refined CMA, as defined above, forms the basis for establishing a revised fleet mix for Hayward. This is done by first broadly defining the based aircraft environment of the Refined CMA and then applying fleet mix data gleaned from the Refined CMA to Hayward.

Based Aircraft in Refined CMA

After screening the CMA as described above, the number of based aircraft at each airport was analyzed and Hayward's market share of the based aircraft determined. This analysis used data from the latest FAA Terminal Area Forecast (TAF) which represents actual data through year 2006. Since 1998 (the base year of the 2002 Master Plan) Hayward has captured an average of 15 percent of the based aircraft in the Refined CMA. In 2006, Hayward accounted for 17 percent of based aircraft in the Refined CMA, which represents the third largest share of based aircraft at an airport. Table 4-4 depicts based aircraft information for airports in the Refined CMA from 1998 to 2006.

As can be seen in the table, based aircraft within the Refined CMA have declined. San Jose International has experienced a drastic decrease in based aircraft. Sonoma County, Napa County, and San Francisco also declined. The remaining airports (Hayward, Oakland International, Buchanan Field, and Livermore) experienced an increase in based aircraft.

Table 4-4
BASED AIRCRAFT IN THE REFINED CMA

Year	HWD	OAK	SFO	CCR	LVK	SJC	APC	STS	Total
Based Aircraft									
1998	456	366	25	579	547	680	247	413	3,313
1999	456	370	25	579	547	417	247	377	3,018
2000	456	370	25	579	547	417	247	377	3,018
2001	456	370	25	579	547	417	247	377	3,018
2002	456	370	25	591	547	417	247	380	3,033
2003	456	374	25	594	558	417	248	382	3,054
2004	472	370	18	591	604	417	227	380	3,079
2005	472	370	18	591	604	417	227	380	3,079
2006	496	370	18	591	604	185	227	380	2,871
Percent Market Area Based Aircraft									
1998	13.76%	11.05%	0.75%	17.48%	16.51%	20.53%	7.46%	12.47%	100.00%
1999	15.11%	12.26%	0.83%	19.18%	18.12%	13.82%	8.18%	12.49%	100.00%
2000	15.11%	12.26%	0.83%	19.18%	18.12%	13.82%	8.18%	12.49%	100.00%
2001	15.11%	12.26%	0.83%	19.18%	18.12%	13.82%	8.18%	12.49%	100.00%
2002	15.03%	12.20%	0.82%	19.49%	18.03%	13.75%	8.14%	12.53%	100.00%
2003	14.93%	12.25%	0.82%	19.45%	18.27%	13.65%	8.12%	12.51%	100.00%
2004	15.33%	12.02%	0.58%	19.19%	19.62%	13.54%	7.37%	12.34%	100.00%
2005	15.33%	12.02%	0.58%	19.19%	19.62%	13.54%	7.37%	12.34%	100.00%
2006	17.28%	12.89%	0.63%	20.59%	21.04%	6.44%	7.91%	13.24%	100.00%
Average	15.22%	12.13%	0.74%	19.22%	18.61%	13.66%	7.88%	12.54%	100.00%
Low	13.76%	11.05%	0.58%	17.48%	16.51%	6.44%	7.37%	12.34%	100.00%
High	17.28%	12.89%	0.83%	20.59%	21.04%	20.53%	8.18%	13.24%	100.00%

Source: FAA Terminal Area Forecast, 2007; AECOM analysis.

Hayward's market share – as a percentage – has been relatively constant from 1998 through 2006. However, during this time Hayward attracted 40 new based aircraft. Only Livermore Municipal attracted more based aircraft since 1998. During this period, Hayward's market share increased by 3.5 percent and Livermore Municipal's market share increased 4.5 percent. Approximately 200 based aircraft left the Refined CMA in 2006, all from San Jose International. Hayward is the only airport which seems to have increased based aircraft totals in 2006; presumably the increase represents San Jose International based aircraft owners who relocated to Hayward.

Relative to San Jose International, all airports increased their share of the based aircraft market and Hayward's market share from 2005 to 2006 increased by approximately 2 percent, outpacing all other airports. Hayward's growth in based aircraft market share has occurred since 2004 and 40 additional based aircraft have been added to Hayward since 2004. Again, only Livermore Municipal experienced a higher increase in based aircraft. The recent trend suggests that Hayward is capturing more of the based aircraft market share than before.

Fleet Mix of Refined CMA

While the above analysis provides a sense of overall based aircraft trends, the focus of this study is on the fleet mix of based aircraft, specifically business jets, at Hayward. In order to analyze based aircraft trends locally, trends within the Refined CMA must be understood. Figure 4-2 and Table 4-5 depict the based aircraft mix within the Refined CMA. Figure 4-2 illustrates percentages of based aircraft types for the years 1998 through 2006, whereas Table 4-5 contains the empirical data used to develop Figure 4-2.

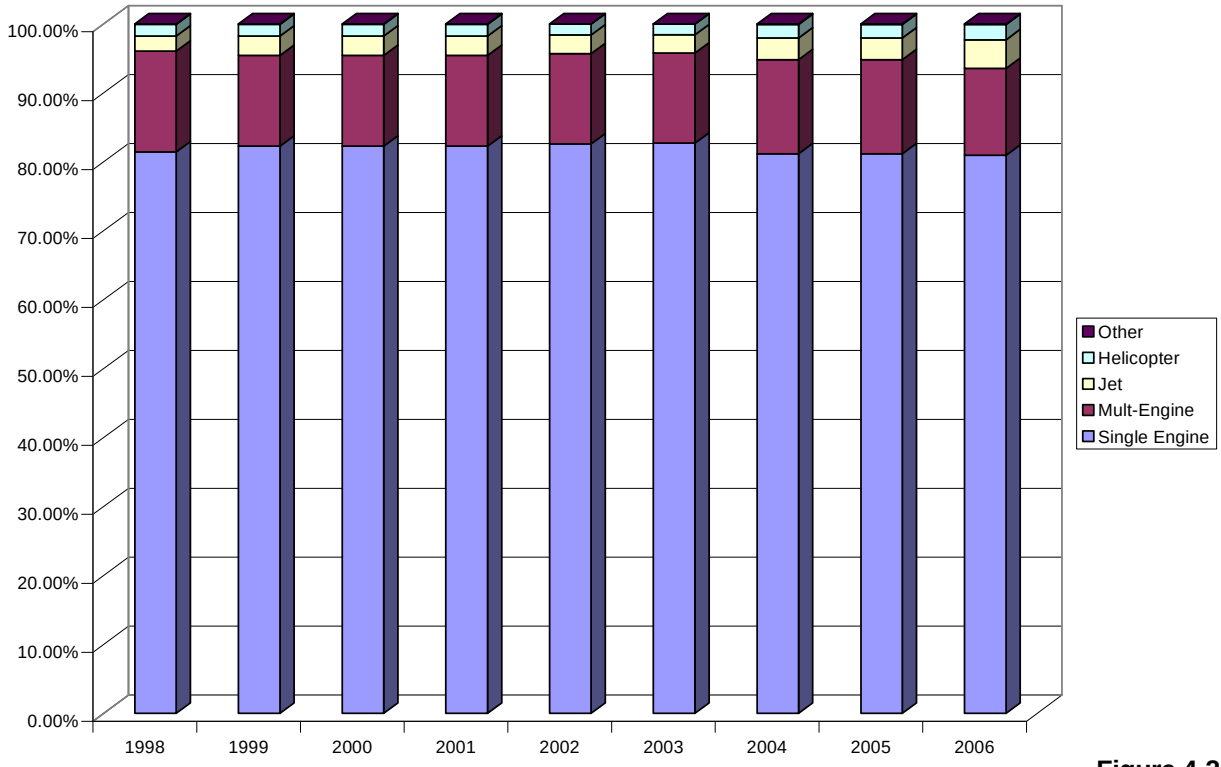


Figure 4-2
Fleet Mix of Refined CMA (by Percentage)

Table 4-5
BASED AIRCRAFT BY TYPE IN THE REFINED CMA

	Single Engine		Multi-Engine		Jet		Helicopter		Other		
Year	#	%	#	%	#	%	#	%	#	%	Total
1998	2,698	81.44%	484	14.61%	73	2.20%	56	1.69%	2	0.06%	3,313
1999	2,483	82.27%	397	13.15%	85	2.82%	51	1.69%	2	0.07%	3,018
2000	2,483	82.27%	397	13.15%	85	2.82%	51	1.69%	2	0.07%	3,018
2001	2,483	82.27%	397	13.15%	85	2.82%	51	1.69%	2	0.07%	3,018
2002	2,505	82.59%	397	13.09%	82	2.70%	48	1.58%	1	0.03%	3,033
2003	2,526	82.71%	399	13.06%	81	2.65%	47	1.54%	1	0.03%	3,054
2004	2,499	81.16%	420	13.64%	97	3.15%	60	1.95%	3	0.10%	3,079
2005	2,499	81.16%	420	13.64%	97	3.15%	60	1.95%	3	0.10%	3,079
2006	2,298	80.35%	362	12.66%	134	4.69%	63	2.20%	3	0.10%	2,860
Average	2,497	81.80%	408	13.35%	91	3.00%	54	1.78%	2	0.07%	3,052
Low	2,298	80.35%	362	12.66%	73	2.20%	47	1.54%	1	0.03%	2,860
High	2,698	82.71%	484	14.61%	134	4.69%	63	2.20%	3	0.10%	3,313

Source: FAA Terminal Area Forecast, 2007; AECOM analysis.

As can be seen in the figure and table, the based aircraft fleet mix for the Refined CMA has shifted slightly over the last ten years. The presence of single engine aircraft dominates, with an average of 2,500 based aircraft, which represents approximately 82 percent of all based aircraft in the Refined CMA. However, single engine aircraft based within the Refined CMA have been on a gradual decline since 2003. Multi-engine aircraft have been on an overall decline since 1998, with a small increase noticed in 2003 to 2005. In 2006, multi-engine aircraft resumed their decline, with a decrease of nearly 60 based aircraft. Business jets and helicopters increased from 1998 to 2006. Helicopter growth began in 2004,

stopping a steady decline in prior years. The number of business jet aircraft based within the Refined CMA has increased by 46 based business jets since 1998. While the number of business jets seems to be insignificant (46 versus 2,860 total based aircraft), this growth represents an 89 percent increase (nearly double) of the share of business jet aircraft in the fleet mix from 1998 levels. It is noted that 38 of the increased 46 based business jet aircraft have been added to the Refined CMA since 2003, and 22 (of the 46 business jet increase) were added in 2006. Appendix D includes TAF data for airports within the Refined CMA and includes based aircraft (numerical and percentage) by year (from 1998 through 2006).

Business Jets in Refined CMA

As previously noted, the purpose of this study is to focus on business jet aircraft within the Refined CMA. In 2006, 119 business jet aircraft were based within the Refined CMA. San Jose and Oakland International airports accounted for more than half (68) of the based business jets. Hayward was home to 32 business jets in 2006, representing the second most popular airport to base business jet aircraft in the Refined CMA. Table 4-6 depicts based business jet aircraft for each airport in the Refined CMA from 1998 through 2006.

Table 4-6
BASED BUSINESS JETS IN THE REFINED CMA

Year	HWD	OAK	SFO	CCR	LVK	SJC	APC	STS	Total
Based Business Jet Aircraft									
1998	5	22	8	14	2	18	0	4	73
1999	5	23	8	14	2	31	0	2	85
2000	5	23	8	14	2	31	0	2	85
2001	5	23	8	14	2	31	0	2	85
2002	5	23	8	11	2	31	0	2	82
2003	5	23	8	10	2	31	0	2	81
2004	9	23	12	11	2	31	7	2	97
2005	9	23	12	11	2	31	7	2	97
2006	32	23	12	11	2	45	7	2	134
Percent Market Area Based Business Jet Aircraft									
1998	6.85%	30.14%	10.96%	19.18%	2.74%	24.66%	0.00%	5.48%	100.00%
1999	5.88%	27.06%	9.41%	16.47%	2.35%	36.47%	0.00%	2.35%	100.00%
2000	5.88%	27.06%	9.41%	16.47%	2.35%	36.47%	0.00%	2.35%	100.00%
2001	5.88%	27.06%	9.41%	16.47%	2.35%	36.47%	0.00%	2.35%	100.00%
2002	6.10%	28.05%	9.76%	13.41%	2.44%	37.80%	0.00%	2.44%	100.00%
2003	6.17%	28.40%	9.88%	12.35%	2.47%	38.27%	0.00%	2.47%	100.00%
2004	9.28%	23.71%	12.37%	11.34%	2.06%	31.96%	7.22%	2.06%	100.00%
2005	9.28%	23.71%	12.37%	11.34%	2.06%	31.96%	7.22%	2.06%	100.00%
2006	23.88%	17.16%	8.96%	8.21%	1.49%	33.58%	5.22%	1.49%	100.00%
Average	8.80%	25.82%	10.28%	13.92%	2.26%	34.18%	2.18%	2.56%	100.00%
Low	5.88%	17.16%	8.96%	8.21%	1.49%	24.66%	0.00%	1.49%	100.00%
High	23.88%	30.14%	12.37%	19.18%	2.74%	38.27%	7.22%	5.48%	100.00%

Source: FAA Terminal Area Forecast, 2007; AECOM analysis.

As seen in Table 4-6, Hayward's popularity for basing business jet aircraft recently increased. On average, Hayward has been home to approximately 8.8 percent of based business jets, whereas San Jose International, Oakland International, Buchanan Field, and San Francisco International have, on average, been more popular for based business jet aircraft. While San Jose International has experienced a sharp decrease in overall based aircraft, business jets based at the airport have experienced a significant increase, more than doubling since 1998. Hayward Executive, Nut Tree County (APC), and San Francisco also experienced significant growth in based business jets since 2003,

and the Refined CMA has seen an increase of 53 business jets during this same period. Figure 4-3 graphically depicts based business jet aircraft for the airports within the Refined CMA. Hayward is shown in dark green, and its recent increase in based aircraft is very apparent.

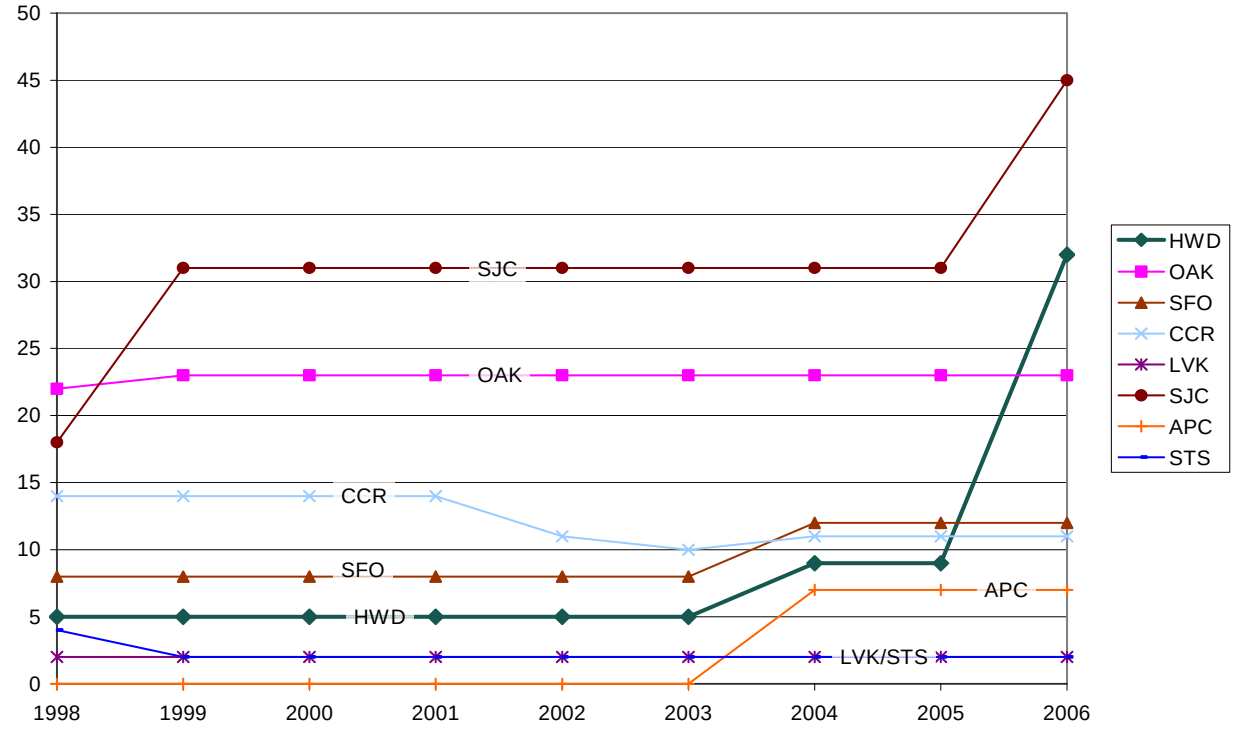


Figure 4-3
Based Business Jets within the Refined CMA

Also apparent in Figure 4-3 is San Jose International's increase in business jets. Several improvements have been constructed at San Jose International making the airport more attractive to business jet aircraft, including lengthening of non-primary runways, and construction (by private developers) of large community hangars capable of storing business jets.

Similar to San Jose, a possible reason for the recent increased interest in basing business jets at Hayward is an increase in business jet facilities. In 2004, a 32,000-square foot bay hangar was constructed. This hangar facility can accommodate several small to medium sized business jet aircraft.

HAYWARD'S BASED AIRCRAFT FLEET MIX

The FAA TAF was used to determine Hayward's fleet mix. As previously noted, the TAF represents actual data through 2006. Data for the TAF is typically provided by the airports. Table 4-7 depicts based aircraft, by type, for Hayward. The table includes percentages for each based aircraft type. This will be used to compare Hayward's fleet mix with that of the Refined CMA.

When comparing Hayward's average fleet mix, as noted in the FAA TAF to the Refined CMA average fleet mix, several differences become apparent. The first difference is Hayward has considerably more single engine aircraft than typically found at the Refined CMA airports. Another distinction is that multi-engine aircraft are much more dominant at the Refined CMA airports than at Hayward. Business jets are within 1.5 percent of each other and helicopters are within half a percent (see Figure 4-4).

Table 4-7
BASED AIRCRAFT AT HAYWARD EXECUTIVE AIRPORT

Year	Single Engine	Multi-Engine	Jet	Heli-copter	Other	Total
Based Aircraft						
1998	430	15	5	6	0	456
1999	430	15	5	6	0	456
2000	430	15	5	6	0	456
2001	430	15	5	6	0	456
2002	430	15	5	6	0	456
2003	430	15	5	6	0	456
2004	423	24	9	16	0	472
2005	423	24	9	16	0	472
2006	416	18	32	19	0	485
Percent of Based Aircraft						
1998	94.30%	3.29%	1.10%	1.32%	0.00%	100.00%
1999	94.30%	3.29%	1.10%	1.32%	0.00%	100.00%
2000	94.30%	3.29%	1.10%	1.32%	0.00%	100.00%
2001	94.30%	3.29%	1.10%	1.32%	0.00%	100.00%
2002	94.30%	3.29%	1.10%	1.32%	0.00%	100.00%
2003	94.30%	3.29%	1.10%	1.32%	0.00%	100.00%
2004	89.62%	5.08%	1.91%	3.39%	0.00%	100.00%
2005	89.62%	5.08%	1.91%	3.39%	0.00%	100.00%
2006	85.77%	3.71%	6.60%	3.92%	0.00%	100.00%
Average	92.31%	3.74%	1.89%	2.07%	0.00%	100.00%
Low	85.77%	3.29%	1.10%	1.32%	0.00%	100.00%
High	94.30%	5.08%	6.60%	3.92%	0.00%	100.00%

Source: FAA Terminal Area Forecast, 2007;
AECOM analysis.

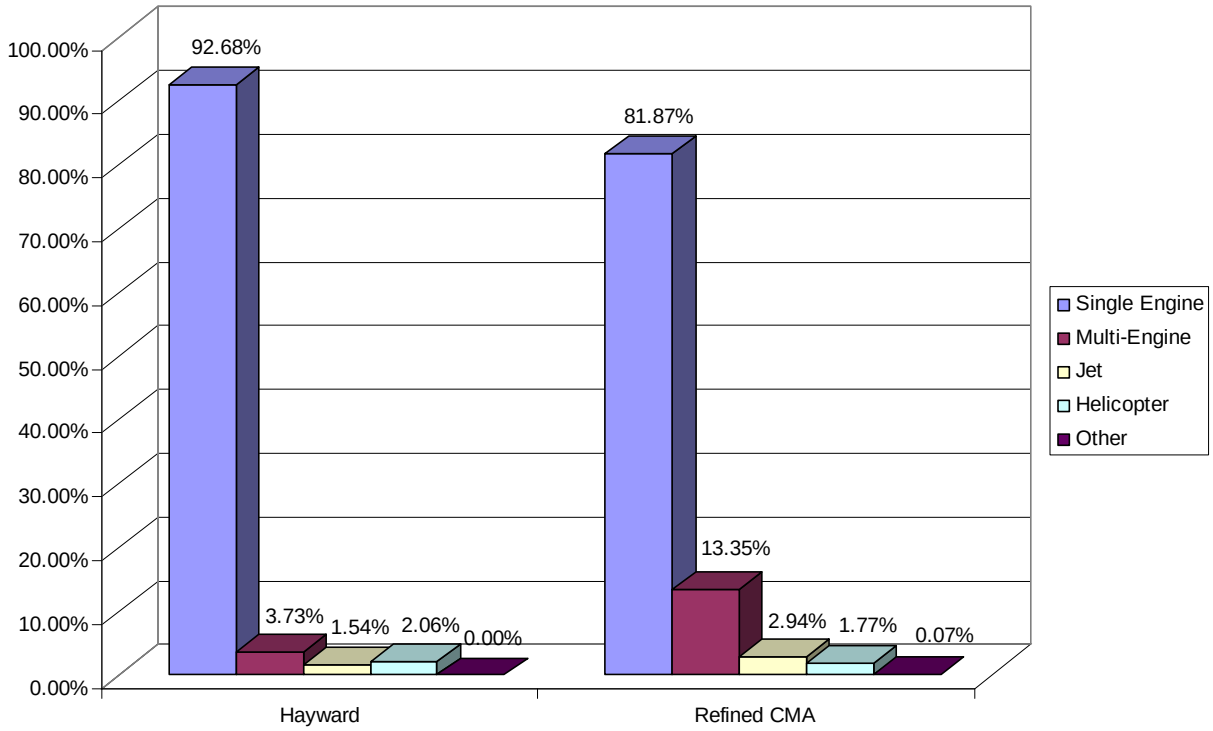


Figure 4-4
Fleet Mix Comparison –
Hayward and Refined CMA

Revised Based Aircraft Fleet Mix for Hayward

In order to revise Hayward's based aircraft fleet mix, four data sources were consulted: the 2002 Master Plan; FAA TAF data (represented as Refined CMA data); current Alameda County Assessors Reports (as seen in Chapter 3, Table 3-3); and, input from airport staff.

The master plan had assumed a gradual shift in fleet mix from 1998 levels to forecasted 2020 levels. It is difficult to make a direct comparison of 2002 Master Plan fleet mix data with Refined CMA, since the categories of aircraft are slightly different. The master plan provided a fleet mix for single engine, multi-engine, turboprop, business jet, and helicopter aircraft, whereas the Refined CMA accounts for all but turboprop aircraft and adds an "other" category. Figure 4-5 illustrates the 2002 Master Plan fleet mix assumed in 2020 with the Refined CMA average fleet mix.

When reviewing the figure, it becomes apparent that the master plan fleet mix closely resembles that of the Refined CMA. Two areas where there are noticeable differences are in the multi-engine and turboprop categories of aircraft. Turboprop aircraft represent both single engine and multi-engine aircraft. The 2002 Master Plan did not project the number of single or multi-engine turboprop aircraft separately. However, due to Hayward's proximity to larger international airports and the recent increase in business and corporate type aircraft, both nationwide and at Hayward, it is assumed that 90 percent of turboprop aircraft are multi-engine. In Figure 4-6, the 2002 Master Plan fleet mix was refined by removing the turboprop category assuming 90 percent of turboprop aircraft are multi-engine and 10 percent are single engine. After this adjustment, the Refined CMA and 2002 Master Plan fleet mixes are nearly identical.

According to Alameda County Assessor Reports, numbers of business jet aircraft based at Hayward for 2005 and 2006 differ from FAA TAF data. Unfortunately, County Assessor data accounts for based aircraft in different categories than the TAF or master plan. Three categories are used: jet, helicopter, and other (where other accounts for single engine and multi-engine aircraft). Therefore, it is impossible to determine from County Assessor Reports a mix of aircraft for all aircraft types. However, even from the

limited data available from the County Assessors Reports, the percentage of business jet aircraft for the fleet mix can be discerned.

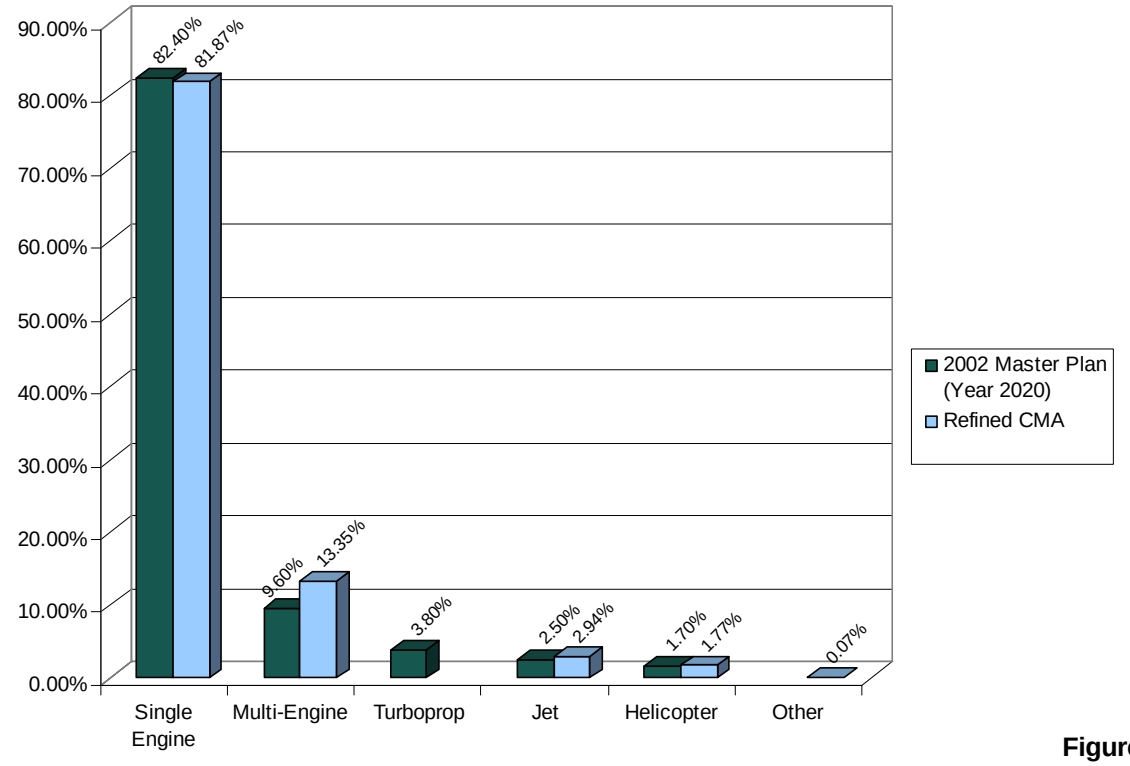


Figure 4-5
Fleet Mix Comparison –
2002 Master Plan and Refined CMA

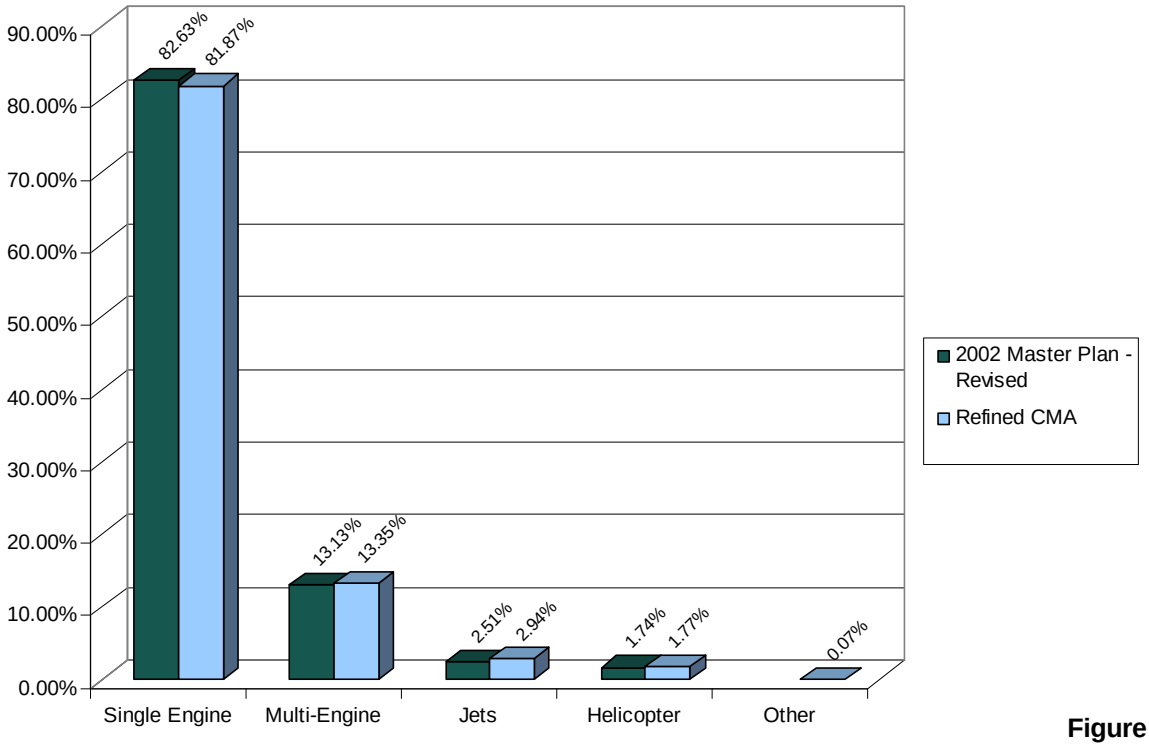


Figure 4-6
Fleet Mix Comparison –
2002 Master Plan - Revised and Refined CMA

Differences between the County Reports and the TAF can be seen in Table 4-8. The County Reports show 12 and 15 business jets compared to TAF data showing 9 and 17 for years 2005 and 2006, respectively. Overall based aircraft numbers do not match the TAF (472 in 2005 and 496 in 2006) and Alameda County Assessors Reports (449 in 2005 and 477 in 2006). Assuming County data is more accurate, and modifying the TAF to correspond with County Assessor data, does not produce a significant impact on percentage of business jet aircraft in Hayward's fleet mix. County Assessor data also indicates that 14 business jets were located at Hayward in 2007 and 25 are located on the field in 2008. Total based aircraft in 2007 was 487, of which 2.87 percent were business jet aircraft. In 2008, total based aircraft was slightly lower, at 480, of which 5.21 percent were business jet aircraft.

Table 4-8
ALAMEDA COUNTY ASSESSOR
AND TAF DATA COMPARISON

	Alameda County			TAF		
Year	Jets	Based Aircraft	Percent	Jets	Based Aircraft	Percent
2005	12	449	2.67%	9	472	1.91%
2006	15	477	3.14%	17	496	3.43%
2007	14	487	2.87%	N/A	N/A	N/A
2008	25	480	5.21%	N/A	N/A	N/A

N/A = Not Available.
Source: Alameda County Assessor Reports; FAA Terminal Area Forecast; AECOM analysis.

Through discussions with airport staff, it was found that the number of based business jets at the airport in 2008 is greater than indicated by Alameda County Assessor Reports. The County Reports indicated that 25 business jets are based at Hayward, and airport staff reports that there are 33 business jets, which would represent 6.88 percent of 480 based aircraft.

After reviewing the based aircraft data available from the County and considering input from airport staff, the following assumptions were made to develop the mix of aircraft present at the airport in 2008.

- Single engine aircraft represent a slightly lower percentage of total based aircraft at Hayward.
- Based business jets have increased quickly as facilities have become available.
- As larger hangar facilities became available for occupancy, it is likely that some multi-engine aircraft were replaced with business jet aircraft.

Based on the above assumptions, the fleet mix present at Hayward today is estimated to be as follows:

- Single engine = 80 percent of based aircraft,
- Multi-engine = 11.3 percent of based aircraft,
- Business jets = 7 percent of based aircraft, and
- Helicopters = 1.7 percent of based aircraft.

The three commercial service airports (San Francisco, Oakland, and San Jose International) have all experienced a decrease in general aviation activity since 1998 (see Table 4-9). San Jose and San Francisco were impacted by 9/11 and experienced a downturn in air carrier operations. Oakland air carrier operations have remained relatively constant since 1998. Even though air carrier operations at the commercial airports are at or below pre-9/11 levels, general aviation operations at the airports have continued to decline. This is due to several factors including rising costs, increased security concerns, and delays at commercial service airports. These trends are likely to continue in the near future.

Table 4-9
OPERATIONS AT COMMERCIAL SERVICE AIRPORTS IN THE BAY AREA

	Oakland International		San Francisco International		San Jose International	
Year	General Aviation	Air Carrier	General Aviation	Air Carrier	General Aviation	Air Carrier
1998	293,990	160,456	26,023	334,354	147,904	130,517
1999	290,175	162,766	27,679	332,161	152,157	145,321
2000	283,324	149,007	28,061	330,225	142,404	144,070
2001	201,788	158,210	19,863	318,595	109,368	155,285
2002	174,244	156,212	16,386	260,501	69,621	130,330
2003	153,654	160,075	16,137	237,228	62,530	121,539
2004	137,331	166,786	18,445	242,886	60,519	123,938
2005	148,069	171,903	19,520	239,325	64,278	125,916
2006	133,749	172,257	18,597	247,223	61,952	125,441

Source: FAA Terminal Area Forecast; AECOM analysis.

Going forward, the fleet mix at Hayward will likely continue to shift, largely due to FBO expansions and the continued reduction of general aviation traffic at commercial airports. As FBOs expand, additional business jets will be attracted to Hayward. As documented in Chapter 3, four FBOs are currently in the process of developing areas which could accommodate business jet aircraft. Therefore, it is expected that business jet aircraft will represent a larger part of the based aircraft at Hayward. Multi-engine aircraft, specifically multi-engine turboprops, are also anticipated to increase at Hayward, as these aircraft continue to become more popular in the business/corporate aircraft arena. Growth in turboprops and business jets will likely result in a decrease in single engine aircraft, as a percentage of total based aircraft, at Hayward. Therefore, the fleet mix at Hayward in 2020 is projected as:

- Single engine = 72.5 percent of based aircraft,
- Multi-engine = 12.3 percent of based aircraft,
- Business jets = 13.5 percent of based aircraft,
- Helicopters = 1.7 percent of based aircraft.

Table 4-10 and Figure 4-7 present updated fleet mix data for the forecasts contained in the 2002 Master Plan. The total number of based aircraft shown in the table are consistent with those contained in the master plan.

Table 4-10
BASED AIRCRAFT BY AIRCRAFT TYPE AT HAYWARD EXECUTIVE AIRPORT

	Single Engine		Multi-Engine		Jet		Helicopter		
Year	#	%	#	%	#	%	#	%	Total
2008	384	80.0%	54	11.3%	34	7.0%	8	1.7%	480
2010	366	77.1%	55	11.6%	46	9.6%	8	1.7%	475
2015	372	74.8%	59	11.9%	58	11.6%	8	1.7%	497
2020	376	72.5%	64	12.3%	70	13.5%	9	1.7%	518

Source: 2002 Master Plan (total aircraft); AECOM analysis (aircraft types).

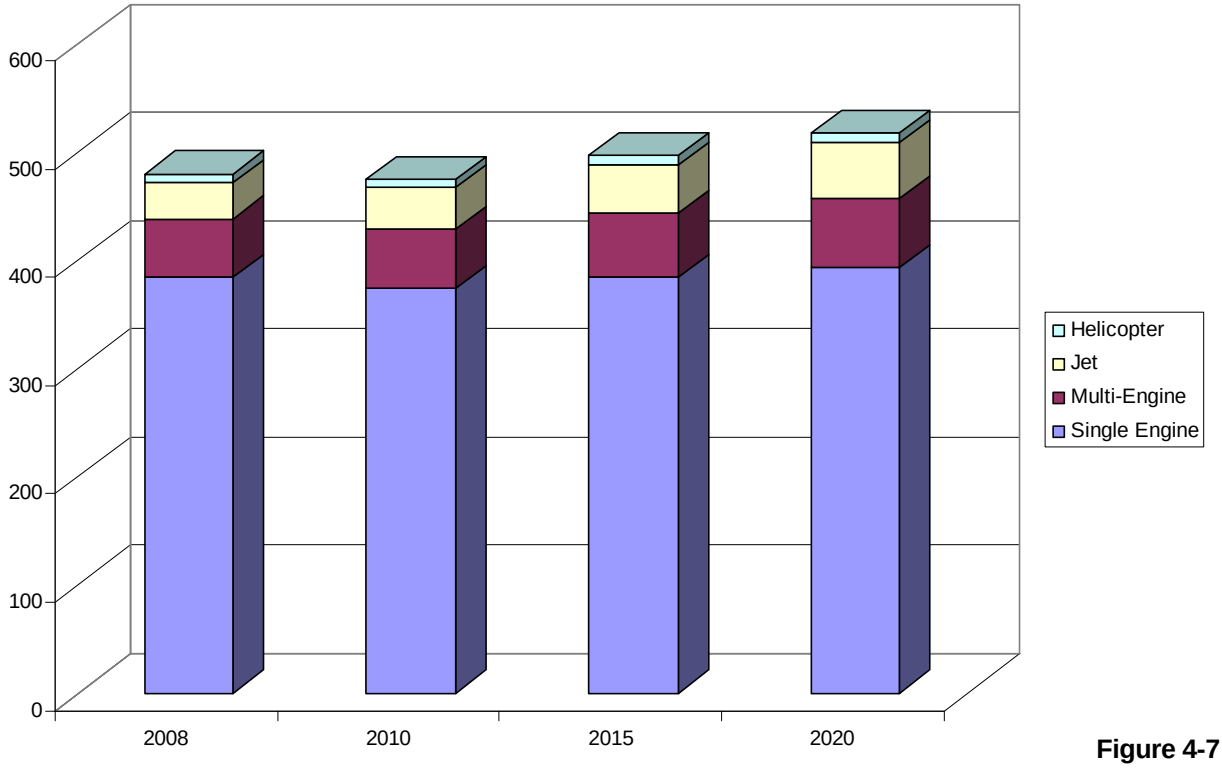


Figure 4-7
Based Aircraft by Type

Revised Operations Forecast for Hayward

Using the above fleet mix, the number of business jet operations can be forecasted for 2020. Approximately 2,100 business jet operations were conducted between April 2007 and April 2008. During this time, Hayward experienced approximately 165,000 total operations. Business jet operations accounted for 1.27 percent of all operations. The master plan forecasts 221,800 operations in the year 2020. Assuming no growth in the number of operations per based business jet from 2008 levels, the number of business jet operations are expected to reach 4,100, or 1.83 percent, of all operations. However, growth in the number of operations per based business jet is expected to increase as more business jet traffic transitions from the commercial airports to nearby relievers. Therefore, business jet operations are forecasted to represent 5.0 percent of all operations, or approximately 11,000 annual operations.

As previously discussed, the master plan assumed a set number of operations per based aircraft. This methodology is retained for the non-business jet operations and presented in Table 4-11. The table presents updated operations for the forecasts in the 2002 Master Plan. This data will be used to develop noise contours for the airport.

Table 4-11
OPERATIONS BY AIRCRAFT TYPE AT HAYWARD EXECUTIVE AIRPORT

	Operations			
Aircraft Type	**2008**	**2010**	**2015**	**2020**
Single Engine	140,130	157,840	167,150	177,150
Multi-Engine	19,790	23,380	26,210	29,560
Jet	2,100	3,600	7,300	11,000
Helicopter	2,980	3,430	3,740	4,090
Total	165,000	188,250	204,400	221,800

Source: 2002 Master Plan (total operations);
AECOM analysis (operations by type).

DESIGN AIRCRAFT

The FAA in its current AC 150/5300-13, Airport Design, has developed an airport reference code (ARC) which is a coding system that relates airport design criteria and planning standards to two components: the operational and physical characteristics of aircraft operating at, or expected to operate at, the airport. It is an alphanumeric code with the numeric component consisting of a Roman numeral. The letter element of the code is the aircraft approach category and thus relates to operational characteristics. The aircraft approach category is a grouping of aircraft that is based on 1.3 times the stalling speed as follows:

Category	Speed
A	Speed less than 91 knots
B	Speed 91 knots or more but less than 121 knots
C	Speed 121 knots or more but less than 141 knots
D	Speed 141 knots or more but less than 166 knots
E	Speed 166 knots or more

The second component of the ARC is the airplane design group and relates to the wingspan and tail height of aircraft and is a physical characteristic. The grouping of aircraft by airplane design group is as follows:

Airplane Design Group	Wingspan	Tail Height
I	Up to but not including 49 feet	Up to but not including 20 feet
II	49 feet up to but not including 79 feet	20 feet up to but not including 30 feet
III	79 feet up to but not including 118 feet	30 feet up to but not including 45 feet
IV	118 feet up to but not including 171 feet	45 feet up to but not Including 60 feet
V	171 feet up to but not including 214 feet	60 feet up to but not including 66 feet
VI	214 feet up to but not including 262 feet	66 feet up to but not including 80 feet

The aircraft approach speed element of the ARC will generally deal with runways and runway related facilities whereas the airplane design group relates to separations required between airfield elements, i.e., runway-taxiway separations, taxilane and apron clearances, etc.

The airport reference code (ARC) to be used for airport layout plans, as well as airport master plans, is the ARC category applicable to the most demanding class of aircraft estimated to fly at least 500 annual operations at the airport. The current ALP, developed in the 2002 Master Plan, indicates an existing ARC of B-II. This was based on a Cessna Citation V, a small business jet aircraft capable of seating 7 to 8 passengers. The use of Hayward Executive Airport by business/corporate business jet aircraft has increased in recent years. From April 2007 to April 2008, business jets accounted for approximately 2,100 operations. During the same time, the airport experienced nearly 165,000 operations, of which business jet operations accounted for less than 1.5 percent.

While the percentage of business jet operations is small in comparison to the total operations at Hayward, business jet aircraft fly at least 500 annual operations; and therefore, are the design, or critical, aircraft for Hayward Executive Airport. The City of Hayward has a comprehensive noise monitoring program: Airport Noise and Operations Monitoring System 8, or ANOMS. This system is capable of recording flight operations at the airport, and records detailed information of the operations including aircraft type. ANOMS data was consulted to determine the number of business jet operations by aircraft model during the period April 2007 to April 2008. Table 4-12 summarizes the ANOMS data by approach categories and airplane design groups.

Table 4-12
SUMMARY OF BUSINESS JET OPERATIONS AT HAYWARD
(April 2007 to April 2008)

Approach Category	Airplane Design Group I	II	III	Total
B	240	744	0	984
C	524	246	0	770
D	186	168	4	358
Total	950	1,158	4	2,112

Source: City of Hayward ANOMS 8; AECOM analysis.

Of the 2,112 business jet operations, more than half (55 percent) were conducted by Airplane Design Group II. Airplane Design Group I account for 45 percent of operations. Aircraft within Approach Speed Category C represented 770 operations (36 percent) and Approach Speed Category D 358 operations (17 percent). Approach Category B accounted for the remaining 47 percent of operations.

Operations by approach category C and D aircraft represented more than 1,000 operations from April 2007 to April 2008. As previously noted, the design aircraft is one that conducts at least 500 annual operations. These C and D aircraft represent a more demanding aircraft than what was assumed in the master plan, and suggests that the airport reference code should be updated to reflect this change. In reviewing the ANOMS data, it appears as though the airplane design group assumed in the master plan update (Airplane Design Group II), is relevant.

Forecasting business jet operations by ARC in 2020 was performed to determine what the ARC should be applied to Hayward in the future. The percentage of business jet operations by approach category and airplane design group was assumed to remain constant. In other words, in 2008 and in 2020 Approach Category C represent 36 percent and Airplane Design Group II represent 55 percent of all business jet operations. Table 4-13 presents the business jet operations forecast by approach category and airplane design group for the years 2010, 2015, and 2020.

Table 4-13
FORECAST OF BUSINESS JET OPERATIONS AT HAYWARD

Approach Category	Airplane Design Group I	II	III	Total
Year 2010				
B	409	1,268	0	1,677
C	893	419	0	1,313
D	317	286	7	610
Total	1,619	1,974	7	3,600
Year 2015				
B	830	2,572	0	3,401
C	1,811	850	0	2,661
D	643	581	14	1,237
Total	3,284	4,003	14	7,300
Year 2020				
B	1,250	3,875	0	5,125
C	2,729	1,281	0	4,010
D	969	875	21	1,865
Total	4,948	6,031	21	11,000

Source: AECOM analysis.

As seen in the table, Approach Category D aircraft will account for more than 500 annual operations before 2015, and will likely occur within the next three years. Airplane Design Group II aircraft operations will continue to be more frequent than Group I.

Based upon the above analysis, Hayward should be designated as an Airport Reference Code C-II to accommodate current business jet traffic and all applicable FAA design standards associated with the new reference code applied to the airport. While Approach Category D aircraft presently do not meet the criteria for the design aircraft, – the continued increase in business jet traffic at Hayward and the Bay Area – suggests that when possible, FAA design standards for ARC D-II should be applied. The ALP update will reflect an ARC of C-II for the existing condition and an ARC of D-II for the ultimate configuration.

Table 4-14 presents detailed operations information, by aircraft model, obtained from ANOMS. This data was used to determine the design aircraft at Hayward. The design aircraft typically is defined as the most demanding aircraft that conducts at least 500 annual operations and is typically is used to formulate what the airport reference code should be at an airport. In the case of Hayward, no one business jet model conducts over 500 annual operations. Rather, the combined operations of a variety of business jet aircraft were used to define the airport reference code. The design aircraft is important in understanding the physical characteristics of the aircraft operating at the airport.

Table 4-14
BUSINESS JET OPERATIONS BY AIRPLANE DESIGN GROUP AT HAYWARD
(April 2007 to April 2008)

Airplane Design Group I			Airplane Design Group II			Airplane Design Group III		
Aircraft	ARC	# of Ops.	Aircraft	ARC	# of Ops.	Aircraft	ARC	# of Ops.
Citation I	B-I	53	Gulfstream 100	B-II	15	Gulfstream V	D-III	4
Citation ISP	B-I	38	Citation II	B-II	131			4
Citation Jet	B-I	138	Citation II SP	B-II	1			
Falcon 10	B-I	4	Citation V	B-II	484			
Lear 29	B-I	7	Citation Excel	B-II	29			
Beechjet 400	C-I	14	Falcon 20	B-II	13			
Hawker 25	C-I	135	Falcon 50	B-II	24			
Lear 25	C-I	5	Falcon 900	B-II	21			
Lear 31	C-I	2	Falcon 2000	B-II	26			
Lear 35	C-I	173	Citation VII	C-II	90			
Lear 45	C-I	10	Citation X	C-II	18			
Lear 55	C-I	163	Challenger 601	C-II	123			
IAI Westwind 1124	C-I	22	Gulfstream III	C-II	15			
Lear 60	D-I	186	Gulfstream IV	D-II	168			
		950			1,158			
Total Operations								**2,112**

Source: City of Hayward ANOMS 8; AECOM analysis.

In the case of Hayward, three aircraft were identified as potential candidates for the design aircraft. These are the Cessna Citation V, Challenger 601, and Gulfstream IV. These aircraft were selected as they represented the most frequent number of operations for their respective ARC. Table 4-15 depicts important data for these three aircraft.

As previously mentioned, the Cessna Citation V represents the design aircraft in the 2002 Master Plan. The Challenger 601 represents the design aircraft for existing conditions (ARC C-II) and the Gulfstream IV represents the ultimate design aircraft.

Chapter 5, Facility Requirements, will document the various FAA design standard requirements for ARC C-II and D-II.

Table 4-15
REPRESENTATIVE DESIGN AIRCRAFT

Item	 Cessna Citation V	 Challenger 601	 Gulfstream IV
Airport Reference Code	B-II	C-II	D-II
Approach speed (knots)	107	125	149
Wingspan (feet)	52.25	64.33	77.83
Length	49.92	68.42	88.33
Undercarriage width (feet)	12.58	11.98	15.72
Tail height	20.67	20.67	24.42
Max. design taxi/ramp weight (pounds)	16,100	44,750	75,000
Max. design takeoff weight (pounds)	15,900	44,600	74,600
Max. design landing weight	15,200	36,000	66,000
Maximum fuel capacity (US gallons)	861	2,983	4,917

Source: AECOM analysis.

INDEPENDENT FORECASTS

During the second TAC meeting, a member of the TAC expressed concern that the forecasts included in the 2002 Master Plan were invalid. An independent forecast was developed and included as Appendix E. This analysis concluded that the 2002 Master Plan forecasts are valid.

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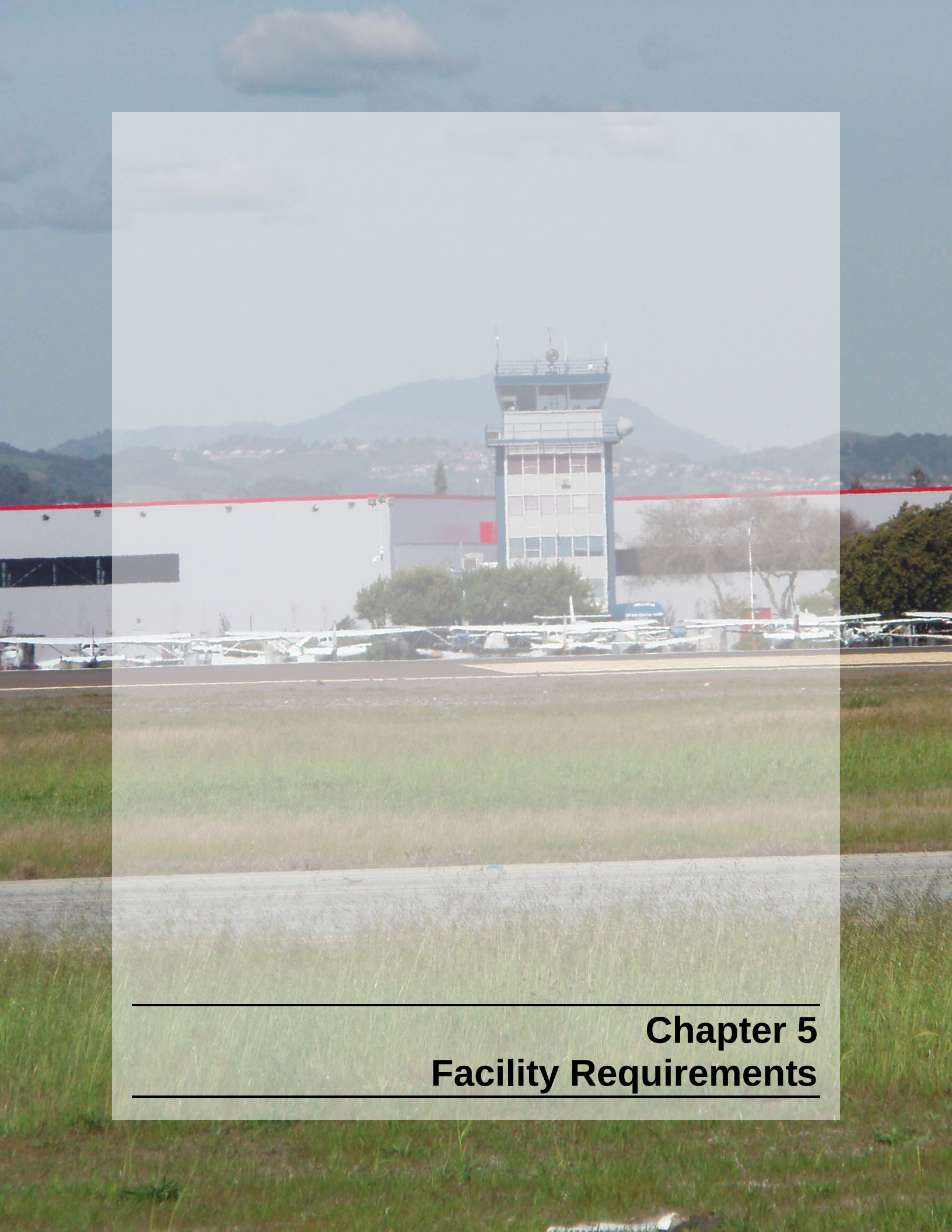


Chapter 5
Facility Requirements

Chapter 5– Facility Requirements

INTRODUCTION

The next step in the planning process is to determine the facility requirements associated with the new airport reference code (ARC). The process of determining facility requirements involves the application of FAA design standards for the applicable ARC at Hayward and identifying how existing facilities meet design standards. Deviations from design standards are documented in this chapter.

The deficiencies will then be resolved by increasing facility safety and capability over a phased development program. In Chapter 6, Alternative Development Concepts, alternatives will be developed which will seek to correct and/or mitigate deviations from FAA design standards, to the extent practicable, noted in this chapter. The alternatives will form the basis of recommended improvements required to enhance safety and meet applicable FAA design standards at Hayward.

Airport facility requirements are grouped into the two main operating elements - airside facilities and landside facilities. This chapter places emphasis on facility requirements for airside elements, as these are most impacted by the change in airport reference code. Before addressing the facility requirements, a brief discussion of airport classification is presented.

AIRPORT CLASSIFICATION

Hayward Executive Airport functions in several roles as defined by FAA and explained in Chapter 3. The airport is contained in the National Plan of Integrated Airport Systems (NPIAS) and is classified as a Reliever Airport. Reliever airports are defined as general aviation airports that provide general aviation access to the surrounding area and have 100 or more based aircraft or 25,000 annual itinerant operations. The airport is also contained in the California Aviation System Plan (CASP) and is classified as a Metropolitan-Business/Corporate Airport.

Metropolitan-Business/Corporate Airports, as defined by the CASP, are airports that serve the same activities as regional airports; are located in urbanized areas; provide for the same flying activities as regional airports with an emphasis on business, charter and corporate flying; accommodate all business jet and turboprop aircraft with a higher level or activity than regional airports; provide full services for pilots and aircraft, including jet fuel; has a published instrument approach and a control tower; provides flight planning facilities.

Business/Corporate is defined as the use of an airport by aircraft by an individual for transportation required by a business in which the individual is engaged (the pilot is not compensated); or the use of an airport by aircraft owned or leased by a company to transport its employees and/or property (professional pilot is compensated). The Business/Corporate designation is a subcategory to designate prevalent service at a regional or metropolitan airport.

DESIGN AIRCRAFT AND ASSOCIATED FAA DESIGN STANDARDS

The design aircraft for Hayward was detailed in Chapter 4. The 2002 Master Plan indicated that a small business jet aircraft – the Cessna Citation V – was the design aircraft. This aircraft represents an ARC B-II. Hayward has experienced an increase of business jet operations including an increase of medium size business jet operations. As a result of the increased operations of medium size business jet aircraft, the current design aircraft is a Challenger CL601 (ARC C-II). It is forecasted that in 2020 the ARC for Hayward will be D-II, with the Gulfstream IV as the representative design aircraft. Characteristics of these aircraft were provided in Table 4-15. FAA design standards for current and future (2020) airport reference codes are shown in Table 5-1.

Table 5-1
AIRPORT PLANNING STANDARDS
FOR AIRPORT REFERENCE CODES C-II AND D-II

Item	Current	Future
Airport Design Airplane and Airport Data		
Airport Reference Code	C-II	D-II
Reference Aircraft	Challenger 601	Gulfstream IV
Airplane wingspan	(64.33) 78.9 feet	(77.83) 78.9 feet
Primary Runway End (28L) approach visibility minimums	Not lower than 1 mile	Not lower than 1 mile
Other Runway End (10R) approach visibility minimums	Not lower than 1 mile	Not lower than 1 mile
Airplane undercarriage width (1.15 x main gear track)	15.72 feet	11.98 feet
Airport elevation	52.1 feet	52.1 feet
Airplane tail height	20.67 feet	24.42 feet
Separation Standards		
Runway centerline to parallel runway centerline	700 feet	700 feet
Runway centerline to parallel taxiway/taxilane centerline	(232.2) 300 feet	(288.9) 300 feet
Runway centerline to edge of aircraft parking	400 feet	400 feet
Runway holdline	250 feet	250 feet
Taxiway centerline to parallel taxiway/taxilane centerline	(87.2) 105 feet	(103.4) 105 feet
Taxiway centerline to fixed or movable object	(55.1) 65.5 feet	(64.5) 65.5 feet
Taxilane centerline to parallel taxilane centerline	(80.7) 97 feet	(95.6) 97 feet
Taxilane centerline to fixed or movable object	(48.6) 57.5 feet	(56.7) 57.5 feet
Runway Protection Zones (Runways 10R and 28L)		
Length	1,700 feet	1,700 feet
Width 200 feet from runway end	500 feet	500 feet
Width 1,900 feet from runway end	1,010 feet	1,010 feet
Threshold Siting Surfaces		
Distance out from threshold to start of surface	200 feet	200 feet
Width of surface at start of trapezoidal section	800 feet	800 feet
Width of surface at end of trapezoidal section	3,800 feet	3,800 feet
Length of trapezoidal section	10,000 feet	10,000 feet
Length of rectangular section	0 feet	0 feet
Slope of surface	20:1	20:1
Obstacle Free Zones		
Runway obstacle free zone (OFZ) width	400 feet	400 feet
Runway OFZ length beyond each runway end	200 feet	200 feet
Inner-approach obstacle free zone (OFZ) width	400 feet	400 feet
Inner-approach OFZ length beyond approach light system	200 feet	200 feet
Inner-approach OFZ slope from 200 feet beyond threshold	50:1	50:1
Inner-transitional OFZ slope	0:1	0:1

Table 5-1 (Cont'd)
AIRPORT PLANNING STANDARDS
FOR AIRPORT REFERENCE CODES C-II AND D-II

Item	Current	Future
Runway Design Standards		
Runway width	100 feet	100 feet
Runway shoulder width	10 feet	10 feet
Runway blast pad width	120 feet	120 feet
Runway blast pad length	150 feet	150 feet
Runway safety area width	500* feet	500 feet
Runway safety area length beyond each runway end (or stopway, whichever is greater)	1,000 feet	1,000 feet
Runway object free area width	800 feet	800 feet
Runway object free area length beyond each runway end (or stopway, whichever is greater)	1,000 feet	1,000 feet
Clearway width	500 feet	500 feet
Stopway width	100 feet	100 feet
Taxiway Design Standards		
Taxiway width	(27) 35 feet	(30.8) 35 feet
Taxiway edge safety margin	7.5 feet	7.5 feet
Taxiway shoulder width	10 feet	10 feet
Taxiway safety area width	(64.3) 79 feet	(77.8) 79 feet
Taxiway object free area width	(110.1) 131 feet	(129.0) 131 feet
Taxilane object free area width	(97.1) 115 feet	(113.4) 115 feet
Taxiway wingtip clearance	(22.9) 26 feet	(25.6) 26 feet
Taxilane wingtip clearance	(16.4) 18 feet	(17.8) 18 feet

*For Airport Reference Code C-I and C-II, a runway safety area width of 400 feet is permissible.
Note: Numbers in parenthesis represent minimum dimensions for the critical aircraft.
Source: FAA Advisory Circular 150/5300-13, Airport Design, Change 14 dated November 1, 2008.

As seen in the table, planning standards for ARC C-II and D-II are nearly identical. The runway safety area (RSA) width is the only exception. The permissible width of the RSA increases from 400 feet (C-II) to 500 feet (D-II). Since the standard C-II RSA width is 500 feet (the same as D-II) and the airport is expected to require ARC D-II standards by 2020, prudent planning suggests that the RSA width at Hayward should be 500 feet.

It should be noted that Runway 10L-28R will remain classified as Airport Reference Code B-I, small airplanes exclusively. Airplane design standards for Runway 10L-28R are presented in Appendix F.

AIRFIELD CAPACITY REQUIREMENTS

Airfield capacities for Hayward were defined in the 2002 Master Plan. The master plan identified an annual service volume of 323,000 operations. Annual service volume calculations are based upon the type of aircraft operating at the airport. Four classes of aircraft are defined. Classes A and B represent single and multi-engine aircraft weighing less than 12,500 pounds. Operations associated with these aircraft are typically generally aviation operations. However, the classes do include some business aircraft. Class C consists of multi-engine aircraft weighing between 12,500 and 300,000 pounds. Aircraft within this classification are generally business jets and commercial airliners. All aircraft weighing more than 300,000 pounds are included in Class D. No Class D aircraft operate at, nor are expected to operate at Hayward.

The 2002 Master Plan forecasted 221,800 annual operations in the long-term (2020). The master plan assumed that Classes A and B would account for 98.5 percent of all operations in 2020. This represents

a 0.8 percent decrease from 1998 levels. Class C aircraft were estimated to account for 0.7 percent of 1998 operations and forecasted to account for 1.5 percent of 2020 operations, or approximately 3,300 annual business jet operations. As was discussed in Chapter 4, based upon increased business jet activity at the airport, business jet operations will account for approximately 11,000 operations in 2020, or 5.0 percent of all operations. The other 95 percent of operations will be conducted by Class A and B aircraft. This small increase in business jet operations (relative to forecasted annual operations), is not expected to decrease the annual service volume at Hayward. Should business jets account for 20 percent or more of annual operations, the annual service volume would decrease.

The 2002 Master Plan defined the VFR hourly capacity as 121 operations per hour. Peak hour demand in 1998 was estimated to be 101 operations. Annual operations in 2007 were approximately the same as experienced in 1998 and it is assumed that the peak hour demand is also similar. The master plan forecasted the peak hour demand to increase to 145 in 2020, indicating long-term capacity issues at the airport. To help mitigate this issue, the master plan proposed a new exit taxiway near the Runway 10R displaced threshold.

IFR capacities were not identified in the 2002 Master Plan. Based upon FAA AC 150/5060-5, Airport Capacity and Delay, IFR hourly capacity is 59 operations per hour. Through discussions with the air traffic control tower delays during periods of IFR can occur. Delays are usually on the order of 4 to 6 minutes. IFR delays occur due to sequencing of Hayward traffic with other Bay Area traffic; primarily arrivals and departures to/from Oakland International.

AIRSIDE FACILITY REQUIREMENTS

As discussed earlier, the airside operating element as used in this report includes the runway and taxiway system, the runway approach areas and the associated appurtenances such as airfield lighting, visual aids, and navigation aids. With the exception of aircraft aprons which, due to their interface with terminal facilities, are analyzed as a landside element, airside refers to those airport areas where aircraft operations are conducted. The ability of the present airside facilities to accommodate existing and future business jet traffic is examined in the following subsections.

Runway System

This section deals with runway requirements needed to satisfy the forecast demand in terms of runway length, pavement strength requirement, crosswind coverage, and safety areas. Planning and design standards set forth in FAA AC 150/5300-13, Airport Design, for airport reference code C-II / D-II are the basis of this analysis. This will provide satisfactory facilities for the variety of aircraft expected to use the airport.

When determining runway requirements it is important to account for the type of instrument approach the airport has or can be expected to have. Runways with lower visibility landing minimums have more restrictive requirements. Currently Runway 28L is equipped for non-precision instrument approaches with visibility minimums not lower than 1 mile. Additionally, the airport has two circling approaches, allowing pilots to land on Runway 10R or 28L. Therefore, for the purpose of this ALP update, these instrument approach capabilities are assumed in the future.

Runway 10L-28R does not have an instrument approach procedure, and is considered a visual runway. No instrument approach procedures are planned for this runway, and therefore the ALP update assumes that Runway 10L-28R will remain a visual runway.

Runway Separation

Runway separation requirements are described in FAA Order 7110.65S, Air Traffic Control. The FAA Order states that simultaneous same direction operations can occur on parallel runways under the following conditions:

a. Operations are conducted in VFR conditions unless visual separation is applied.

b. Two-way radio communication is maintained with the aircraft involved and pertinent traffic information issued.
c. The distance between the runways is in accordance with the following minima (use the greater minimum if two categories are involved):
    - Lightweight, single-engine, propeller driven minimum 300 feet runway centerline separation
    - Twin-engine, propeller driven minimum 500 feet runway centerline separation
    - All others minimum 700 feet runway centerline separation

Runways 10L-28R and 10R-28L have a 500-foot runway centerline separation. According to the FAA Order referenced above, this accommodates simultaneous same direction operations of twin-engine, propeller driven aircraft or smaller. However, when business jet operations occur, only one runway can be utilized at a time.

Runway Length

This subsection deals with the runway length requirements for the existing runways at Hayward. Runway length is a critical consideration in airport planning and design. Aircraft need specified runway lengths to operate safely under varying conditions of wind, temperature, and takeoff weight.

FAA Advisory Circular 150/5325-4B contains criteria used in developing runway lengths required for various general aviation utility and transport airports. The recommended runway lengths are based on performance information from manufacturer's flight manuals in accordance with provisions in FAR (Federal Aviation Regulations) Part 23, Airworthiness Standards: Normal, Utility, and Acrobatic Category Airplanes, and FAR 91, General Operating and Flight Rules.

Aircraft performance combined with significant site characteristics are considered in analyzing runway length. The site characteristics that are evaluated include: airport elevation, temperature (mean maximum temperature of the hottest month), runway gradient, and wind conditions.

The FAA Airport Design (Version 4.2d) software package contains a program to calculate typical runway requirements for various classes of aircraft. This model was applied and the results are presented in Table 5-2. The airport site characteristics used in the runway length analysis were:

- Elevation – 52.1 feet MSL
- Temperature – 74.6°F
- Maximum Difference in Runway Centerline Elevation Runway 10R-28L – 24.4 feet
- Maximum Difference in Runway Centerline Elevation Runway 10L-28R – 9.2 feet
- Surface Winds – Calm

The critical aircraft for Hayward Executive Airport are turboprops and small business jets which primarily are airplanes that weigh less than 60,000 pounds. As seen in Table 5-3, the recommended runway lengths for business jet aircraft less than 60,000 pounds range from 4,810 to 7,430 feet, depending on the percent of the large aircraft fleet and percent of useful loads.

The present length of the primary Runway 10R-28L is 5,694 feet which is estimated to satisfy the requirements for approximately 75 percent of all airplanes of 60,000 pounds or less at 80 percent useful load.

A review of runway requirements for approximately 2,500 medium and large business jets was conducted and indicated that a runway length of approximately 6,054 feet would accommodate the aircraft evaluated operating at maximum takeoff weights (Table 5-3). Therefore, the existing runway length provides reasonable capabilities for business jets, provided that the entire runway length is available for takeoff and adequate for landings. It accommodates a representative sampling of the business aircraft fleet at reasonable loads.

Table 5-2
FAA RECOMMENDED RUNWAY LENGTHS FOR HAYWARD EXECUTIVE AIRPORT

AIRPORT AND RUNWAY DATA

Airport elevation ..... 52 feet
Mean daily maximum temperature of the hottest month ..... 76° F
Maximum difference in runway centerline elevation ..... 24.4 feet

RUNWAY LENGTHS RECOMMENDED FOR AIRPORT DESIGN

Small airplanes with approach speeds of less than 30 knots ..... 300 feet
Small airplanes with approach speeds of less than 50 knots ..... 800 feet
Small airplanes with less than 10 passenger seats
- 75 percent of these small airplanes ..... 2,380 feet
- 95 percent of these small airplanes ..... 2,920 feet
- 100 percent of these small airplanes ..... 3,460 feet

Small airplanes with 10 or more passenger seats ..... 4,030 feet

Large airplanes of 60,000 pounds or less
- 75 percent of these large airplanes at 60 percent useful load ..... 4,810 feet
- 75 percent of these large airplanes at 90 percent useful load ..... 6,050 feet
- 100 percent of these large airplanes at 60 percent useful load ..... 5,200 feet
- 100 percent of these large airplanes at 90 percent useful load ..... 7,430 feet

Airplanes of more than 60,000 pounds ..... approx. 5,030 feet

Sources: FAA Advisory Circular 150/5325-4B, Runway Length Requirements for Airport Design.
AECOM application of FAA Airport Design (Version 4.2d).

Table 5-3
RUNWAY LENGTH REQUIREMENTS FOR TYPICAL MEDIUM AND LARGE BUSINESS JETS (feet)

Aircraft	No. of Acft. Manufactured	ARC	TO Dist. ISO	Altitude Correction	Temp. Correction	Gradient Correction	Corrected R/W Length
Challenger 601-3A/CL-604	374	C-II	5,700	5,721	6,212	6,456	6,456
Citation 650 (III)	241	C-II	5,150	5,169	5,613	5,857	5,857
Citation 650 (VII)	119	C-II	4,850	4,868	5,286	5,530	5,530
Citation 750 (X)	160	C-II	5,140	5,159	5,602	5,846	5,846
Falcon 50	310	B-II	4,715	4,732	5,139	5,383	5,383
Gulfstream IV	469	D-II	5,450	5,470	5,940	6,184	6,184
Gulfstream V	160	D-III	5,990	6,012	6,528	6,772	6,772
Hawker 125-800	533	B-II	5,380	5,400	5,864	6,108	6,108
Astra 125	135	C-II	5,300	5,319	5,776	6,020	6,020
Total	2,501						
Weighted average for these aircraft							**6,054**

Source: AECOM analysis.

The short runway, Runway 10L-28R, is 3,107 feet long and is capable of accommodating 95 percent of small airplanes with less than 10 passenger seats. Large airplanes, and aircraft requiring longer runways, will use the primary runway.

Runway Width

Runway width is a dimensional standard that is based upon the physical and performance characteristics of aircraft using the airport (or runway). The characteristics of importance are

wingspan and approach speeds. In this case, FAA Airplane Design Group II (wingspans up to but not including 79 feet) and Approach Categories C and D are used and will provide adequate width and separation for current and anticipated aircraft operations. FAA AC 150/5300-13 specifies a runway width of 100 feet for an airport reference codes C-II and D-II. The present primary runway (10R-28L) is 150 feet wide and exceeds the standard. Runway 10L-28R is 75 feet wide and exceeds the B-I (small airplanes exclusively) standard of 60 feet.

Runway Grades

The maximum longitudinal grade is 1.5 percent with longitudinal grades not exceeding 0.8 percent for the first and last quarter of the runway length for runways serving aircraft Approach Categories C and D aircraft. The existing maximum longitudinal runway grade is 0.4 percent; and therefore, longitudinal grade for the runway is not an issue. The runway should have adequate transverse slopes to prevent the accumulation of water on the surface. A maximum transverse grade of 1.0 is recommended for Runway 10R-28L by FAA. Transverse grades are between 1 and 1.5 percent and therefore do not meet FAA criteria.

Runway 10L-28R meets longitudinal (between 0 and 2 percent) and transverse grades (between 1 to 2 percent).

Pavement Strength

As mentioned in Chapter 3, based on information contained in the latest U.S. Government Flight Information Publication/Facility Directory the runway pavement strength is 30,000 pounds for single wheel landing gears and 75,000 for dual wheel landing gear configurations on Runway 10R-28L. Runway 10L-28R pavement strength is 13,000 pounds for single wheel landing gears. This is adequate to accommodate aircraft expected to use the airport in the future. Therefore strengthening of the runway pavement is not required. However, it is recommended that the existing pavement areas be rehabilitated. Pavement in some apron areas is failing, specifically, pavement in the West T-Hangar area, where loss of aggregate can be found and along Taxiway Z where significant cracking is occurring. These pavements should be rehabilitated. The City has implemented a pavement management program to enhance and maintain airfield pavements. Both runways will likely require rehabilitation before year 2020.

Runway Blast Pads

A runway blast pad provides blast erosion protection beyond runway ends. Runway blast pads are required to be the width of the runway plus the shoulder – 170 feet wide at Hayward – and 150 feet long for ARC C-II / D-II according to Advisory Circular 150/5300-13, Airport Design. The entrance taxiway pavement for Runway 28L and Taxiway F for Runway 10R serve as blast pads and exceed blast pad size requirements.

Blast pads are not provided on Runway 10L-28R, though the entrance taxiway on Runway 10L provides propwash protection. No protection from propwash is provided for Runway 28R. A blast pad 95 feet wide by 60 feet long should be provided.

Runway Safety Area

A runway safety area (RSA) is defined as a rectangular area centered about the runway that is cleared, drained, graded, and usually turfed. Under normal conditions, this area should be capable of accommodating occasional aircraft that may veer off the runway, as well as fire fighting equipment. As previously discussed, the RSA is 500 feet wide centered on the runway centerline, and extending 1,000 feet beyond each runway end. The RSA required for C-II / D-II is considerably larger than what was required for ARC B-II. Airport reference code B-II standards are included in Appendix F (Table F-2). As seen in the appendix, RSA for B-II was 150 feet wide and extended 300 feet beyond the runway threshold.

The extended RSA of Runway 10R is within airport property. The RSA includes portions of the Skywest Golf Course and approximately 16 trees associated with the golf course. Approximately 595 feet of the 1,000-foot extended RSA is provided for Runway 10R.

Only 166 feet of RSA exists beyond Runway 28L. This RSA extends off airport property. The RSA is obstructed by the noise berm, a blast fence, several trees (on and off-airport), the intersection of Hesperian Boulevard and West Winton Avenue (along with associated road signs and traffic signals), two parking lots, a gas station, and four commercial buildings. Of the objects noted above, the noise berm, blast fence, and numerous trees (associated with the noise berm) are located on airport property. Figure 5-1 displays standard RSAs for ARC C-II / D-II at the airport.

Also shown on the figure was the proposed alignment of the West A Street extension. The proposed alignment traverses the runway safety area and this is incompatible with RSAs as roads are not permitted within the RSA. The West A Street project has been terminated. Should West A Street be extended at some point in the future, it should be realigned around the end of the safety area, or placed in a tunnel under the RSA. One of the primary goals of this study is to determine how to accommodate adequate runway safety areas at Hayward.

Runway 10L-28R RSA requirements are found in Appendix F. The RSA is 120 feet wide, centered on the runway centerline and extends 240 feet beyond the runway end. The RSA is clear.

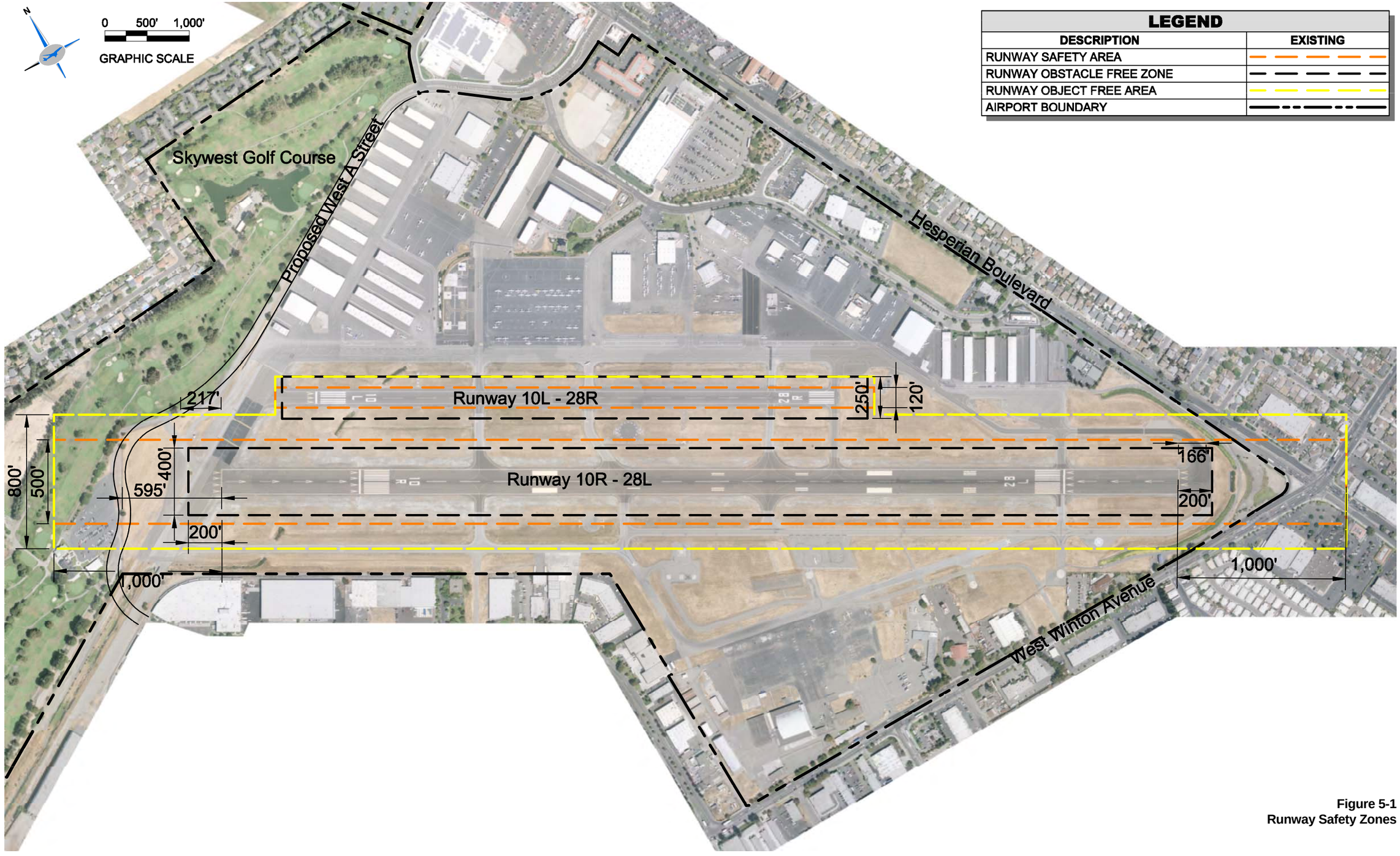
Runway Obstacle Free Zone

The runway obstacle free area (OFZ) is a volume of airspace below 150 feet above the established airport elevation and along the runway and extended runway centerline that is required to be clear all objects, except for frangible visual navaids that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. The design standards for an ARC of C-II / D-II call for an OFZ extending 200 feet beyond each of the runway ends. For runways serving large airplanes (Runway 10R-28L) – 12,500 pounds or more – the width of the OFZ is 400 feet, 200 feet on either side of the runway centerline. For visual runways serving small airplanes with approach speeds of 50 knots or more (Runway 10L-28R), the width of the OFZ is 250 feet (125 feet on either side of the runway centerline). OFZs at Hayward are clear of all obstructions (see Figure 5-1).

Runway Object Free Areas

The runway object free area (ROFA) is a two dimensional ground area surrounding the runway and its clearing standard precludes parked aircraft, agricultural operations, and objects, except those fixed by function. The criterion replaces the former design standard of the aircraft parking limit line and is designed with the intention of providing adequate wing-tip clearance. The design standards for an ARC of C-II / D-II call for a ROFA extending 400 feet on either side the runway centerline and extending 1,000 feet beyond the end of the runway. This represents an increase from 250 feet on either side of the runway and 300 feet beyond the end of the runway. Object free areas also exist for taxiways and are 131 feet wide (65.5 feet on either side of centerline) for Airplane Design Group II.

When applying standard ROFAs to Hayward several deviations are found. The extended ROFA beyond Runway 10R is on airport property, but features approximately 7.9 acres of the Skywest Golf Course and associated parking lot and road. Approximately 217 feet of full width ROFA is provided. The ROFA is obstructed by the airport perimeter fence, approximately 30 trees, Skywest Golf Course parking lot, and a portion of the Skywest Golf Course outdoor pavilion.



LEGEND	
DESCRIPTION	EXISTING
RUNWAY SAFETY AREA	
RUNWAY OBSTACLE FREE ZONE	
RUNWAY OBJECT FREE AREA	
AIRPORT BOUNDARY	

Figure 5-1
Runway Safety Zones

The proposed West A Street alignment also traverses the runway object free area for Runway 10R. Realignment of West A Street should be considered to avoid traversing the object free area. However, if West A Street is placed in a tunnel under the RSA, the portion of the road within the ROFA should remain lower – including an assumed 15-foot tall vehicle – than the runway elevation.

The ROFA for Runway 28L is also non-standard and extends beyond the airport boundary. Objects within the ROFA are similar to those noted above for the RSA; however, a larger area is affected. Therefore, additional trees are present within the ROFA, as well as portions of the residential areas adjacent to the airport. Full width ROFA is not provided beyond the end of Runway 28L. Figure 5-1 includes standard ROFAs applied to Runway 10R-28L.

ROFA applied to Runway 10L-28R is 250 feet wide (125 feet on either side of the runway centerline) and extends 240 feet beyond the runway end. Taxiway F traverses a corner of the ROFA. Holdlines are present on Taxiway F, to hold aircraft clear of the ROFA when the short runway is in use.

Runway Holdlines

The runway holding position (holdline) at a controlled airport is the location on a taxiway where a pilot is to stop when they do not have clearance to proceed onto the runway. Holdline standards assume a perpendicular distance to the runway centerline and vary based upon the size of aircraft using the runway and the instrument approach capabilities for the runway. Holdlines for Runway 10R-28L should be 250 feet from the runway centerline (perpendicular distance). This represents an increase of 50 feet from previous (ARC B-II) standards. Holdlines along Runway 10R-28L will need to be relocated 50 feet further from the runway centerline.

Holdlines for Runway 10L-28R should be 125 feet from the runway centerline. Existing holdlines along Runway 10L-28R meet standards.

Approach Surfaces and Runway Protection Zones

The approach surface and the runway protection zone (formerly called clear zone) are important elements in the design of runways which help to ensure the safe operations of aircraft. A brief description of these two areas follows:

- **The Approach Surface** is an imaginary inclined plane beginning at the end of the primary surface and extending outward to distances up to 10 miles depending on runway use (i.e., instrument or visual approaches). The width and slope of the approach surface are also dependent on runway use. The approach surface governs the height of objects on or near the airport. Objects should not penetrate or extend above the approach surface. If they do, they are classified as obstructions and must be either marked or removed.

- **The Runway Protection Zone (formerly Clear Zone)** is an area at ground level that provides for the unobstructed passage of landing aircraft through the above airspace and is used to enhance the protection of people and property on the ground. The runway protection zone (RPZ) begins at the end of the primary surface and has a size which varies with the designated use of the runway. Land uses specifically prohibited from the RPZ are residences and places of public assembly (churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly). Fuel storage facilities also should not be located in the RPZ.

Federal Aviation Regulations Part 77 indicates that the approach surface should be kept free of obstructions to permit the unrestricted flight of aircraft in the vicinity of the airport. As the type of instrument approach to a runway becomes more precise, the approach surface increases in size and the required approach slope becomes more restrictive.

The runway protection zone is the most critical safety area under the approach path and should be kept free of all obstructions. No structure should be permitted nor the congregation of people allowed within the runway protection zone. Control of the runway protection zone by the airport owner is essential. It is desirable, therefore, that the airport owner acquire adequate property interests, preferably in fee title, in the runway protection zone to ensure compliance with the above.

As indicated above, the approach and runway protection zone dimensions are dependent on the type of approach being made to a runway. Presented in Table 5-4 are runway protection zone dimensions for various type runways. As previously noted, visibility minimums for Runways 10R and 28L are not lower than 1 mile.

Table 5-4
RUNWAY PROTECTION ZONE DIMENSIONS

Approach Visibility Minimums	Facilities Expected To Serve	Runway Protection Zone Dimensions			
		Length (Feet)	Inner Width (Feet)	Outer Width (Feet)	Area (Acres)
Visual and Not lower than 1 mile	Small Aircraft Exclusively	1,000	250	450	8.035
	Aircraft Approach Categories A & B	1,000	500	700	13.770
	Aircraft Approach Categories C & D	1,700	500	1,010	29.465
Not lower than ¾ mile	All Aircraft	1,700	1,000	1,510	48.978
Lower than ¾ mile	All Aircraft	2,500	1,000	1,750	78.914

Source: FAA Advisory Circular 150/5300-13, Airport Design.

It should also be noted that when declared distances are applied two sets of RPZs are required for the runway: approach and departure RPZs. Approach RPZs are located with respect to the displaced threshold and departure RPZs are located 200 feet beyond the end of the takeoff run available (typically the physical end of the runway). Departure RPZs for runways serving Approach Category C and D aircraft are trapezoidal in shape and are 1,700 feet long, have an inner width of 500 feet, and an outer width of 1,010 feet. Declared distances were recommended by the 2002 Master Plan study and this ALP update will determine applicability of them based on the new airport reference code. For the purpose of identifying deficiencies of FAA design standards, standard approach RPZs will be applied, located with respect to the runway thresholds.

Runway protection zones for Runways 10R and 28L extend beyond airport property (see Figure 5-2). The RPZ for Runway 10R includes approximately 51 residences. The RPZ associated with Runway 28L includes approximately 73 residences, commercial land uses (shopping centers) and associated parking areas, a gas station, and several road intersections, including Hesperian

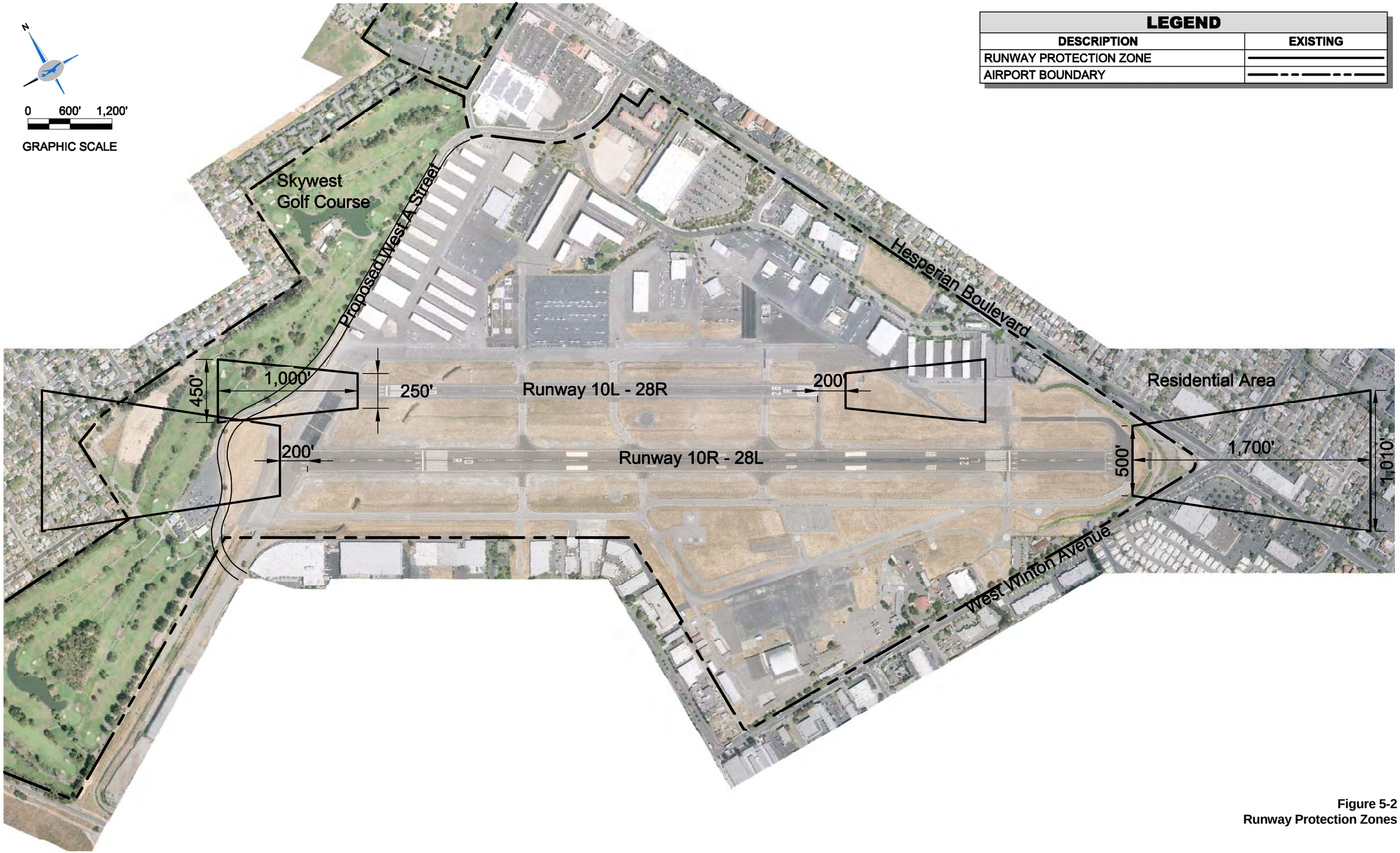


Figure 5-2
Runway Protection Zones

Boulevard and West Winton Avenue. There are several trees within both RPZs, which should be topped on a frequent basis to prevent obstructions to navigable airspace. The gas station located within Runway 28L's RPZ should be removed or relocated. Gas stations, residential, and commercial developments are not compatible land uses within an RPZ.

Runway 10L-28R is classified as a visual runway, expected to serve small aircraft exclusively. Due to the type of aircraft served by the runway, RPZ dimensions are smaller than found on the primary runway (see Table 5-4). As was noted in Chapter 3, the RPZ associated with Runway 28R includes portions of five hangar buildings. Approximately 83 percent, of the RPZ is free of buildings. If practicable, the hangar buildings should not be within the RPZ. Taxiway A traverses the RPZ, and aircraft with tail heights greater than 10 feet penetrate the approach surface for Runway 28R.

Airplane Design Group II aircraft (aircraft with tail heights less than 30 feet) using the 28L runup apron are below the Runway 28R approach surface by approximately 6 to 14 feet, depending upon the position used. Therefore, aircraft using the 28L runup apron do not penetrate the approach surface for Runway 28R.

The City should take necessary steps to prevent the construction of any structure within the RPZ that is a hazard to air navigation or which might create glare or misleading lights or lead to the construction of residences, fuel handing and storage facilities, smoke generating activities, or places of public assembly such as schools, churches, office buildings, shopping centers, and stadiums. Control of the runway protection zone may be acquired in fee or through easement and is an eligible item under the FAA Airport Improvement Program.

Threshold Siting Surface

Appendix 2 of FAA Advisory Circular 150/5300-13, Airport Design, contains guidance on locating runway thresholds to meet approach obstacle clearance requirements using threshold siting surfaces. If an object penetrates a threshold siting surface, one or more of the following actions is required: 1) the object is removed or lowered to preclude the penetration; 2) the threshold is displaced to preclude the object penetration; 3) visibility minimums are raised; 4) night operations are prohibited; or 5) raising the threshold crossing height (if there is an approach with vertical guidance).

The shape, dimensions and slope of a threshold siting surface are dependent upon the type of aircraft operations, landing visibility minimums and types of instrumentation available. For the purpose of this analysis, a threshold siting surface for the following type of runway is assumed: "Approach end of runways expected to support instrument straight-in night operations serving greater than approach category B aircraft." This applies to the primary runway.

The applicable threshold siting surface is described as follows. The centerline of the surface extends 10,000 feet along the extended runway centerline. The surface extends laterally 400 feet on each side of the centerline 200 feet from the runway threshold and increases to a width of 1,900 feet on each side of the runway centerline at the end of the surface. The beginning of the elevation is the same as the runway threshold, and the surface extends outward and upward at a slope of 20 to 1. Threshold siting surfaces are presented in Figure 5-3.

As was noted in Chapter 3, Runway 10R has an 815-foot displaced threshold and Runway 28L features a 676-foot displaced threshold. A review of the existing displaced thresholds was performed using the threshold siting criteria noted above and obstacle data from the 2002 Hayward Obstruction Chart[1], and the 2005 Obstruction Survey.

[1] National Oceanic and Atmospheric Administration, Published December 2002, Field Surveyed November 2001.

Several trees are within the threshold siting surface for Runway 10R, but all are below the surface. Therefore, the displaced threshold appears to be properly located. Runway 28L also has several trees within the threshold siting surface. There is one tree, off airport property, that according to the Obstruction Chart, penetrates the threshold siting surface. The tree is listed as having a top elevation of 98 feet mean sea level (MSL) and penetrates the threshold siting surface by approximately 6.5 feet. As part of this airport layout plan update, digital topographic data was obtained. This data contains top elevations of buildings and estimated top elevations of trees. Based upon the digital topographic data obtained, it appears that the tree was topped, and no longer penetrates the threshold siting surface. Therefore, the displaced threshold for Runway 28L appears to be located properly.

Threshold siting surfaces also apply to Runway 10L-28R. The surface extends 5,000 feet from the threshold and is composed of a trapezoidal and rectangular section. The trapezoidal section is 250 feet wide at the threshold and splays to width of 700 feet 2,250 feet from the threshold. The rectangular section begins at the outer end of the trapezoid, is 700 feet wide and 2,750 feet long.

A review of the obstruction data found on the Hayward Obstruction Chart[2] and recent survey indicates that no objects penetrate the threshold siting surface for Runway 28R. However, the hangar closest to the Runway 28R threshold presents an obstruction to the approach surface of the runway. A tree on the Skywest Golf Course is noted as having a top elevation of 71 feet on the Obstruction Chart, which penetrates the threshold siting surface. Digital topographic data obtained indicates a lower elevation for the tree, and it is assumed that this tree has been topped to clear FAR Part 77 and threshold siting surfaces. Therefore, the thresholds for Runway 10L-28R are properly located.

During the next phase of the airport layout plan update, alternatives will be developed, with the intent to meet FAA design standards. Should runway alignment or thresholds be modified during this phase, the threshold siting surfaces should also be taken into consideration.

Taxiways

Runway – Taxiway Separation

The FAA standard for runway to parallel taxiway separation precludes any part of an airplane (tail, wingtip, nose, etc.) on a parallel taxiway centerline from being within the runway safety area or penetrating the OFZ. Runway 10L-28R has a centerline-to-centerline separation from Taxiway A of 252 feet, which exceeds requirements contained in FAA AC 150/5300-13, Airport Design, for airport reference code B-I, small airplanes exclusively (150 feet is required). However, since Taxiway A is the main parallel taxiway used to access landside facilities, and it also serves Airplane Design Group II aircraft, it should meet Group II standards. Since the runway serves small airplanes exclusively, smaller safety zones are applied to the runway. Figure 5-4 shows the applicable runway safety area, runway object free area, and obstacle free zone for Runway 10L-28R and depicts the separation between Taxiway A and the runway. The figure also shows the wingtip clearance of a Group II aircraft. As can be seen in the figure, the wingtip remains outside of the runway safety area and obstacle free zone associated with Runway 10L-28R.

Runway 10R-28L has a centerline-to-centerline separation from Taxiway Z of 300 feet on the 28L end and 400 feet on the 10R end, which meets and exceeds requirements contained in the FAA AC 150/5300-13, Airport Design, for airport reference code C-II / D-II (300 feet is required) for runways with visibility minimums not lower than ¾ mile. Should an instrument approach procedure be developed for the airport which has lower than ¾ mile visibility minimums, the runway centerline to parallel taxiway centerline separation would increase to 400 feet. Based

[2] Ibid.

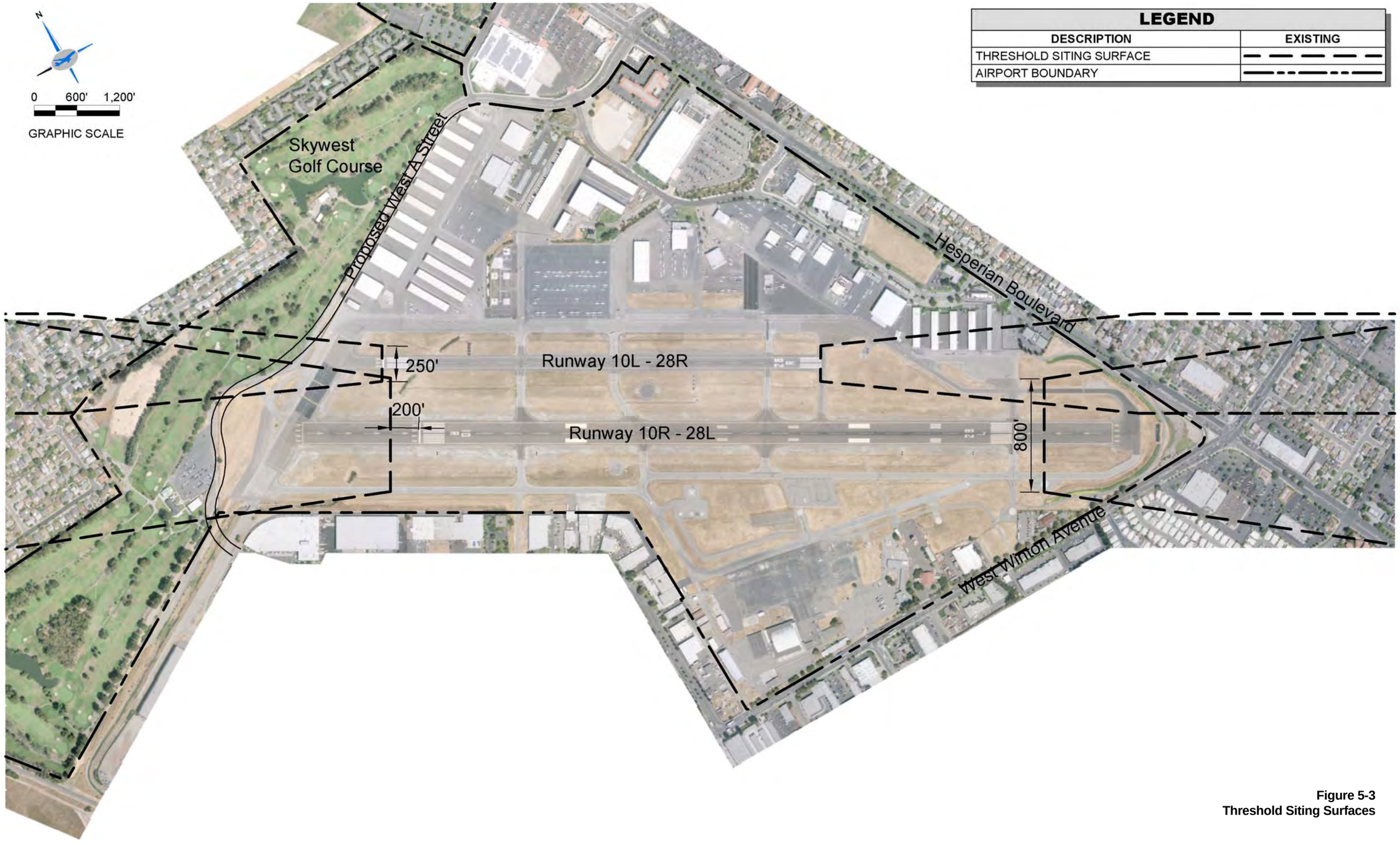
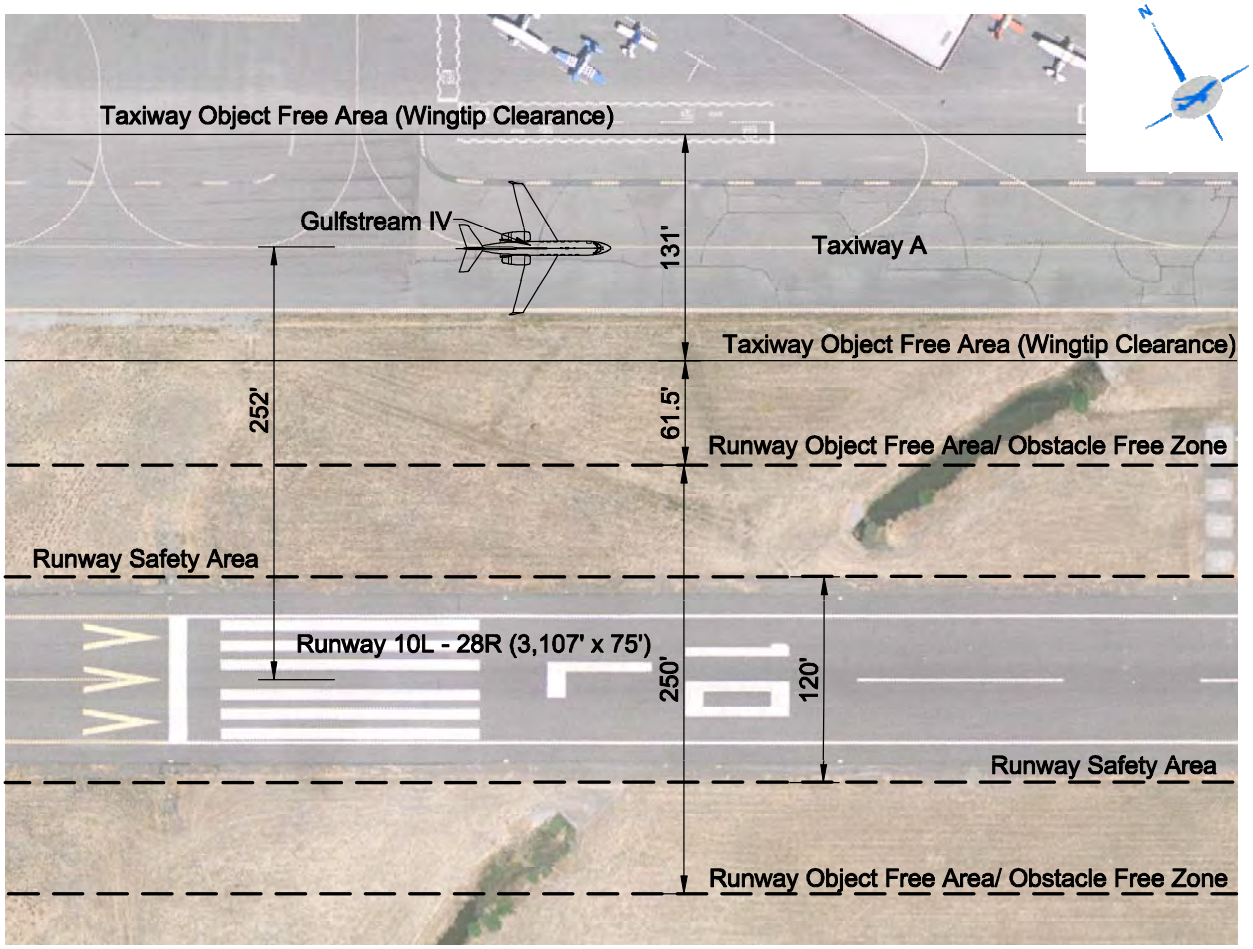


Figure 5-3
Threshold Siting Surfaces



Not to Scale.

Figure 5-4
Runway/Taxiway Separation

upon current instrument approaches available at the airport, the existing runway centerline-to-taxiway centerline separations meet and exceed requirements. However, consideration should be given to realign Taxiway Z, straightening it out to one consistent separation from the runway.

Taxiway Width

FAA AC 150/5300-13, Airport Design, requires Airplane Design Group II taxiways to be 35 feet wide. Taxiway Z is 50 feet wide and exceeds these requirements. Taxiway A is 75 feet wide and more than doubles the requirements established in the above mentioned Advisory Circular. Connector taxiways range from 35 to 50 feet in width.

Taxiway Safety Area

Taxiway safety areas are required to be 79 feet wide according to FAA AC 150/5300-13, Airport Design, for Airplane Design Group II aircraft. A portion of the vehicle service road near the East T-Hangar complex is within the taxiway safety area associated with Taxiway A. This segment of the road is visible from the air traffic control tower, and is effectively within the aircraft movement area (see Figure 5-5). Vehicles using this segment of the road should be in contact with the control tower. All other taxiways have standard safety areas.

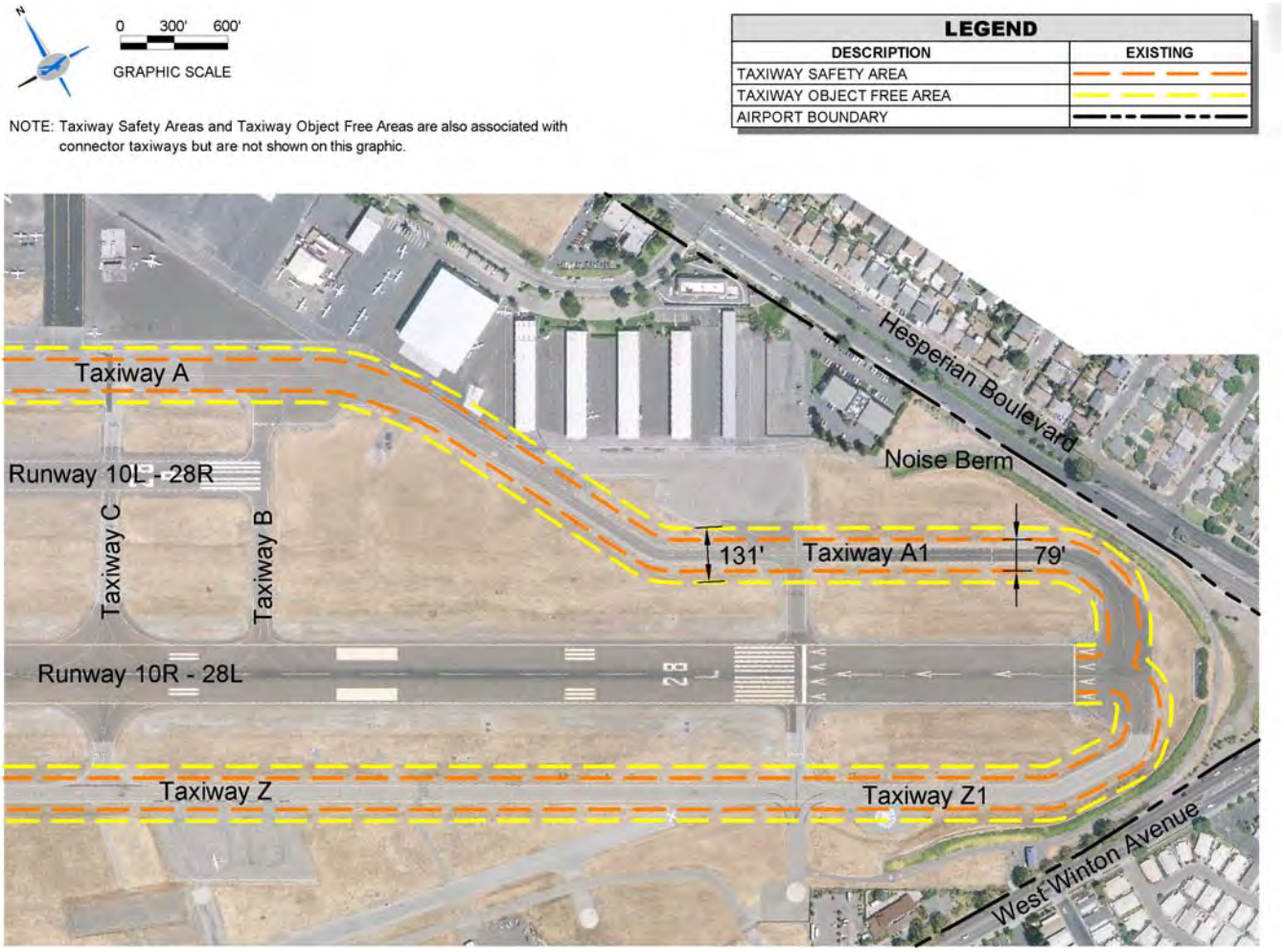


Figure 5-5
Taxiway Safety Zones

Taxiway Object Free Area

Taxiway object free areas are required to be 131 feet wide according to FAA AC 150/5300-13, Airport Design, for Airplane Design Group II aircraft. Upon reviewing the taxiway object free area (TOFA) standards, some deviations were found. For the portion of Taxiway A parallel to Runway 10L-28R the TOFA includes 4 feet of the vehicle service road. Where Taxiway A bends southward, near the large hangar, the entire vehicle service road is included within the TOFA. TOFA associated with the taxiway north of the 28L runup apron also includes the entire vehicle service road. The noise berm also represents an object and obstructs portions of Taxiways A1 and Z1 TOFA (see Figure 5-5).

With the exception of the deviations noted above, the taxiways meet FAA design standards for taxiway object free area.

Building Restriction Line

According to AC 150/5300-13, the building restriction line (BRL) is defined as a line identifying suitable building area locations on airports. It encompasses runway protection zones, runway object free areas, runway and taxiway visibility zone critical areas, areas required for terminal instrument procedures, and airport traffic control tower clear line of sight.

The BRL was defined during the 2002 Master Plan. The BRL shown on the ALP protects for a 25-foot tall structure (a building 25 feet above the runway elevation built on the BRL). The BRL is located 425 feet south of Runway 10R-28L and 300 feet north of Runway 10L-28R and does not account for the airport traffic control tower clear line of sight. The BRL will be revised during this airport layout plan update to reflect current design standards and any changes that may occur to the airfield.

Airspace and Navigational Aids

Hayward Executive Airport is within Class D airspace. On the northern border is Oakland Class C airspace and on the southern border, there is Class E airspace from the surface to San Francisco's Class B airspace. Chapter 3 shows a diagram of horizontal and vertical airspace structures around Hayward Airport. As it was described in Chapter 3, the airport has three non-precision instrument approaches, is an controlled airport, and has various visual aids.

Runway 28L is served by two GPS approaches and one LOC/DME approach. These approaches permit landings with visibilities as low as one mile and a 400-foot minimum descent height. All runways have medium intensity runway lights (MIRL).

As was noted in Chapter 3, Runways 10L and 28R are equipped with a four box precision approach path indicator (PAPI) system with a standard 3.0 degree glide path. Runways 10R and 28L are equipped with a four box visual approach slope indicator (VASI) with a standard 3.0 degree and a non-standard 4.0 degree glide path, respectively. The VASIs are very old and require frequent maintenance, and should be replaced with PAPIs. This glide path for Runway 28L is non-standard due to obstacles present near the airport. Runways 10R and 28L are equipped with runway end identifier lights (REILs).

The FAA is currently in the process of developing a Wide Area Augmentation System (WAAS) instrument approach to the airport. This GPS based approach will likely have similar minima as the current approaches to Hayward.

Next Generation Air Transportation System (NextGen)

NextGen will reshape the national airspace system by 2025. Changes will affect not only airspace and navigational aids, but will affect all phases of a flight, from flight planning, to the landing. The FAA has detailed plans for mid-term implementation (year 2018). Most technology being implemented during the mid-term will utilize advanced avionics found on modern aircraft. Changes to the national airspace system will be most noticeable in and around large commercial service airports, such as Los Angeles, San Francisco, and Oakland International airports. Reliever airports, such as Hayward, may receive enhance GPS instrument approach procedures, more direct en route navigation, and additional airspace they can occupy.

Since one of the goals of NextGen is to reduce aviation's impact on the environment, alternative fuels are being considered and developed. This is a long-term implementation, seeking to replace current leaded aviation fuels (Avgas) and could potentially have an impact on general aviation. Storage requirements for alternative fuel may also be different than Avgas, but it is assumed that regardless of the selected fuel, storage tanks will be required.

Helicopter Requirements

Since the recent north helipad area was constructed, helicopter operators have been requested to conduct their operations from the north helipad area. However, due to recent improvements to Sulphur Creek, which attract water fowl, helicopter operators have refrained from using the north helipad facility. Spot Charlie and helipads on the south side of the airport are designated as helicopter training areas including autorotation and landing training. Traffic patterns over the industrial area southeast of Runway 10R-28L shall be conducted at or below 500 feet mean sea level (MSL).

Airside Facility Requirements Summary

Table 5-5 compares existing conditions of airport planning standards to those of an airport reference code C-II / D-II. Existing conditions that do not meet design standards are highlighted. There are no deviations from the design standards for the short runway (Runway 10L-28R).

Table 5-5
AIRPORT PLANNING STANDARDS
EXISTING CONDITIONS AND ARC C-II / D-II

Item	Existing Dimension (feet)	ARC C-II / D-II	Deviation from Standard/Comments
Airport Category and Airport Data			
Aircraft Approach Category	B	C/D	
Airplane Design Group	II	II	
Airplane wingspan	78.9	78.9	
Primary Runway End (28L) approach visibility minimums	Not lower than 1 mile	Not lower than 1 mile	
Other Runway End (10R) approach visibility minimums	Not lower than 1 mile	Not lower than 1 mile	
Airport elevation	52.1	52.1	
Separation Standards			
Runway centerline to parallel runway centerline	500	700	200 – Adequate per FAA order 7110.65S (simultaneous twin engine propeller driven aircraft operations)
Runway 10R-28L centerline to parallel Taxiway Z centerline	300 to 400	300	
Runway 10R-28L centerline to edge of aircraft parking	380	400	20
Runway holdline	200	250	50
Taxiway centerline to parallel taxiway/taxilane centerline	N/A	105	
Taxiway centerline to fixed or movable object	35	65.5	Vehicle road near East T-Hangars (Taxiway A); approximately 50 feet from centerline to noise berm (Taxiway A1 and Z1)
Taxilane centerline to parallel taxilane centerline	N/A	97	
Taxilane centerline to fixed or movable object	35 to 60	57.5	Some hangar areas
Runway Protection Zones (Runways 10R and 28L)			
Length	1,000	1,700	700
Width 200 feet from runway end	500	500	
Width 1,900 feet from runway end	700	1,010	310
Threshold Siting Surfaces			
Distance out from threshold to start of surface	200	200	
Width of surface at start of trapezoidal section	800	800	
Width of surface at end of trapezoidal section	3,800	3,800	
Length of trapezoidal section	10,000	10,000	
Length of rectangular section	0	0	
Slope of surface	20:1	20:1	

Table 5-5 (Cont'd)
AIRPORT PLANNING STANDARDS
EXISTING CONDITIONS AND ARC C-II / D-II

Item	Existing Dimension (feet)	ARC C-II / D-II	Deviation from Standard/Comments
Obstacle Free Zones			
Runway obstacle free zone (OFZ) width	400	400	
Runway OFZ length beyond each runway end	200	200	
Runway Design Standards			
Runway width	150	100	Runway width exceeds standard
Runway shoulder width	10	10	
Runway blast pad width	170	170	Taxiway pavement provides blast protection
Runway blast pad length	150	150	Taxiway pavement provides blast protection
Runway safety area width	500	500	
Runway safety area length beyond each runway end (or stopway, whichever is greater)	595 (10R) 133 (28L)	1,000	405 (10R) 867 (28L)
Runway object free area width	683	800	117 – noise berm encroaches on 28L end
Runway object free area length beyond each runway end (or stopway, whichever is greater)	595 (10R) 0 (28L)	1,000	405 (10R) 1,000 (28L)
Clearway width	N/A	500	
Stopway width	N/A	150	
Taxiway Design Standards			
Taxiway width	50 (Twy Z); all others 75	35	Exceeds standard
Taxiway edge safety margin	-	7.5	Data not available
Taxiway shoulder width	10	10	
Taxiway safety area width	74	79	Service road (Twy A)
Taxiway object free area width	100	131	Service road (Twy A)
Taxilane object free area width	64 to 118	115	Some hangar areas
Taxiway wingtip clearance	-	26	Data not available
Taxilane wingtip clearance	-	18	Data not available

N/A = Not Applicable
Sources: FAA Advisory Circular 150/5300-13, Airport Design, Change 14 dated November 1, 2008; 2002 Master Plan; AECOM analysis.

LANDSIDE FACILITY REQUIREMENTS

The airport landside system is comprised of all facilities supporting the movement of goods between the community's ground transportation system and the airport's airside system, and also any facilities used in the maintenance or protection of those facilities.

Table 5-6 depicts the landside requirements as determined in the 2002 Master Plan. Landside requirements for this airport layout plan update are assumed to be the same as what was identified in the master plan. The landside requirements are assumed to be met through facilities shown on the current ALP and the planned fixed base operator (FBO) expansions (as detailed in Chapter 3). All developments

should be in accordance with all applicable airport, City, State and FAA requirements, codes, and regulations.

Table 5-6
LANDSIDE FACILITY REQUIREMENTS

Item	1998	2005	2010	2020
Based Aircraft	**423**	**454**	**475**	**518**
Aircraft in Hangars	303	341	369	426
Aircraft in T-Hangars	192	230	246	279
Aircraft in Conventional Hangars	97	111	123	147
Aircraft on Tie-Downs	120	113	106	92
Transient Aircraft	**N/A**	**44**	**47**	**56**
Hangar Area Requirements (square feet)	**427,000**	**466,600**	**512,300**	**603,000**
T-Hangar Area	229,600	275,600	295,300	334,700
Conventional Hangar Area	197,400	191,000	217,000	268,300
Apron Area Requirements (square yards)	**131,700**	**108,400**	**106,800**	**104,500**
Based Aircraft Apron	N/A	73,500	68,900	59,800
Transient Apron	N/A	34,900	37,900	44,700
Other Requirements				
Public Terminal Building (square feet)	N/A	7,900	9,100	11,800
Aircraft Wash Facility	Two Bays	Two Bays	Two Bays	Two Bays
Tenant Maintenance Shelter	Two Bays	Two Bays	Two Bays	Two Bays

Source: Formed by the Hayward Executive Airport Master Plan, 2002.

To assist with meeting T-hangar requirements noted in the master plan, space should be designated for a small individual hangar park/complex. This park can be constructed by the City or private developers. Private developers must follow certain guidelines including regulations on time frames for obtaining permits, starting construction, and completing construction. All developments shall be in accordance with all applicable airport, City, State and FAA requirements, codes, and regulations.

AIRPORT ACCESS REQUIREMENTS

West Winton Avenue is a four-lane road located south and west of the airport. In order to relieve traffic on West Winton, the City planned to extend West A Street along the current golf course access road. When planning the West A Street extension, airport design standards and FAR Part 77 surfaces should be taken into account. The proposed West A Street alignment traverses the runway safety area, runway object free area, and runway protection zones associated with Runway 10R as well as the runway protection zone for Runway 10L. To comply with FAR Part 77 imaginary surfaces, West A Street plus an assumed 15-foot tall vehicle would have to be below the 34:1 Approach Surface for Runway 10R and below the 20:1 Approach Surface for Runway 10L. The West A Street extension has been terminated.

Currently, the Golf Course access road and parking lot traverse the runway safety area and runway object free area associated with Runway 10R. The road and parking lot are also within the runway protection zones for Runways 10R and 10L. The road and parking lot should be relocated outside of the runway safety area and runway object free area. Vehicle parking is an acceptable land use within the runway protection zone, provided the central portion of the runway protection zone is clear. However, it is noted that the golf course access road and parking lot have historically been within the RPZ.

Expanded facilities on the north side of the airport will use Skywest Drive, while development on the south side of the airport will require a new access road.

An airport perimeter road should be properly located to provide access to all areas of the airport while not traversing safety areas such as the RSA, OFZ, and ROFA. On the north side of the airport, it will be difficult to accommodate a perimeter road that will not traverse safety areas. A road could be constructed within those safety areas as long as all vehicles using the road have radio contact with the tower and were directed depending on aeronautical activity.

AIRPORT SECURITY

The Transportation Security Administration (TSA), in cooperation with the general aviation community, has developed guidelines to enhance security at general aviation airports. To evaluate security needs at a specific airport, TSA has developed an Airport Characteristics Measurement Tool to determine the airport's risk. Table 5-7 displays the Airport Characteristics Measurement Tool along with Hayward's ranking. Overall risk is measured on a scale of 0 (lowest risk) to 55 (highest risk), and grouped into four levels. Suggested security enhancements are given for each level (see Figure 5-6).

Hayward Executive Airport falls into the second highest level of risk, with 38 points. Figure 5-6 displays the suggested security measures for this risk level and are summarized below.

- **Access Controls.** Physical barriers, such as fences, should be constructed around the airport perimeter securing it from unauthorized access. Physical barriers can also be in the form of natural barriers. The aircraft operating area is fenced.

- **Lighting System.** Security lighting provides a means to deter theft, vandalism, or other illegal activity at night. Security lighting should not interfere with aircraft operations.

- **Personnel ID System.** Airport operators may wish to implement a method to badge employees and other authorized tenants, granting access to various areas of the airport.

- **Vehicle ID System.** Vehicles can be identified through the use of decals, stickers, or tags, aiding airport personnel and law enforcement in identifying authorized vehicles.

- **Challenge Procedures.** Challenge procedures include a developing community watch program, and encouraging airport tenants to challenge unfamiliar people at the airport.

- **Law Enforcement Officer Support.** Airport operators are encouraged to have regular patrols of the airport by local law enforcement.

- **Security Committee.** An airport security committee is composed of airport tenants and users drawn from all segments of the airport community. The main goal of the group is to involve airport stakeholders in developing effective and reasonable security measures and disseminating timely security information.

- **Transient Pilot Sign-In/Out Procedures**. Sign in and out procedures can help identify non-based (transient) pilots and aircraft using the airport.

- **Signs.** Signs should be posted to warn against unlawful activity.

- **Documented Security Procedures.** Written procedures to guide airport operators on security guidelines, protocols, and procedures.

- **Positive Passenger/Cargo/Baggage ID.** Prior to boarding the pilot should ensure that the identify of all passengers are verified and all baggage and cargo is known to the occupants.

- **All Aircraft Secured.** All aircraft secured in locked hangar facilities or locked on the apron.

- **Contact List.** Including law enforcement and other emergency contacts.

Table 5-7
AIRPORT CHARACTERISTICS MEASUREMENT TOOL

Security Characteristics	Assessment Scale [a]	Hayward Executive Airport
Location		
Within 30 nm of mass population areas [b]	5	5
Within 30 nm of a sensitive site [c]	4	4
Falls within outer perimeter of Class B airspace	3	3
Falls within boundaries of restricted airspace	3	0
Based Aircraft		
Greater than 101 based aircraft	3	3
26-100 based aircraft	2	-
11-25 based aircraft	1	-
10 or fewer based aircraft	-	-
Based aircraft over 12,500 pounds	3	3
Runways [d]		
Runway length equal to or greater than 5,000 feet	5	5
Runway length less than 5,000 feet, greater than 2,001 feet	4	-
Runway length 2,000 feet or less	2	-
Asphalt or concrete runway	1	1
Operations		
Over 50,000 annual operations	4	4
Part 135 operations	3	3
Part 137 operations	3	0
Part 125 operations	3	0
Flight training	3	3
Flight training in aircraft over 12,500 pounds	4	0
Rental aircraft	4	0
Maintenance, repair, and overhaul facilities conducting long term storage of aircraft over 12,500 pounds	4	4
Total	**55**	**38**

[a] Assess points for every characteristic that applies to the airport.
[b] Mass population area – area with total metropolitan population of at least 100,000 people.
[c] Sensitive sites – areas which would be considered key assets or critical infrastructure of the United States. Sensitive sites can include certain military installations, nuclear and chemical plants, centers of government, monuments and iconic structures, and/or international ports.
[d] Facilities with multiple runways should only consider the longest runway on the airport.

Points/Suggested Guidelines			
>45	25-44	15-24	0-14
Fencing **Hangars** **Closed Circuit TV** **Intrusion Detection System**			
Access Controls **Lighting System** **Personnel ID System** **Vehicle ID System** **Challenge Procedures**			
Law Enforcement Officer Support **Security Committee** **Transient Pilot Sign-In/Out Procedures**			
Signs **Documented Security Procedures** **Positive Passenger/Cargo/Baggage ID** **All Aircraft Secured** **Community Watch Program** **Contact List**			

Figure 5-6
Risk Level and
Suggested Airport Security Enhancements

LAND AREA REQUIREMENTS

The land use on an airport will vary depending on the role and volume of traffic. For Hayward Executive Airport, the on-airport land uses can be broadly categorized into four categories described herein.

The ***aircraft operating area (AOA)*** is defined as that area on-airport that lies within the building restriction lines (BRL) and runway protection zones (formerly clear zones). It includes the runways, taxiways, associated safety areas and lateral clearances, and runway approaches. The FAA defines the BRL as a line which identifies suitable building area locations and encompasses the runway protection zones, the runway object free area, the runway visibility zone, NAVAID critical areas, areas required for terminal instrument procedures (TERPS), and areas required for clear line of sight from the control tower (when applicable).

As previously mentioned, the current building restriction line was set based upon accommodating a 25-foot tall structure at the line. The building restriction line may change based upon the ultimate configuration of the airfield. However, for the purpose of setting baseline land area requirements, the BRL from the 2002 Master Plan is used in this discussion and assumed to be the general boundary of the AOA. The BRL, and the AOA, terminates at the airport perimeter fence, and does not include portions of the golf course.

Areas of the airport serving landside aviation facilities can be categorized as ***aeronautical use areas***. This would include general aviation uses such as storage hangars, tie-downs and transient aprons, terminal and administration building, potential FBO sites, aircraft maintenance, and auto parking.

Revenue support areas are areas which are on airport property but are not associated with aviation activities. Examples can be found on the property between Skywest Drive and Hesperian Boulevard. Land is often leased out for non-aviation related activities.

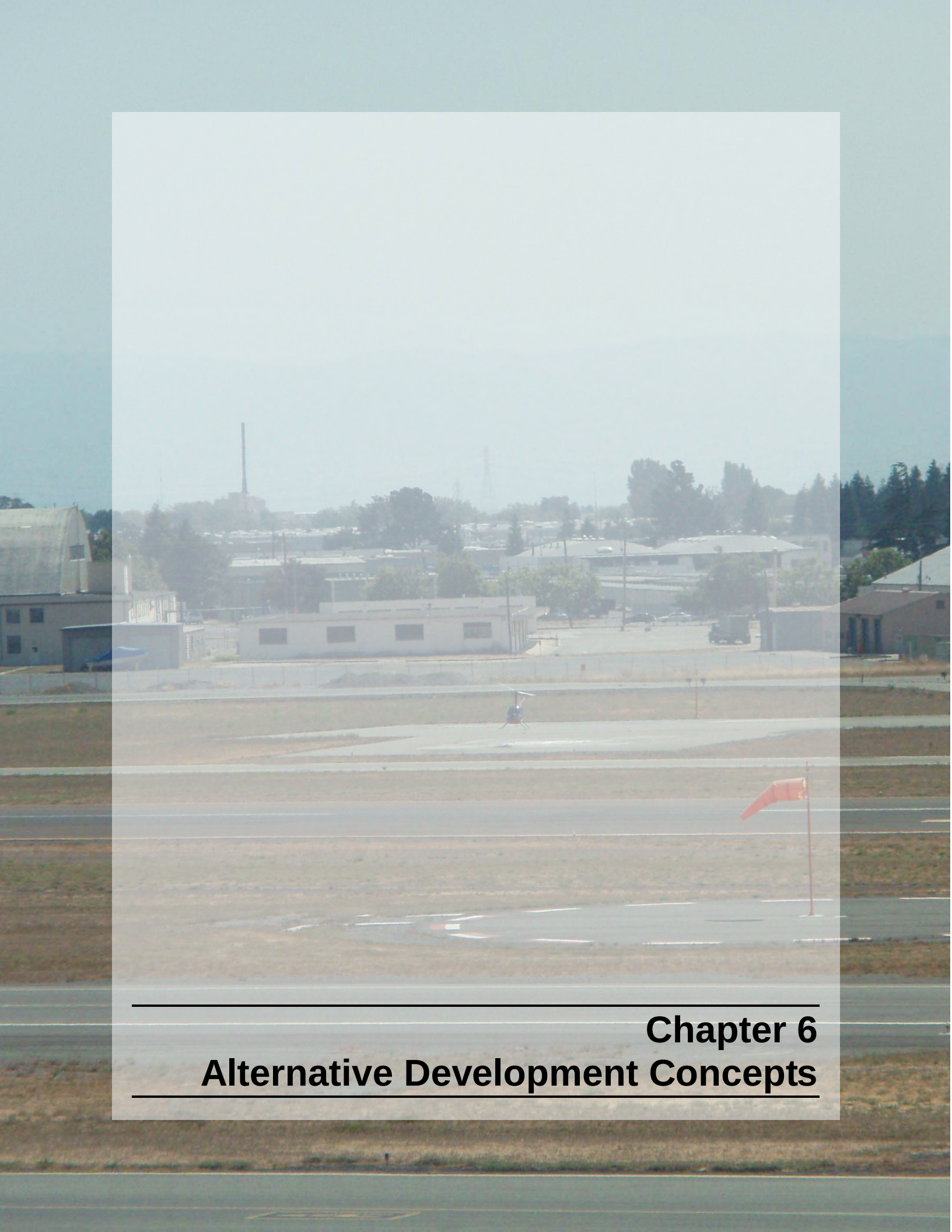
The current airport is approximately 527 acres. The breakdown of airport property is shown on Table 5-8. Areas classified as "Other" reflect recreational uses of airport property – the Skywest Golf Course – and also includes Fire Station #6. It should be noted that runway protection zones are not entirely within the airport property line.

Table 5-8
LAND AREAS AT HAYWARD EXECUTIVE AIRPORT

Category	Acreage	Percent
Aircraft Operating Area (AOA)	184	35
Aeronautical Use Areas	158	30
Revenue Support Areas	37	7
Other	148	28
Total	**527**	**100**

Note: "Other" reflects recreational uses and the City Fire Station located on the airport.
Source: AECOM

As seen in Table 5-8, roughly two-thirds of the airport is designated as aircraft operating area or aeronautical use area. Most of the aeronautical use area has been developed, though the California Air National Guard leasehold will be redeveloped over the next several years. This area is designated as aeronautical use. The golf course accounts for 127 acres, or about 24 percent of the airport property. Consideration may be given to re-designate some of the golf course as AOA, and utilize the area to accommodate adequate safety zones.



Chapter 6
Alternative Development Concepts

Chapter 6 - *Alternative Development Concepts*

INTRODUCTION

The primary purpose of the Hayward Executive Airport, Airport Layout Plan Update is to determine the best approach to meeting Federal Aviation Administration (FAA) design standards. As documented in previous chapters of this report, the airport currently is an airport reference code (ARC) C-II airport and will become ARC D-II in the near future. This chapter documents the alternative analysis performed to enhance Hayward Executive Airport by complying with ARC D-II design standards.

Included in this report is the discussion of opportunities and constraints present at Hayward, along with environmental considerations. This chapter also presents alternatives analysis and recommendations for other issues related to the airfield, specifically, the Runway 28R/Taxiway A issue, the east T-Hangars within Runway 28R's RPZ, the issue regarding the service road being included in the taxiway object free area, and airport traffic control tower line of sight. An overall airfield concept is presented within this chapter.

After the airside alternatives are described, landside concepts are presented. This section focuses on reuse of the CANG site, additional hangar development, and ground access. A preferred landside concept is presented. Lastly, the basis for the airport layout plan is documented.

OPPORTUNITIES AND CONSTRAINTS

Prior to defining alternatives to correct deficiencies found at the airport, opportunities and constraints are defined. These will give guidance as to what may be considered a viable alternative in this Airport Layout Plan Update.

Opportunities

- Skywest Golf Course: The golf course presents an opportunity since it is included within airport property. Hayward Area Recreation and Parks District (HARD) leases the land from the airport. The current lease expires 2019. This land could potentially be re-designated as aviation use and be used for either runway safety zones or landside development. Due to the existing lease, the golf course also presents a constraint and cannot be used for aviation uses until after 2019.

- The adjacent industrial parks could be considered an opportunity. The industrial park currently has a high vacancy rate, and is situated on larger parcels of land. Acquisition of this area would involve fewer parcels. Acquiring industrial parcels can sometimes be easier than acquiring residential land, since for the same amount (acres) of land, typically, it involves fewer property owners to negotiate with.

- The airfield configuration could be adjusted so that more area could be used for landside development. For example, runways could be moved, rotated, pushed closer together, or shortened

to provide additional land. This land would then be available for use by the City or FBOs to build new facilities for the general aviation (GA) population of the airport.

- The California Air National Guard (CANG) area (approximately 17 acres) is available for redevelopment. While several buildings are present, it is anticipated that most will be demolished. A large portion of the site is paved apron area. The large hangar on this site will remain.

Constraints

- The airport is bordered by two main arteries to the south and east: West Winton Avenue and Hesperian Boulevard, respectively. These roads present physical constraints to the airport and define the southern and eastern boundaries of the airport. The roads are within the runway safety area (RSA), runway object free area (ROFA), and runway protection zone (RPZ). Relocating, rerouting, or removing the roads was not deemed to be feasible due to community and environmental impacts, along with anticipated high project costs.

- Also on the south side of the airport is the noise berm. This noise berm was constructed to protect the noise sensitive residential areas beyond Runway 28L from the noise of propeller aircraft and business jets when the engines are accelerated for take-off. Since the residential areas will not be moved, and restrictions are in place to reduce the noise over these areas, it is important to retain the noise berm to reduce/minimize noise exposure in these residential areas. Relocation of the noise berm or construction of a sound wall may be considered in the alternative development process, provided the relocated berm or sound wall provides similar/enhanced noise reduction benefits.

- Existing land leases pose a constraint at the airport since leases present an agreement with another entity for a portion of airport land. These leases constrain use of areas that are either FBO areas or non-aviation related areas. Some of these areas include the Skywest Golf Course (HARD), Atlantic Aviation, Bud Field, ParkAvion, SP Aviation, Airport Property Partners, a restaurant on the south side of the airport (near the CANG area), some industrial and commercial parcels along Hesperian Boulevard, and Fire Station #6.

- The large CANG hangar is a constraint since the City required this hangar to remain and be used as part of the reuse of this area. The building can be utilized for aircraft storage, maintenance, or office space. Location and orientation of this hangar will ultimately dictate development of the CANG parcel. The hangar is assumed to remain in its current location and will be refurbished by the future lessee.

- The fire station (Fire Station #6) and associated training center are a constraint to the airport. The training facility was recently constructed. The area the fire-station occupies (including associated training areas) approximately 7.3 acres of airport land. This land is located on the south eastern part of the airport along West Winton Avenue. As previously noted this fire station has direct access to the airfield and houses the 3,000 gallon ARFF truck. The fire station and ARFF truck are used during emergencies on the airport.

- Industrial parks adjacent to the airport also present a constraint. While fewer property owners are involved in a transaction, businesses would be involved. Relocating businesses can be cost prohibitive. Since some properties adjacent to the southern side of the airport include manufacturing companies, environmental clean-up may be required, further escalating land acquisition costs and complexity. Currently, the industrial areas provide a buffer for airport noise. Acquiring industrial land with the intent of using the land for aircraft operating areas will significantly impact the noise footprint of the airport. Most of the commercial development north of the airport is on airport property and while land would not need to be acquired, leases would need to be terminated.

- The Skywest Golf Course is on airport property. HARD leases this area from the airport, and the lease expires in 2019. Impacts to this facility could potentially impact airport revenues. Additionally, the golf course is a community asset and may represent potential Section 4(f) impacts, and acts as a buffer for the San Lorenzo neighborhood to the north.

- Beyond the Skywest Golf Course the airport is bordered by the San Lorenzo Neighborhood. Since the neighborhood is not within the City of Hayward, Hayward's jurisdiction could not be used to acquire land in San Lorenzo. Therefore, it is highly unlikely that the City of Hayward would be permitted to acquire land within San Lorenzo City limits for aeronautical uses. The City/airport property line north of the golf course is therefore assumed to be fixed in place.

- Lastly, airspace constraints to the north and northwest of the airport prevent runway expansions in that direction due to the impending airspaces of Oakland and San Francisco International Airports. San Francisco is Class B airspace in the shape of an upside down wedding cake. The airspace goes from the surface to 10,000 feet above ground level and therefore severely limits Oakland's Class C airspace. Due to its vicinity to San Francisco, Oakland's airspace is reduced in volume compared to most other Class C airports. In altitude, the Class C airspace is restricted by the lower limits of the SFO Class B airspace.

  Hayward is designated as Class D airspace. Local Class D airspace layouts go up to between 2,500 and 2,900 feet above ground level. Hayward is limited in altitude by Oakland's airspace to less than 1,500 feet above ground level. Commonly, an area within five statute miles of an airport (4.3 nautical miles) is designated Class D airspace. From the runway threshold of Runway 10R, there is less than 2,000 feet to the Oakland Class C airspace. Aircraft are required to make a sharp turn to Runway 10 and from Runway 28 to comply with noise sensitive areas and not accidentally fly into Oakland airspace without air traffic control clearance.

Environmental Constraints

After the broad constraints were defined, environmentally sensitive issues were documented for future reference.

This constraints analysis was based on data provided in previous environmental investigations performed at Hayward Executive Airport, including an environmental assessment for the Hayward Executive Airport *Master Plan* Update (2004), an extraordinary circumstances evaluation addressing proposed improvements at Hayward Jet Center (2007), and available agency data. All 23 environmental resource categories identified in FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures* (2006) and FAA's *Environmental Desk Reference for Airport Actions* (2007) were reviewed. Of the 23 environmental evaluation and impact categories identified in FAA's *Environmental Desk Reference,* eleven were identified as present in the vicinity of the airport that could be affected by proposed airport improvements:

- Noise exposure
- Biotic communities
- Compatible land use
- Cultural and historical resources
- Environmental justice populations
- Floodplains
- Hazardous materials
- Water quality
- Wetlands and waters of the U.S.
- Threatened or endangered species
- Section 4(f) resources

Each environmental resource or impact category is discussed in the following paragraphs.

Noise

Figure 6-1 presents aircraft noise exposure in the vicinity of Hayward Executive Airport terms of the existing community noise equivalent level (CNEL). The 65 CNEL contour, which is used by the State of California to evaluate noise exposure, extends beyond the airport boundaries to the northwest and to the south. Proposed projects that would relocate or reconfigure aircraft movement areas have the potential to affect the size and location of the noise contours. The noise contours depicted in Figure 6-1 are derived from the 2004 Master Plan EA/EIR. Updated noise contours were prepared as part of this study and are found in Chapter 9 (figure 9-6). The updated noise contours reflect the revised fleet mix presented in Chapter 4, the demise of Stage

II jet aircraft, and quieter turbofan jet aircraft with new generation environmentally friendly engines operating at Hayward. Figure 9-6 shows that the 65 CNEL contour no longer extends into the San Lorenzo neighborhood.

Compatible Land Use

The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise exposure. Airport development actions to accommodate fleet mix changes or the number of operations, air traffic changes, or new approaches made possible by new navigational aids are examples of activities that can alter aviation-related noise impacts. Moreover, the FAA requires that a project may not be approved unless the Secretary of Transportation is satisfied that the project is consistent with the plans (existing at the time the project is approved) of public agencies for development of the area in which the airport located.

The following plans include the geographic in which Hayward is located or address the airport specifically:

- *City of Hayward General Plan;*
- *General Plan for the Central Metropolitan, Eden, and Washington Planning Units;*
- *Unincorporated Eden Area Plan; and*
- *Alameda County Airport Policy Plan*

Any proposed project would be evaluated for its potential to conflict with the proposed development noted in these plans. The Alameda County Airport Policy Plan identifies the areas near the airport that are subject to noise exposure or located within safety zones, beneath navigable airspace and imaginary surfaces, and subject to over-flight. This plan must be updated whenever significant changes to the Airport Layout Plan or Airport Master Plan occur, such the reconfiguration of aircraft movement areas or fleet mix.

With the exception of industrial uses to the southwest, and commercial uses to the northeast, and southeast, the predominant land use in the vicinity of Hayward Executive Airport is residential. Changes to the fleet mix, traffic pattern, or number of flights could expose nearby residents or other sensitive receptors to additional noise.

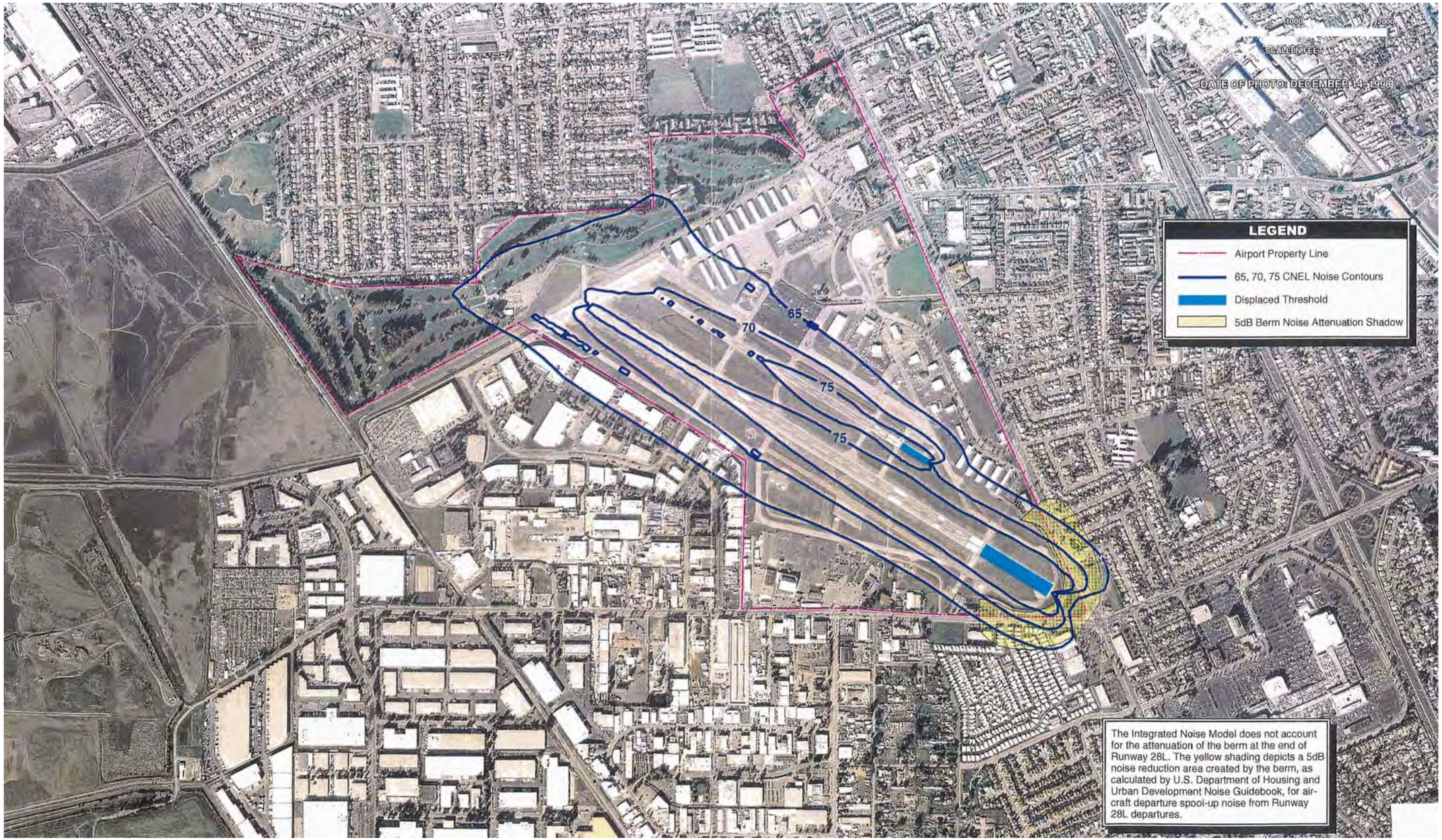
Floodplains

Executive Order 11988 directs federal agencies to take action to reduce the risk of flood loss, minimize the impacts on floodplains. Floodplain encroachment can be considered significant pursuant to NEPA if it results in notable adverse impacts on natural and beneficial floodplain values.

As shown on Figure 6-2, the floodplain associated with Sulphur Creek includes a portion of the aircraft operations area (AOA). Alterations or additions to the existing paved area associated with the AOA may alter the existing drainage pattern of the site.

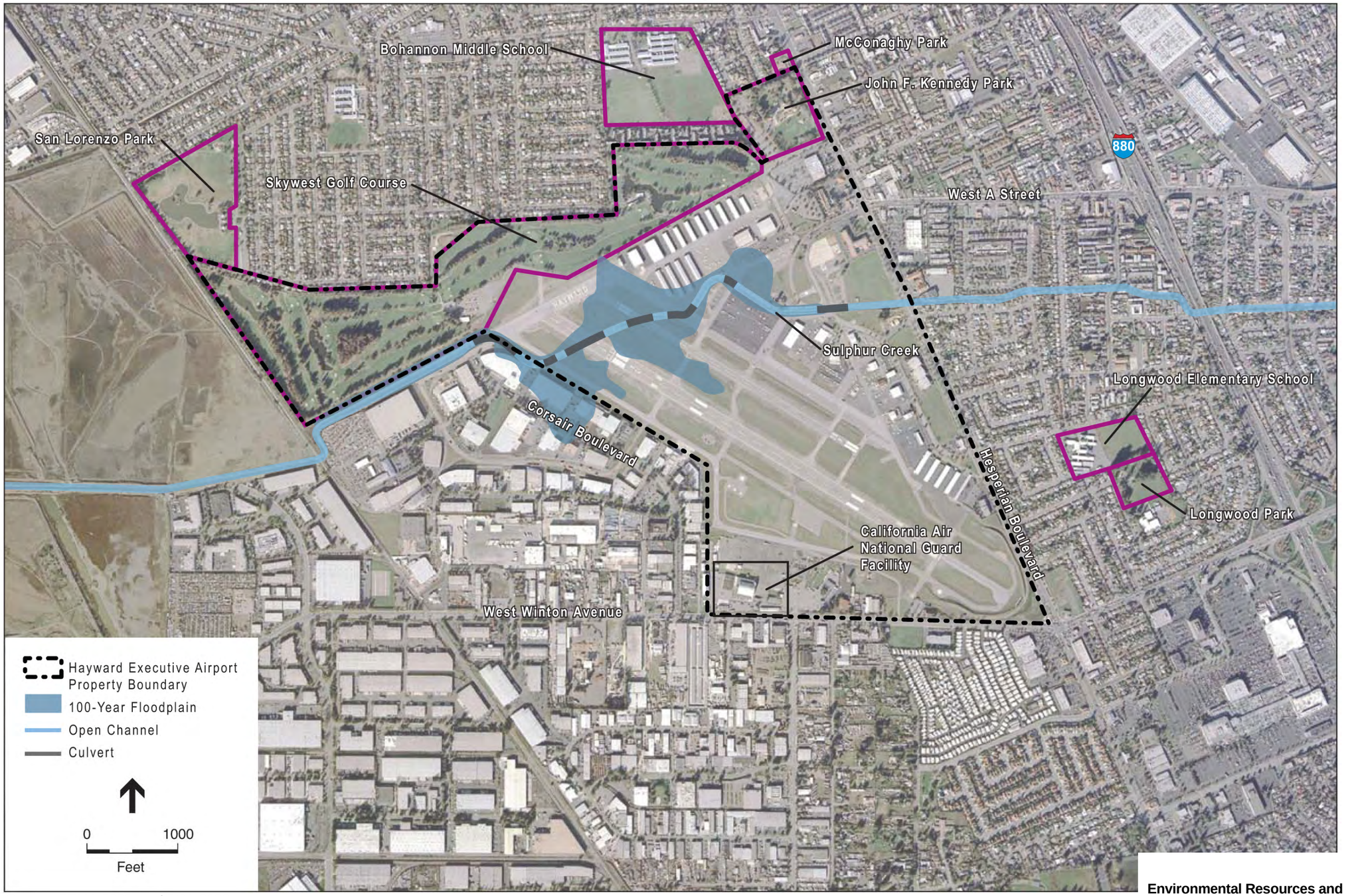
Environmental Justice

Hayward is located within a portion of Alameda County that includes low-income and minority populations. An environmental justice population is identified when U.S. Census data identifies a disproportionately high percentage of minority and low-income population compared to the rest of the County. Data provided by the U.S. Census Bureau indicates that environmental justice populations occur near the airport within census tracts 4362 and 4369. A potential impact under NEPA would occur if a proposed project resulted in disproportionate effects to environmental justice populations. Potential impacts that could disproportionately affect an environmental



Source: Hayward Executive Airport Master Plan EA, ESA, 2004, Figure 4.1-10.

Figure 6-1
Master Plan Environmental Assessment/Environmental Impact Report (2004) Noise Contours



Source: FEMA 2000, and ESA 2008

Figure 6-2
Environmental Resources and Constraints

justice population located near an airport include disproportionate exposure to airport-related noise or traffic, light, and glare.

Wetlands and Waters of the U.S.

Wetlands and navigable waterways are protected by the U.S. Clean Water Act and regulated by the U.S. Army Corps of Engineers. As shown on Figure 6-2, Sulphur Creek, which is considered jurisdictional waters of the U.S., traverses airport property. The only jurisdictional wetlands identified within the airport property are associated with Sulphur Creek and immediately adjacent to the creek. Sulphur Creek flows through airport property from east to west through a series of open channels and culverts that run between and underneath the runways. Vegetation is moderate to sparse within Sulphur Creek, and is most dense in the area between Skywest Drive and the airport traffic control tower. However, the ground within Sulphur Creek is saturated year-round, and has water through portions of the year.

Biotic Communities/Threatened or Endangered Species

Though in an urban environment, the airport property includes tracts of open land, between runways and taxiways, which contain ruderal, non-native grassland species. These maintained, open areas can provide habitat for wildlife such as burrowing owls and other avian species. Similarly, the saturated ground and areas of open water contained within Sulphur Creek, which is considered wetlands, also can provide habitat for the California red-legged frog and the California tiger salamander. Both species have been observed on airport property and are considered threatened or endangered by the U.S. Fish and Wildlife Service.

Hydrology and Water Quality

The creation of additional impervious surface could increase flows to Sulphur Creek, including storm water runoff laden with contaminants such as oil, grease, fuel, heavy metals, or other substances associated with airport operations. Water quality controls, permits, and plans at the airport, such as the City's National Discharge Elimination System (NPDES) permit for the airport and its Storm water Pollution Prevention Plan (SWPPP), help to maintain water quality, which is especially important as the waters of Sulphur Creek enter the San Francisco Bay.

Hazardous Materials

Airports experience environmental contamination due to the routine use and storage of such items as aviation fuel, solvents, cleaners, and motor oils. Typically hazardous material releases occur in hangars and aircraft maintenance areas, but spills can also occur on taxiways and runways. Similarly, underground fuel storage tanks can release fuel into the ground. The airport has experienced several hazardous material release incidents and subsequent remediation efforts at a variety of fixed-base operator locations, as well as the former CANG facility. The removal of existing paved surfaces has the potential to expose workers to hazardous materials that may have seeped into the ground as the result of a hazardous materials release.

Cultural Resources

Cultural resources consist of prehistoric and historic resources and historic buildings and structures. Potential impacts to cultural resources are evaluated with respect to a project's potential to alter the characteristics of the resource, which includes physically damaging it, isolating the property, introducing visual, audible, or atmospheric elements that are out of character with the property, neglecting the property, and selling, transferring, or leasing the resource. No structures located on airport property are considered as historic buildings.

Section 4(f) Resources

Section 303(c) of the Department of Transportation Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance or land form an historic site of national, State, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land, and the project includes all possible planning to minimize such use. These resources are referred to as Section 4(f) resources. Any part of a publicly owned park, recreation area, refuge, or historic site is presumed to be significant unless there is a statement of insignificance relative to the whole park by the Federal, State, or local official having jurisdiction thereof. Potentially significant effects to Section 4(f) resources include the physical taking of lands ("taking"), the impairment of the existing use, or activities that impair or diminish the activities, features, or attributes of the resource that contribute to its significance or enjoyment.

Potential Section 4(f) resources in the vicinity of Hayward Executive Airport include the following:

- Skywest Golf Course
- John F. Kennedy Park
- McConaghy Park
- San Lorenzo Park
- Longwood Park
- Bohannon Middle School

As noted above, Skywest Golf Course, a public golf course located on airport property, may be considered a Section 4(f) resource pursuant to NEPA. If a proposed project requires the use of the golf course area or creates conditions that would diminish its use, a significant impact would occur. Potential impacts that would lead to a potential "taking" of airport property include the closure of part or all of the facility, changes that diminish its aesthetic value or other conditions that diminish or adversely affect its use.

RUNWAY 10R-28L

Methodology and Evaluation Criteria

The main focus of this Airport Layout Plan Update is to correct the non-standard conditions for the primary runway, found when applying an airport reference code of D-II. Primary runway alternatives were defined in accordance with FAA Order 5200.8 Runway Safety Area Program. FAA Order 5200.8 outlines several alternatives to be considered when correcting runway safety area (RSA) deficiencies at an airport. According to the FAA Order, in the event that traditional graded area surrounding the runway is not practicable to obtain the entire safety area, the following alternatives should be considered:

- Relocation, shifting or realignment of the runway.
- Reduction in runway length where the existing runway length exceeds that which is required for the existing or projected design aircraft,
- A combination of runway relocation, shifting, grading, realignment, or reduction,
- Declared distances, and
- Engineered Material Arresting Systems (EMAS)

Since Hayward Executive Airport is an urban airport, with development on all sides of the airport and little available land at the ends of Runway 10R-28L, changes to the alignment or location of the runway would create significant impacts to the surrounding community. Therefore, such alternatives were deemed to be infeasible and were not considered. Similarly, a reduction in runway length would inhibit the design aircraft from operating at the airport. Therefore, reductions in overall runway length were also not

considered. As was noted in Chapter 5, increase in runway length of both runways would be appropriate to increase load factors of the design aircraft currently operating at the airport.

Alternatives developed to address Runway 10R-28L were evaluated in an iterative process. During the first round of evaluation, the initial concept was defined, including location of the runway ends and safety zones. Evaluation criteria for Round 1 were broadly defined, meant to filter out alternatives that had fatal flaws. Alternatives that advanced to the second round of evaluation were further refined by adding connecting taxiways, reviewing approach and threshold siting surfaces for penetrations and location of displaced thresholds (where required), and defining usable runway lengths (landing and takeoff). The alternatives were also evaluated based upon rough order of magnitude costs and environmental considerations.

Once these evaluations were performed, the alternatives and conclusions were presented to the FAA and the Technical Advisory Committee to gain additional input and insight.

Evaluation criteria for the first two rounds are identified in the following sections.

Round 1 Evaluation Criteria

Round 1 evaluation criteria were primarily yes/no criteria. All criteria had to be met in order for the concept to be considered in the next round.

- **Direct community impacts** – Direct impacts to the community included the acquisition of land, relocation of homes, relocation of businesses, or the relocation of roads. To pass this evaluation criterion, the alternative would have no direct impacts to the community.

- **Impacts defined constraints** – There were nine specific constraints defined for Hayward Executive Airport. These constraints included local roads, a noise berm, existing hangars, existing lease agreements, local industrial parks, and local communities. To pass this evaluation criterion, the alternative would not impact any of the defined constraints.

- **Meets FAA design Standards** – In the initial round of alternative evaluation, FAA design standards should not be compromised; however, given the constraints of the existing airport, some deviations to FAA design standards may be necessary. An alternative could either meet design standards (“Yes”), meet design standards through modifications (“Yes with Modifications”), or not meet design standards (“No”). To pass Round 1, the alternative needed a response of “Yes” or “Yes with Modifications” to pass. In order for an alternative to qualify for “Yes with Modifications,” modifications should be relatively minor.

Round 2 Evaluation Criteria

The second round of evaluation was more thorough and evaluated not only technical aspects, such as useable runway lengths, but also subjectively reviewed items such as environmental considerations and project costs.

Criteria for Round 2 were as follows:

- **Useable Runway Length**—This criterion reviewed the alternative’s usable runway length that is the available takeoff and landing distances. In order to allow current operators to continue using Hayward Executive Airport, useable runway lengths should not be decreased.

  Rankings were as follows: Increases (1 point); No change (2 points); and, Decreases (3 points).

- **FAA Design Standards**—Many alternatives were able to move forward from Round 1 based upon the general assumption that modifications to design standards might be feasible. The FAA does not allow for modifications to runway safety area design standards. Modifications to

other design standards — such as runway object free area — might be permitted if an acceptable level of safety were provided. For the purpose of this evaluation, if the total area of the safety zone that did not meet FAA design standards exceeded 10 percent, the modification would not provide an acceptable level of safety.

Sometimes it may be acceptable to allow a golf course within the runway safety area and object free area, provided that all trees were removed within these critical safety zones. Several airports have golf courses within the RSA or ROFA, including Salinas Municipal Airport. Low bushes/shrubs, which would not cause significant damage to aircraft, could be used on the golf course. Frangible screens to deflect errant golf balls could also be erected. Retaining the golf course within the RSA/ROFA would be a deviation from standards and require coordination with the FAA.

Once taxiways were added to the alternatives, the taxiways and associated safety areas were reviewed against FAA design standards to ensure compliance.

Rankings were as follows: Yes (1 point); Yes with declared distances (2 points); Yes with modifications to design standards (3 points); Yes with declared distances and modifications to design standards (4 points); and, No (5 points).

- **Threshold Siting and Approach Surfaces**—Approach surfaces should be free and clear of all obstacles. Presently, obstacles penetrate the approach surfaces, requiring displaced thresholds. The existing approach surfaces were compared to approach surfaces applied to the runway ends as shown in each alternative. In order for an alternative to pass this criterion, the penetrations to the approach surface should not be increased.

  Rankings were as follows: Decreases (1 point); No change (2 points); and, Increases (3 points).

- **Project Cost**—A qualitative project cost was defined for each alternative. This qualitative cost took the following items into consideration: new airfield pavements (runway and taxiway pavement), demolition of old pavement, grading, drainage, airfield lighting and signage, fencing, NAVAID relocation, and airfield markings.

  Rankings were as follows: Low (1point); Medium (2 points); and, High (3 points).

- **Environmental Impact**—Each alternative was subjectively reviewed for potential environmental impacts. Potential impacts included those defined previously—noise, compatible land use, floodplains, environmental justice, wetland and waters of the U.S., biotic communities/threatened or endangered species, hydrology and water quality, hazardous materials, cultural resources, and Section 4(f) resources.

  Rankings were as follows: Low (1 point); Medium (2 points); and, High (3 points).

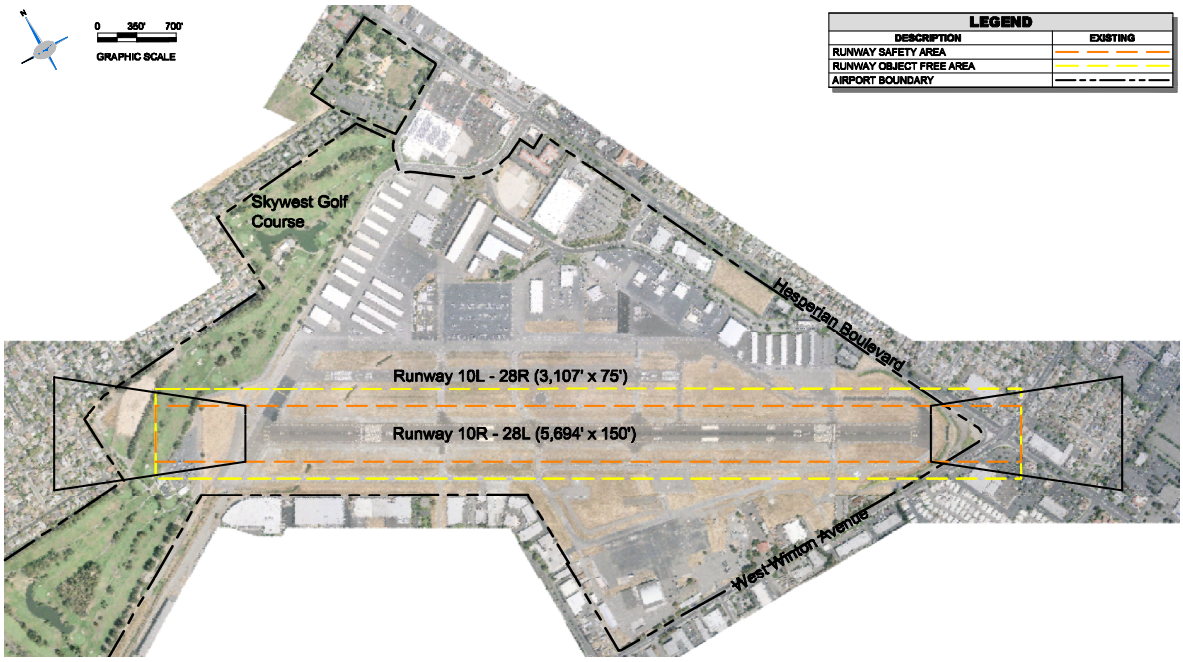
Each criterion was weighted and point values were assigned. The system was conceived so that the alternative with the lowest score represented the best alternative. The table below shows how the criteria were weighted.

Criteria	Weighting Factor
Useable Runway Length	5
FAA Design Standards	4
Threshold Siting and Approach Surfaces	3
Project Cost	2
Environmental Impact	1

Round 1

The following pages describe and evaluate the alternatives in accordance with the Round 1 evaluation criteria noted above.

Round 1 – Alternative 1



Alternative 1 takes no action to correct any deviations at the airport. Deviations of FAA design standards include non-standard runway safety area (RSA) and runway object free area (ROFA) on the primary runway (Runway 10R-28L). Only 166 feet of unobstructed RSA exist beyond the end of Runway 28L. Runway 10R RSA is on airport property but only 595 feet of RSA is available.

The ROFA for Runway 28L extends beyond the airport boundary and includes trees, Hesperian Boulevard and West Winton Avenue, and multiple residential and commercial areas. Runway 10R ROFA is on airport property but only approximately 217 feet of full, unobstructed ROFA width is provided. Obstructions include the perimeter fence, trees, a parking lot, and a portion of the Skywest Golf Course pavilion.

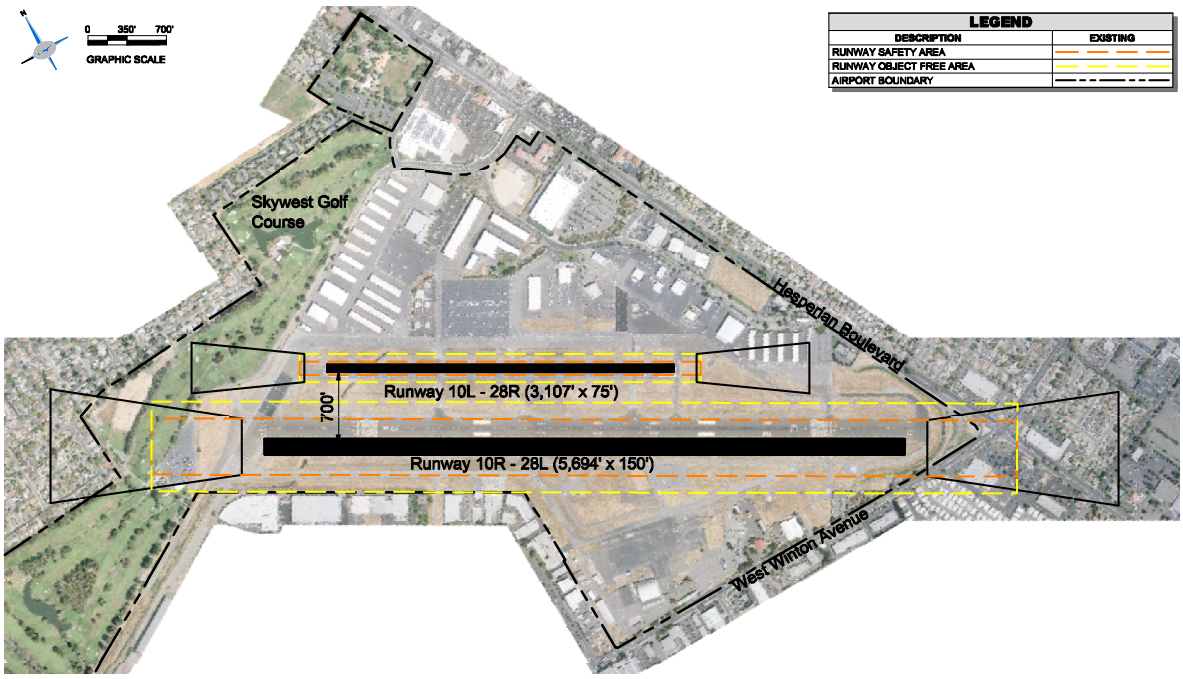
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	No

Determination

This alternative was eliminated from further consideration because it does not meet FAA design standards.

Round 1 – Alternative 2



Alternative 2 suggests reconfiguring the airfield to provide 700 feet of separation between the runways. This separation would enhance airport capacity by allowing simultaneous visual flight rules (VFR) operations. To accomplish a 700-foot separation, Runway 10L-28R (the short runway) would be moved 55 feet northeast and Runway 10R-28L (primary runway) would be moved 143 feet southwest. This concept retains the current runway bearings. Land acquisition is not proposed in this alternative.

A constraint affected by this alternative is the noise berm.

With the proposed airfield configuration, the noise berm represents a deviation from FAA design standards. Because of the noise berm, no extended RSA or ROFA is provided for Runway 28L. The noise berm would need to be removed or relocated. However, the noise berm is not the only object within the RSA and ROFA. Twelve acres of the RSA and ROFA extend beyond airport property.

The ROFA beyond Runway 10R end is slightly enhanced in this alternative. Extended full width ROFA increases from 217 feet to 595 feet. Full safety areas could be provided if approximately eight acres of the Skywest Golf Course were re-designated as aircraft operating area. The golf course clubhouse is within the ROFA.

The shift of Runway 10L-28R north has a greater impact on the Runway 28R runway protection zone (RPZ) and approach surface, since more of the East T-Hangars are included within the RPZ and the large conventional hangar would be closer to the extended runway centerline. Approximately 72 percent of the RPZ would be free of obstructions.

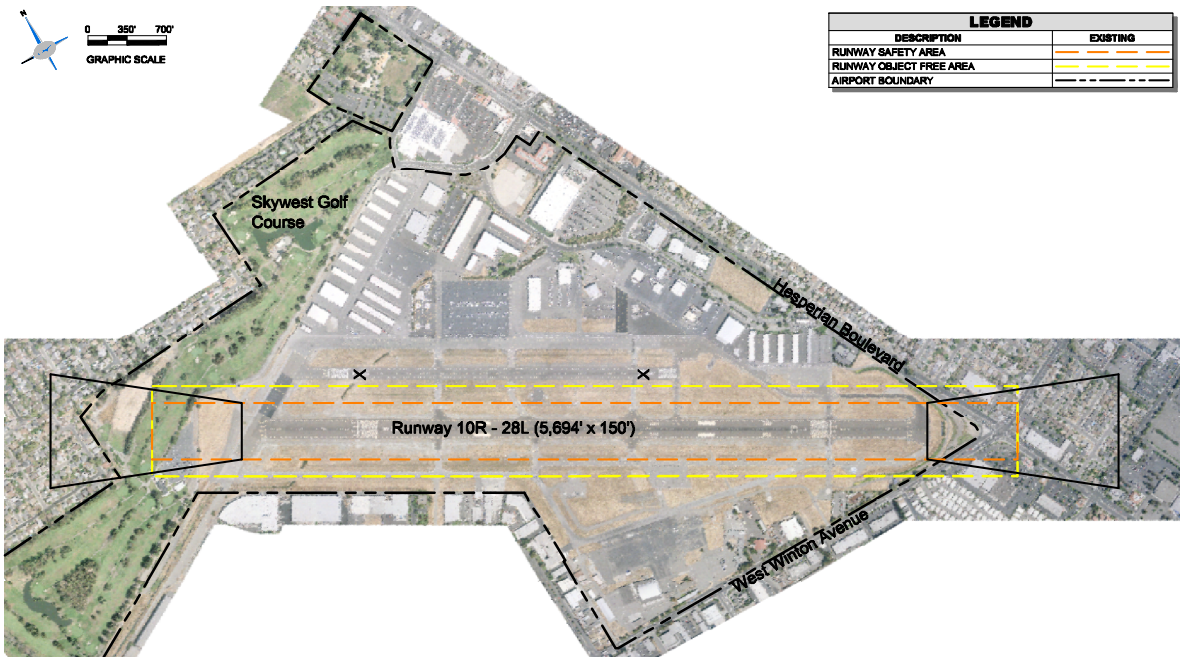
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	Yes
Meets FAA design standards	No

Determination

While this alternative enhances extended safety areas for Runway 10R, it degrades safety areas on Runway 28L. Additionally, shifting the short runway closer to the landside, could impact the location of the building restriction line, and ultimately, allowable structure heights. This alternative further reduces the clear area of Runway 28R's RPZ. This alternative was eliminated from further consideration due to impacts to defined constraints and because it does not meet FAA design standards.

Round 1 – Alternative 3



Alternative 3 closes Runway 10L-28R, reducing the capacity of the airport. This alternative does not require land acquisition, nor does it recommend impacts to defined constraints.

As with Alternative 1, current deviations from FAA design standards do not improve. Deviations of FAA design standards include non-standard RSA and ROFA on the primary runway (Runway 10R-28L). Only 166 feet of unobstructed RSA exist beyond Runway 28L. Runway 10R RSA is on airport property but only 595 feet of RSA is provided.

The ROFA for Runway 28L extends beyond the airport boundary and includes trees, Hesperian Boulevard and West Winton Avenue, and multiple residential and commercial areas. Runway 10R ROFA is on airport property but only approximately 217 feet of full, unobstructed width are provided. The obstructions include the perimeter fence, trees, a parking lot, and a portion of the Skywest Golf Course pavilion. These safety area obstructions could be mitigated by the use of declared distances.

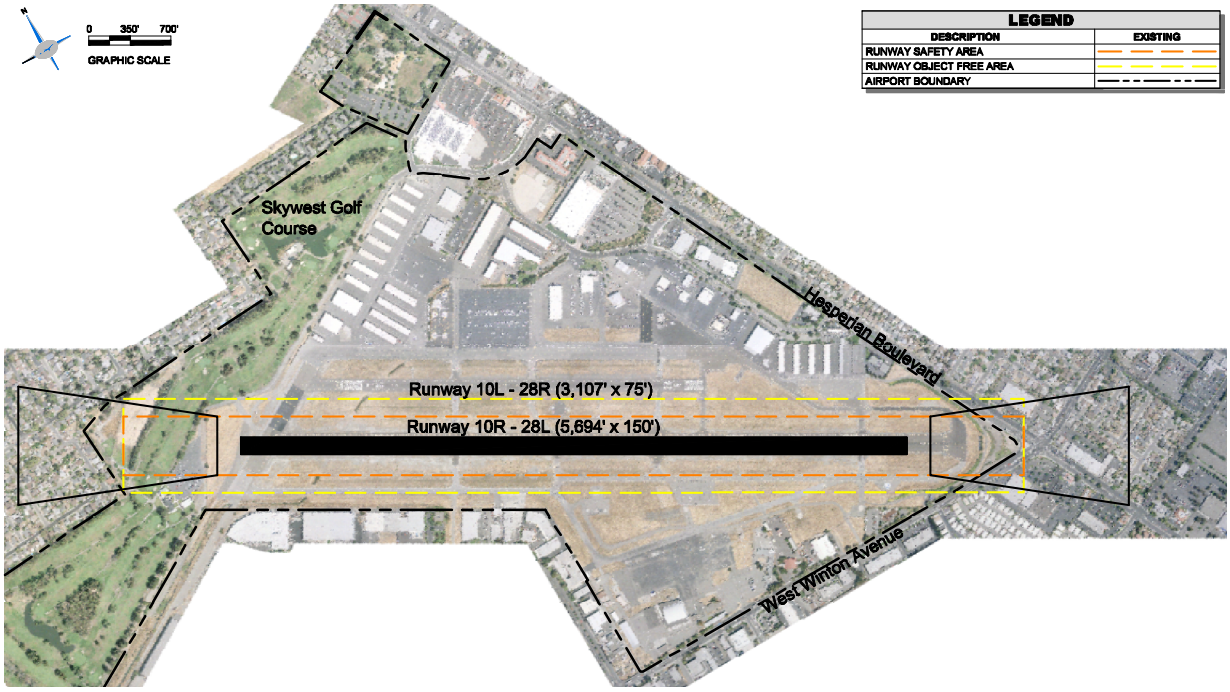
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	No

Determination

The application of declared distances to the current primary runway configuration is analyzed in Alternative 6. Since this alternative does not meet FAA design standards, and is not significantly different than other alternatives presented, it is eliminated from further consideration. However, the concept of closing the short runway could be combined with other alternatives in future evaluations

Round 1 –Alternative 4



Alternative 4 proposes translating Runway 10R-28L westerly, reclaiming Skywest Golf Course land to provide full ROFA. In this alternative, the current runway length (5,694 feet) is retained. The entire runway is translated 295 feet to the west and reclaims 15 acres of the golf course. As in the previous concepts, reclaimed golf course property will be cleared and graded to comply with FAA design standards (with exception of the pavilion, which will remain).

The RSA and ROFA on the Runway 28L end are non-standard and extend beyond airport property. Obstructions include the noise berm, roads, the perimeter fence, trees, a parking lot and buildings. Runway 28L features 437 feet of unobstructed RSA beyond the runway end and the ROFA is obstructed 150 feet along the runway sideline.

The RPZ of Runway 28L is traversed by Hesperian Boulevard, West Winton Avenue, and associated parking lots, a gas station, and commercial buildings. This alternative has no direct impacts on the local community and does not impact any of the constraints. FAA design standards could potentially be mitigated through modifications to design standards and/or the application of declared distances.

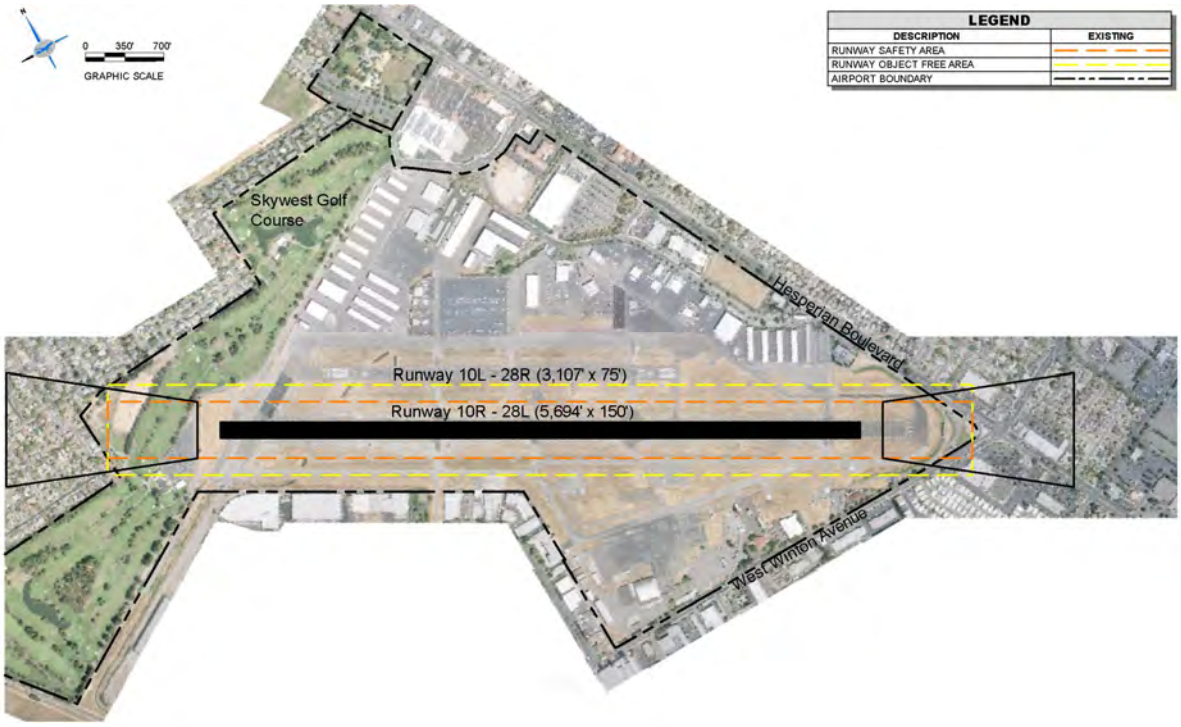
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	Yes, with modifications

Determination

This alternative met all of the Round 1 criteria and was carried forward to Round 2 for further study.

Round 1 – Alternative 5



Alternative 5 proposes translating the Runway 10R-28L westerly, reclaiming Skywest Golf Course land to provide full RSA. In this alternative, the current runway length (5,694 feet) is retained. The entire runway is translated 391 feet to the west and 15 acres of the golf course reclaimed. As in the previous concepts, reclaimed golf course property will be cleared and graded to comply with FAA design standards (with exception of the pavilion, which will remain).

The RSA and ROFA on the Runway 28L end are non-standard and extend beyond airport property. Obstructions include the noise berm, roads, the perimeter fence, trees, a parking lot and buildings. Runway 28L features 531 feet of unobstructed RSA beyond the runway end and the ROFA is obstructed 10 feet along the runway sideline.

The RPZ of Runway 28L is traversed by Hesperian Boulevard, West Winton Avenue, and associated parking lots and commercial buildings. This alternative has no direct impacts on the local community and there are no constraints that this alternative impacts. FAA design standards could potentially be mitigated through modifications to design standards and/or the application of declared distances.

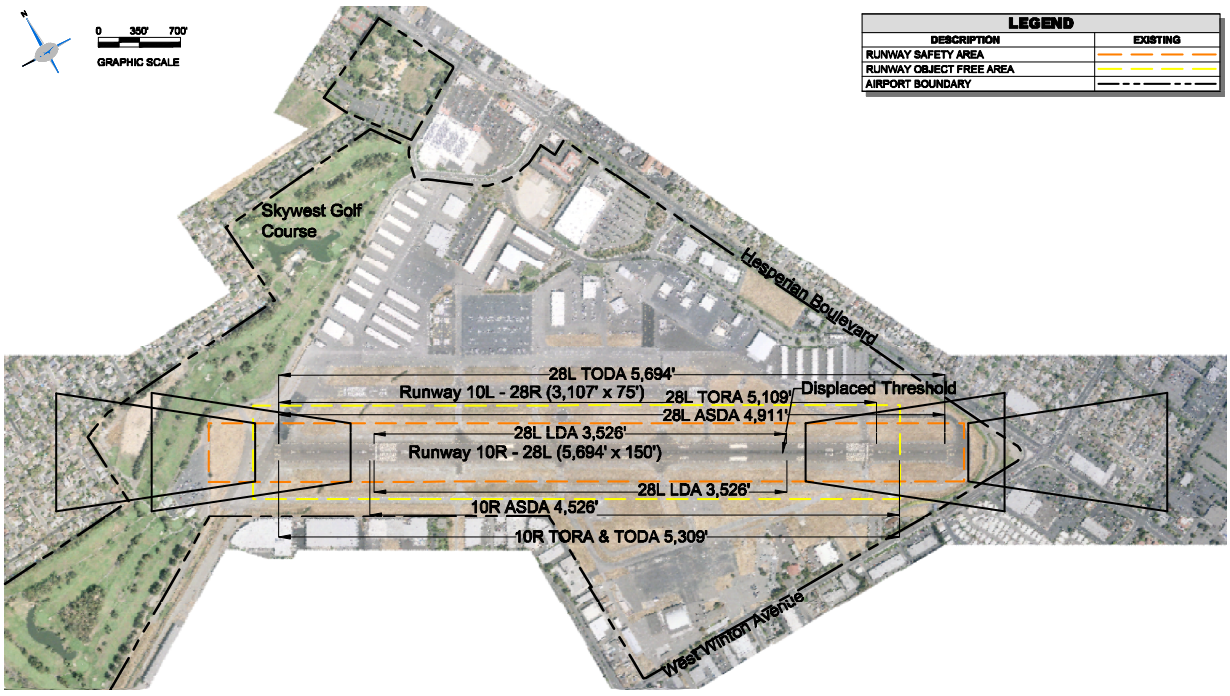
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	Yes, with modifications

Determination

This alternative met all of the Round 1 criteria and was carried forward to Round 2 for further study.

Round 1 – Alternative 6



Alternative 6 suggests using declared distances to effectively provide standard safety areas. The master plan defined declared distances for the airport assuming an ARC of B-II. With the larger ARC and associated safety areas, the declared distances previously calculated will not provide adequate safety. In order to provide full RSA and ROFA a displaced threshold of 1,385 feet is required on Runway 28L and 783 feet is required on Runway 10R. These displaced thresholds are to provide adequate RSA and ROFA prior to the landing threshold of the runway and do not account for any obstacles that may be present in the approach surfaces.

This alternative would not directly impact the community and no constraints would be impacted by the alternative. In addition, this would be an appropriate way to accommodate FAA design standard deviations.

Declared distances for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,109 feet	5,309 feet
Take off distance available (TODA)	5,694 feet	5,309 feet
Accelerate stop distance available (ASDA)	4,309 feet	4,526 feet
Landing distance available (LDA)	3,526 feet	3,526 feet

Runway protection zones (RPZs) are different for arriving and departing aircraft when using declared distances. Approach RPZs are located 200 feet from the displaced threshold of the arrival runway, whereas departure RPZs are located 200 feet from the actual runway threshold.

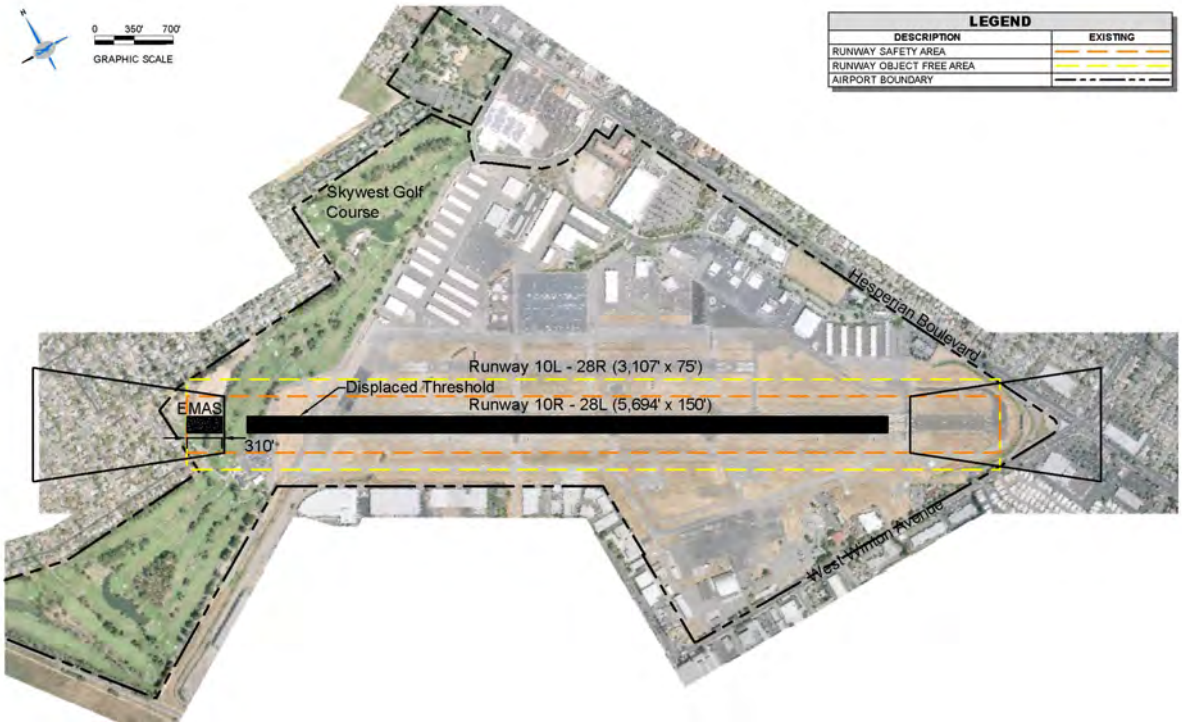
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	Yes

Determination

This alternative met all of the Round 1 criteria and was carried forward to Round 2 for further study.

Round 1 – Alternative 7



Alternative 7 suggests installing an Engineered Materials Arresting System (EMAS) on Runway 28L. EMAS is an area of crushable concrete designed to slow down aircraft overshooting the runway with minimal to no damage to the aircraft or injury to its passengers. It is built at the end of a runway that does not have full safety areas available. In the case of Hayward, it is recommended that EMAS extends 310 feet beyond the end of the runway.

In this alternative, the runway would be shifted 856 feet west to provide full RSA at Runway 28L. The current runway length would not be affected. Between Runway 10R and the 310 feet of EMAS is a 225-foot-wide paved gap. To provide required runway safety area distance (1,000 feet) a displaced threshold of 465 feet would exist at Runway 10R. The location of this displaced threshold is solely to provide RSA, and does not take into consideration any obstructions that may be present, which would require further displacement of the landing threshold. ROFA obstructions are assumed to be waived by the FAA through a modification to design standards.

In order to provide 5,694 feet of runway, the EMAS bed would extend into the Skywest Golf Course and parking lot. This alternative does not directly impact the community and there are no constraints that impact the alternative. Installing EMAS effectively limits the extension of RSA to the end of the EMAS bed.

With the installation of EMAS, declared distances are also necessary to account for full safety areas. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	5,694 feet	5,229 feet
Landing distance available (LDA)	5,229 feet	5,229 feet

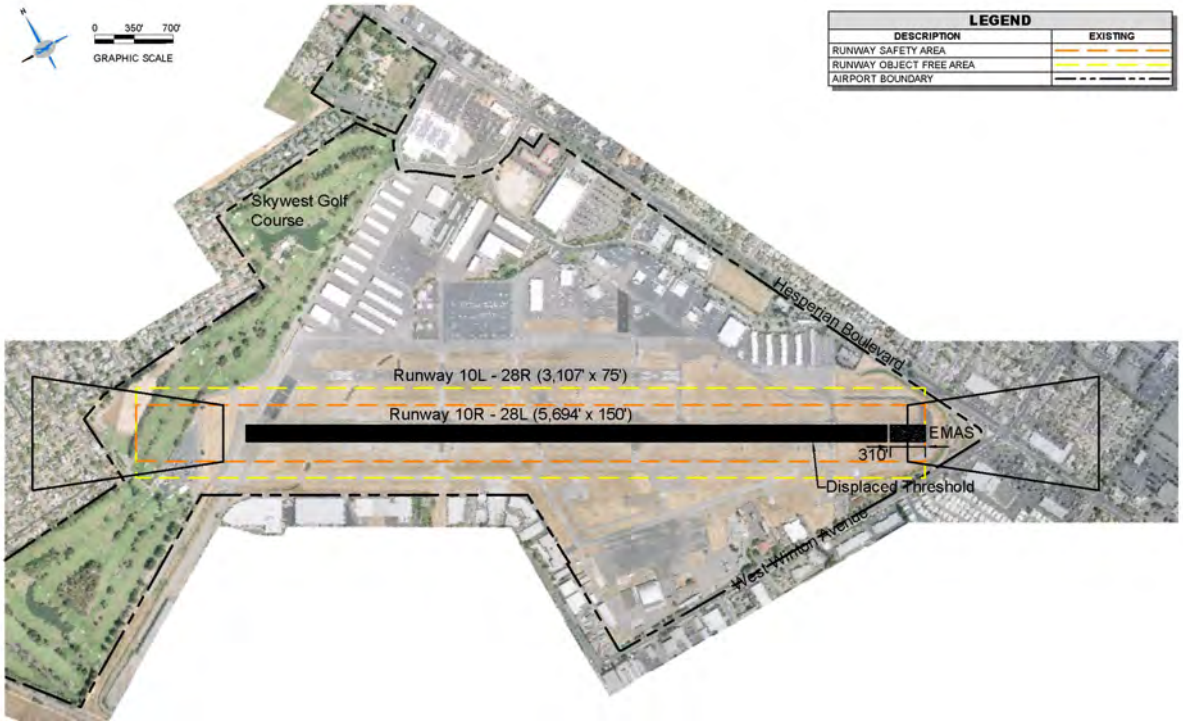
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	Yes, with modifications

Determination

This alternative met all of the Round 1 criteria and was carried forward to Round 2 for further study.

Round 1 – Alternative 8



Alternative 8 suggests installing EMAS on Runway 10R. This requires a 310-foot EMAS bed 35 feet beyond the runway end to prevent aircraft which are overshooting and would cause significant damage and injuries or fatalities. This alternative does not directly impact the community.

The runway would be translated 196 feet to accommodate full RSA (to the extent of the EMAS bed) on the Runway 28L end. Runway 28L ROFA obstructions are assumed to be acceptable through the application of a modification to FAA design standards. A displaced threshold of 655 feet would provide the adequate runway safety area at Runway 28L.

This concept also recommends reclaiming golf course land as aircraft operating area. As such, the RSA and ROFA would be cleared and graded to meet FAA design standards.

This alternative meets FAA design standards as all safety areas are on airport property.

Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	5,039 feet	5,694 feet
Landing distance available (LDA)	5,039 feet	5,039 feet

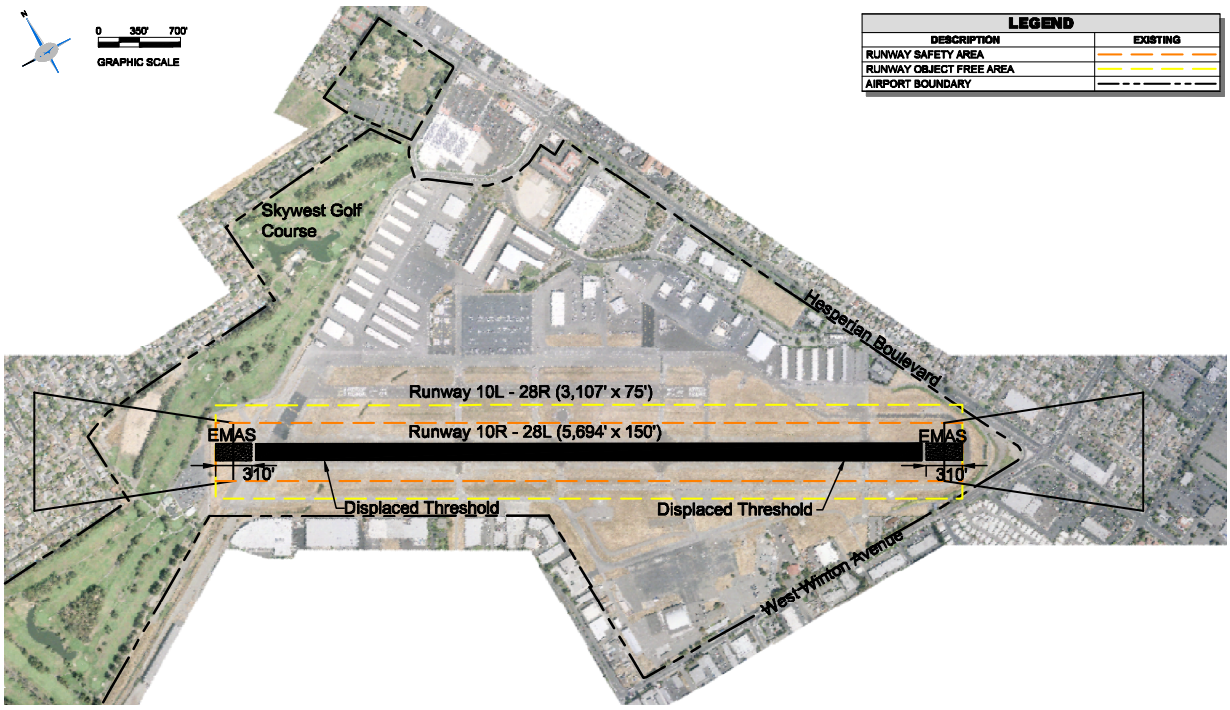
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	Yes, with modifications

Determination

This alternative met all of the Round 1 criteria and was carried forward to Round 2 for further study.

Round 1 –Alternative 9



Alternative 9 suggests installing EMAS on both ends of Runway 10R-28L. As with other EMAS alternatives, 310-feet long EMAS beds are required. This alternative seeks to provide full runway safety area (with the use of EMAS) within the current confines of the aircraft operating area.

As with Alternative 8, the runway would be translated 196 feet to provide full RSA on Runway 28L, without impacting the noise berm. In order to accommodate full RSA, displaced thresholds are required on both runway ends. The landing thresholds for Runways 28L and 10R would be displaced 655 feet. Obstructions to the ROFA are assumed to remain in place and modifications to FAA design standards applied.

This alternative would prevent any direct impacts to the community and does not impact previously defined constraints. This alternative would meet FAA design standards.

Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	5,039 feet	5,039 feet
Landing distance available (LDA)	4,384 feet	4,384 feet

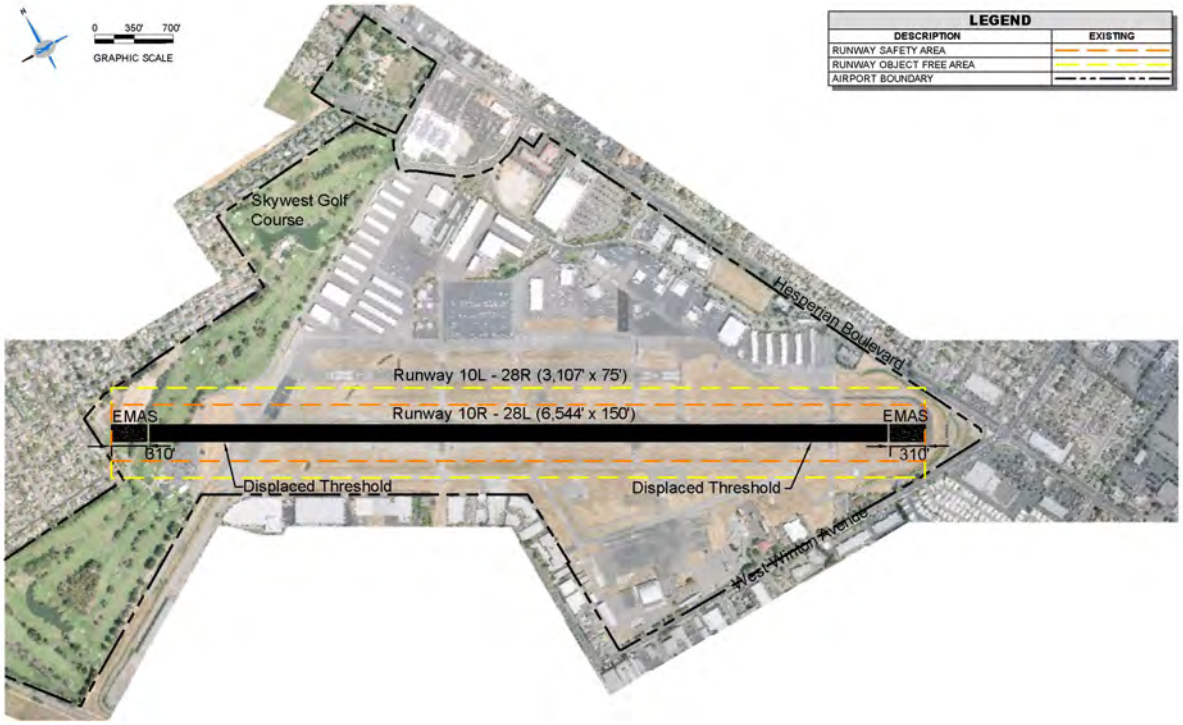
Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	Yes

Determination

This alternative met all of the Round 1 criteria and was carried forward to Round 2 for further study.

Round 1 – Alternative 10



Alternative 10 explores maximizing the amount of runway length provided to better accommodate the design aircraft. This alternative is effectively a blend of Alternatives 7 and 8 and provides a 6,544-foot-long runway. A 310-foot-long EMAS bed is provided on both ends of Runway 10R-28L. This alternative essentially shows the ultimate runway length achievable at Hayward Executive Airport.

Runway 28L is shortened by 196 feet to provide full RSA without impacting the noise berm. Runway 10R is extended by 1,056 feet. In order to accommodate full RSA displaced thresholds are required on both runway ends. The landing thresholds for Runways 28L and 10R would be displaced 655 feet. Obstructions to the 10R ROFA are assumed to be removed.

This alternative would prevent any direct impacts to the community and does not impact previously defined constraints. This alternative would meet FAA design standards.

Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	6,544 feet	6,544 feet
Take off distance available (TODA)	6,544 feet	6,544 feet
Accelerate stop distance available (ASDA)	5,889 feet	5,889 feet
Landing distance available (LDA)	5,234 feet	5,234 feet

Round 1 Analysis

Direct community impacts	No direct impact
Impacts defined constraints	No
Meets FAA design standards	Yes

Determination

This alternative met all of the Round 1 criteria and was carried forward to Round 2 for further study.

Conclusion of Round 1

Of the 10 concepts evaluated in Round 1, seven were carried forward for further evaluation. The matrix below shows the results of the Round 1 evaluation.

Criteria	Alternative									
	1	2	3	4	5	6	7	8	9	10
Direct Community Impact	●	●	●	●	●	●	●	●	●	●
Impacts Defined Constraints	●	○	●	●	●	●	●	●	●	●
Meets FAA Design Standards	○	○	○	●	●	●	●	●	●	●
Advanced to Round 2	○	○	○	●	●	●	●	●	●	●

Does not meet criteria ○
Meets criteria ●

Round 2

Alternatives advanced to Round 2 were further analyzed and refined. Refinements included the addition of taxiways. Displaced thresholds were located for all alternatives and were located with respect to controlling obstacles and/or to provide the required runway safety area prior to the approach threshold. From this analysis, declared distances were refined and usable runway lengths were noted.

As was previously noted, the recommended alternative shall not further limit the operational capabilities of the runway. The runway currently features the following operational characteristics:

Effective Landing Length	**Distance (feet)**
Runway 10R	3,878
Runway 28L	4,235
Effective Takeoff Length	
Runway 10R	4,694
Runway 28L	4,911

Effective landing length assumes a total runway length with an aircraft landing on the existing displaced thresholds and full runway object free area is provided from the end of the landing distance to the closest obstacle. In other words, for Runway 28L the landing length was calculated as follows—physical runway length (5,694 feet), minus the displaced threshold (676 feet), minus the additional object free area needed off Runway 10R (1,000 feet are required, 217 feet are provided resulting in an additional 783 feet of ROFA needed). Similar adjustments were made to the effective takeoff length.

In order to properly analyze the displaced threshold location and approach surfaces, obstacle data from the March 2005 Lateral Precision Performance with Vertical Guidance (LPV) Survey conducted by the National Geodetic Survey (NGS) was used. Obstacle data was compared with information from an aerial survey completed in August 2008 and field observed February 2009. Table 6-1 depicts the various close-in obstacles for each runway end. The locations of these obstacles are shown in Figures 6-3 and 6-4.

Table 6-1
CLOSE IN OBSTRUCTIONS AT HAYWARD EXECUTIVE AIRPORT

Runway 10		
Description	**Object Number**	**Top Elevation (MSL)**
Antenna on ATCT	-	114
Localizer	-	35
Obstruction light on DME	-	47
Service road	-	44
Building	41	73
Tree	1	83
Tree	2	81
Tree	3	125
Tree	4	51
Tree	5	81
Tree	6	75
Tree	7	73
Tree	8	77
Tree	9	73
Tree	10	90
Tree	11	94
Tree	12	100
Tree	13	97
Tree	14	81
Tree	15	107
Tree	16	102
Tree	17	91
Tree	18	102
Tree	19	102
Tree	20	83
Tree	21	88
Tree	22	85

Runway 28		
Description	**Object Number**	**Top Elevation (MSL)**
Antenna on building	-	149
Blast fence	-	64
Ground	-	52
Building	42	78
Light pole	43	91
Light pole	44	81
Light pole	45	88
Tree	23	107
Tree	24	103
Tree	25	100
Tree	26	122
Tree	27	107
Tree	28	99
Tree	29	118
Tree	30	103
Tree	31	98
Tree	32	99
Tree	33	108
Tree	34	109
Tree	35	132
Tree	36	96
Tree	37	103
Tree	38	119
Tree	39	114
Tree	40	103

Source: NGS UDDF file HWD_06D.LPV

Displaced thresholds were located in this analysis using criteria found in FAA Advisory Circular 150/5300-13, Airport Design. The applicable threshold siting surface for Hayward begins 200 feet from the threshold, is trapezoidal in shape with an inner width of 800 feet, an outer width of 3,800 feet and a length of 10,000 feet. If an object penetrated the threshold siting surface, one or more of the following actions was required: 1) the object was removed or lowered to preclude the penetration; 2) the threshold was displaced to preclude the object penetration; 3) visibility minimums were raised; 4) night operations were prohibited; or 5) the threshold crossing height was raised (applicable if there are vertically guided approaches). For the purpose of this analysis, objects were assumed to be removed only if they were on airport or City property. It is assumed that trees which penetrate the threshold siting surface will be trimmed or removed. Off-airport buildings are assumed to remain in place.

While displaced thresholds typically are used to provide obstacle clearance to the landing threshold, they can also be used to provide necessary safety areas (RSA or ROFA) on approach. This is done through the application of declared distances. Therefore, displaced threshold may be required to provide full RSA or ROFA for landings on the runway and need not be tied to obstacles in the vicinity of the airport.

Rough order of magnitude costs were developed for the alternatives. Costs were limited to costs necessary to add necessary runway pavement, add connecting taxiways, clearing of golf course trees when the golf course is within the ROFA or clearing and grading of the golf course (depending upon the alternative), EMAS installation costs (if called for in the alternative), ancillary grading, drainage, and associated airfield lighting.

The following pages evaluate the alternatives in accordance with the Round 2 evaluation criteria.

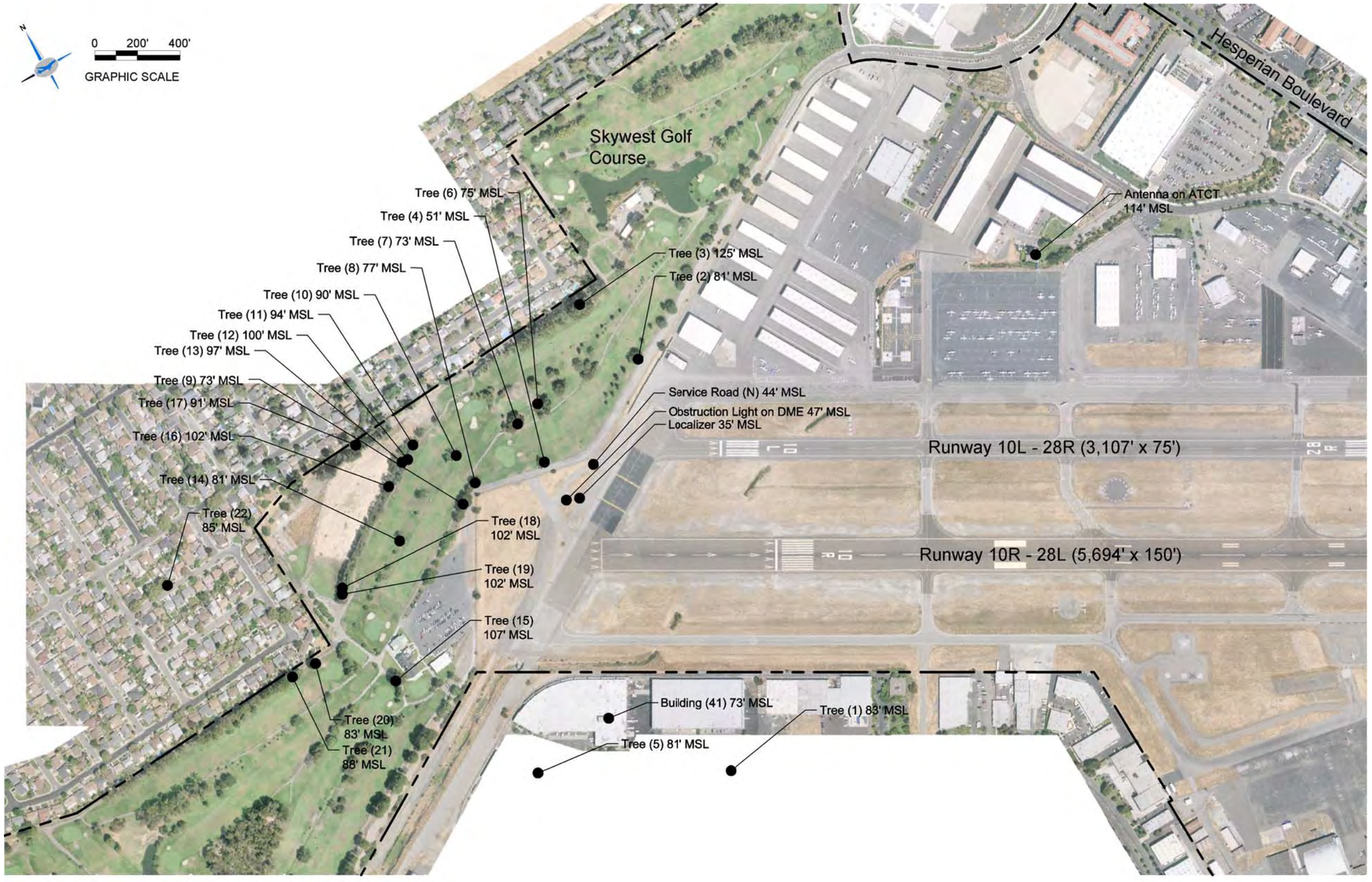


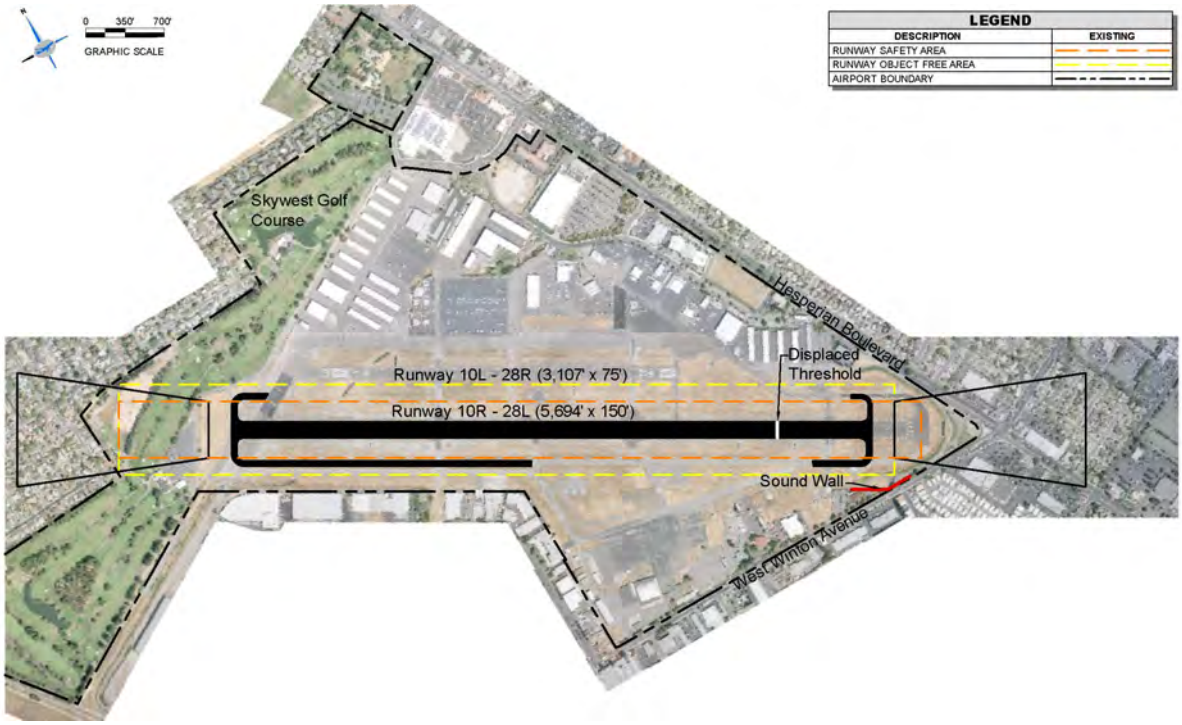
Figure 6-3
Obstacles Near Runway 10

Source: NGS UDDF file HWD 06D.LPV

Figure 6-4
Obstacles Near Runway 28

Source: NGS UDDF file HWD 06D.LPV

Round 2 – Alternative 4



This alternative translates Runway 10R-28L 295 feet to the northwest. With this translation, the extended ROFA reaches the airport property line. The ROFA includes approximately 15 acres of golf course property. Several trees are included within this area. Other airports have golf courses located within the RSA and ROFA and all trees should be removed within the safety areas. Low shrubs that would not cause extensive damage to aircraft can be planted in lieu of trees. Additionally, screens with frangible poles can be erected to catch errant golf balls. The Skywest Golf Course parking lot is included within the RSA and ROFA. The parking lot should be relocated outside of the RSA and ROFA. A potential parking location is adjacent to Sulphur Creek, on the existing pavement adjacent to the industrial park. Golf cart/pedestrian access would require a bridge over Sulphur Creek.

This alternative provides 437 feet of full width RSA off Runway 28L. The RSA is limited by a noise berm, Hesperian Boulevard, and West Winton Avenue. Approximately 593 feet of RSA is provided along the extended runway centerline. Standard runway safety area includes 500,000 square feet of cleared and graded land. Alternative 4 provides 272,578 square feet (approximately 55 percent) of RSA. This reduced RSA represents a deviation from FAA design standards, and is too significant for the FAA to grant a modification or waiver.

Full width ROFA is not provided beyond the end of Runway 28L. The noise berm protrudes into the ROFA along side of the runway. The noise berm should be moved further from the runway. Assuming the noise berm is moved, approximately 200 feet of full width ROFA would be available. FAA design standards include 800,000 square feet of ROFA. Alternative 4 provides 368,565 square feet (roughly 46 percent) of ROFA. An alternative method to provide ROFA is through the application of declared distances. This option will be further discussed below.

The Skywest Golf Course pavilion is partially within the Runway 10R ROFA and will be unaffected. It is assumed that the parking lot will be relocated outside of the ROFA. Approximately 99.9 percent (798,863 square feet) of extended ROFA is provided. This alternative represents an acceptable level of safety and could qualify for a modification to FAA design standards.

As was previously noted, NGS data was used to conduct an analysis of the displaced threshold location. Runway 10R currently has a significant displaced threshold due to close-in trees; trees that are associated with the Skywest Golf Course. In this alternative it is assumed that the runway is translated and all close-in trees that are within the ROFA are removed. Also, any trees that are on airport property and would penetrate the threshold siting surface are assumed to be trimmed or removed. With these assumptions, it was determined that no displaced threshold would be required for Runway 10R. An 800-foot displaced threshold is required on Runway 28L to provide full ROFA for aircraft landing on the runway.

Declared distances were applied to this alternative to provide full RSA beyond the end of Runway 28L. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	4,894 feet	5,694 feet
Landing distance available (LDA)	4,894 feet	4,894 feet

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	**Distance (feet)**
Runway 10R	4,894
Runway 28L	4,894
Effective Takeoff Length	
Runway 10R	5,694
Runway 28L	5,694

Landing distances for Runway 28L are increased from existing conditions.

The rough order of magnitude cost for this alternative is $8.2 million because of the realignment of Taxiway Z and other modifications to the airfield, such as translating the runway.

Translating Runway 10R-28L 295 feet to the northwest would move the 65 CNEL contour further into the San Lorenzo residential area northwest of the airport resulting in long-term noise impacts to that community. Noise impacts to the nearby Section 4(f) properties (Skywest Golf Course, Del Rey School, Del Rey Community Center and Park, and San Lorenzo Park) would need to be determined. The translation of the runway to the northwest would also create new impervious surfaces. The impacts to storm water runoff from these new impervious surfaces would need to be determined and a National Pollution Discharge Elimination System (NPDES) permit would be required. Hayward Executive Airport is within a designated “moderate” sensitivity zone for archaeological resources, and although no resources have been recorded or identified in the immediate area of the airport, the potential exists for discovery of archaeological resources during construction and earth movement. Mature trees that would be removed or topped under this alternative would need to be surveyed to determine if sensitive species of bats use the trees for their roosts, and if found to be true, suitable mitigation would need to be provided.

This alternative would also result in short-term construction-related impacts such as displacement of sensitive species and their habitat, noise, air quality, and runoff into Sulphur Creek, as well as impacts to wetlands.

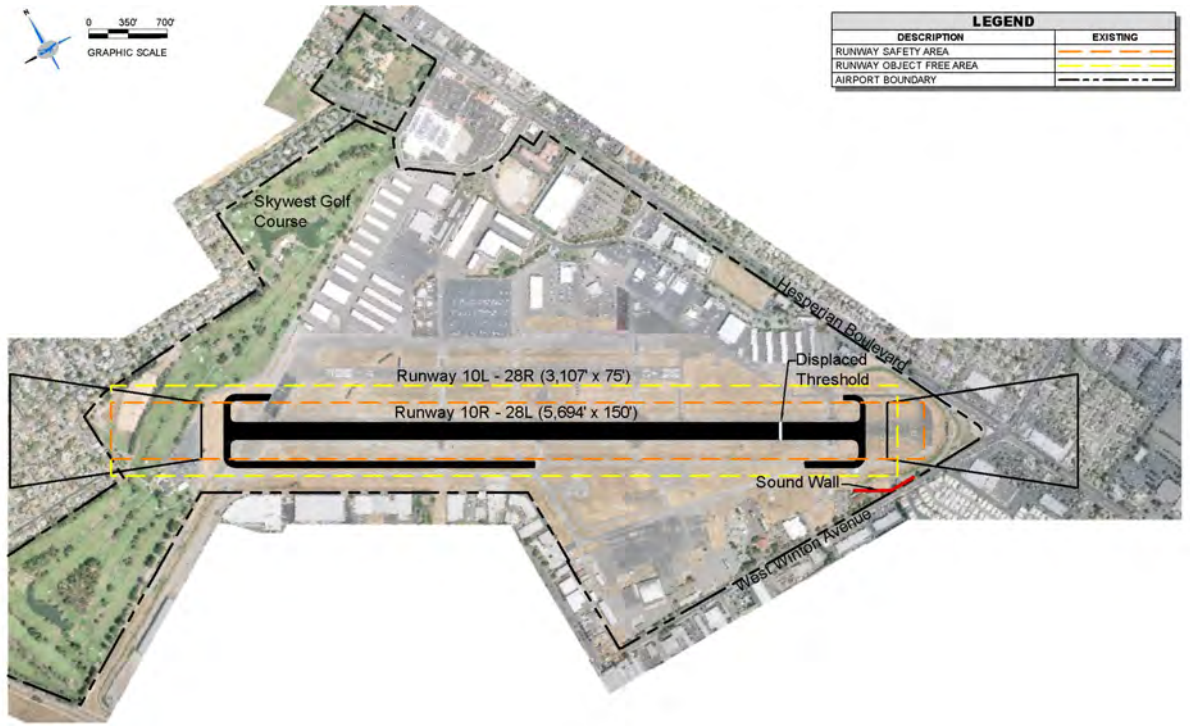
Round 2 Analysis

Criterion	Rank	Points
Usable Runway Length	Increases	1
FAA Design Standards	Yes, with declared distances	2
Threshold Siting and Approach Surfaces	Decreases	1
Project Cost	Low - $8.2 million	1
Environmental Impact	Medium—Noise impacts to surrounding residences	2

Summary

This alternative represents the best of most worlds, in that it provides greater usable runway length, meets FAA design standards, penetrations to the approach and threshold siting surfaces decrease and the alternative has a comparatively low project cost. Environmental impacts in this alternative are not as drastic as in others.

Round 2 – Alternative 5



Alternative 5 is very similar to Alternative 4, but rather than accommodating full ROFA beyond Runway 10R within the property limits, full RSA is provided. In this alternative the runway is translated 391 feet. The golf course can remain at its present location, but the trees would need to be removed and the parking lot relocated. Low bushes or shrubs could be used in lieu of trees on the golf course and frangible screens can be erected.

Approximately 531 feet of full width RSA is available beyond the end of Runway 28L. There are 689 feet of RSA along the extended runway centerline. Alternative 5 provides 320,201 square feet (roughly 64 percent) of RSA. The RSA is constrained by the noise berm and Hesperian Boulevard and West Winton Avenue. Application of declared distances to meet RSA is discussed below.

Full width ROFA is not provided off either runway end as the ROFA extends beyond the airport property line. Runway 10R ROFA is limited by the golf course perimeter fence, adjacent to the San Lorenzo neighborhood. Additionally, the golf course pavilion is partially located within the ROFA and the parking lot will be moved outside the ROFA. Approximately 798,481 square feet (99.8 percent) of ROFA is provided off Runway 10R. This provision is an acceptable level of safety and could qualify for a modification for FAA design standards.

While this alternative provides slightly more ROFA on the 28L Runway end, it still does not meet FAA design standards. Currently, the noise berm is too close to the runway, and limits the ROFA. Assuming the noise berm is relocated outside the lateral ROFA limits, approximately 295 feet of full width ROFA could be provided. This represents 444,447 square feet (roughly 56 percent) of ROFA.

Similar to Alternative 4, there are no obstructions that will remain within the threshold siting surface for Runway 10R; and therefore, no displaced threshold is required. A 705-foot displaced threshold is necessary to provide full ROFA for aircraft landing on Runway 28L.

Declared distances were applied to this alternative to provide full RSA and ROFA beyond the end of Runway 28L. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	Runway 28L
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	4,989 feet	5,694 feet
Landing distance available (LDA)	4,989 feet	4,989 feet

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	**Distance (feet)**
Runway 10R	4,989
Runway 28L	4,989
Effective Takeoff Length	
Runway 10R	5,694
Runway 28L	5,694

Landing distances for Runway 28L are increased from existing conditions.

The rough order of magnitude cost for this alternative is similar to Alternative 4 and totals approximately $8.5 million. Major drivers of costs for this alternative are modifications to the runway and Taxiway Z realignment.

The environmental issues for Alternative 5 are the same as for Alternative 4. Translating Runway 10R-28L 391 feet to the northwest would move the 65 CNEL contour further into the San Lorenzo residential area northwest of the airport resulting in long-term noise impacts to that community. Noise impacts to the nearby Section 4(f) properties (Skywest Golf Course, Del Rey School, Del Rey Community Center and Park, and San Lorenzo Park) would need to be determined. The translation of the runway to the northwest would also create new impervious surfaces. The impacts to storm water runoff from these new impervious surfaces would need to be determined and a National Pollution Discharge Elimination System (NPDES) permit would be required. Hayward Executive Airport is within a designated “moderate” sensitivity zone for archaeological resources, and although no resources have been recorded or identified in the immediate area of the airport, the potential exists for discovery of archaeological resources during construction and earth movement. Mature trees that would be removed or topped under this alternative would need to be surveyed to determine if sensitive species of bats use the trees for their roosts, and if found to be true, suitable mitigation would need to be provided.

This alternative would also result in short-term construction-related impacts such as displacement of sensitive species and their habitat, noise, air quality, and runoff into Sulphur Creek, as well as impacts to wetlands.

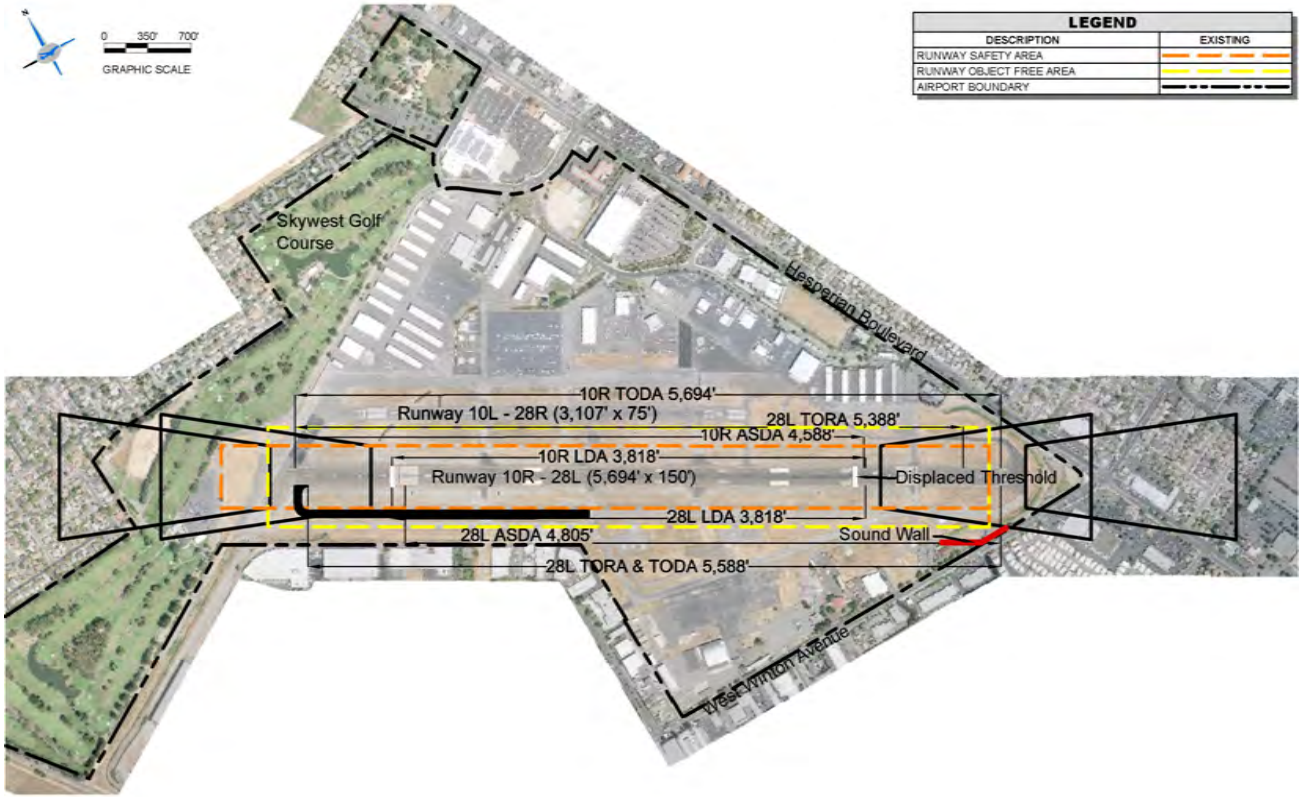
Round 2 Analysis

Criterion	**Rank**	**Points**
Usable Runway Length	Increases	1
FAA Design Standards	Yes, with declared distances and modifications to design standards	4
Threshold Siting and Approach Surfaces	Decreases	1
Project Cost	Low - $8.5 million	1
Environmental Impact	Medium—Noise impacts to surrounding residences	2

Summary

While this alternative is similar in concept to Alternative 4, it requires declared distances and modifications to FAA design standards, forcing a lower ranking.

Round 2 – Alternative 6



This alternative applies declared distances to the current airfield configuration. The result of this is that no new taxiways are required. This alternative also does not propose to level all the trees within the ROFA limits, as the ROFA is effectively limited through the application of declared distances.

Declared distances noted in Round 1 were limited by the noise berm that protrudes into the ROFA. In order to maximize use of the runway, Round 2 assumes that the noise berm parallel with the runway is relocated outside of the lateral ROFA limits, to the extent that it is practical. This provides 279 feet of additional full width ROFA. Due to the existing pump house located near West Winton Avenue, and West Winton Avenue itself, there is insufficient room to provide full width ROFA beyond the end of Runway 28L. Based upon this modification, the declared distances for this alternative are as follows:

Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,388 feet	5,588 feet
Take off distance available (TODA)	5,694 feet	5,588 feet
Accelerate stop distance available (ASDA)	4,588 feet	4,805 feet
Landing distance available (LDA)	3,818 feet	3,818 feet

The application of declared distances in this alternative requires a displaced threshold on Runway 10R of 783 feet. Runway 28L requires a 1,093-foot long displaced threshold to provide safety areas. These are more than what is required for obstacle clearances and were included in the declared distance calculations noted above.

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	Distance (feet)
Runway 10R	3,818
Runway 28L	3,818
Effective Takeoff Length	
Runway 10R	4,588
Runway 28L	4,805

Landing and takeoff distances for both runways are negatively impacted from existing conditions. This impact is due to the larger displaced thresholds needed to provide necessary RSA and ROFA, which are not currently reflected.

The rough order of magnitude cost for this alternative is very low due to the fact that physical improvements to the airfield are limited to the realignment of Taxiway Z. The rough order of magnitude cost for this alternative is $5.8 million.

This alternative would not create any new long-term environmental impacts. Relocating the noise berm would result in short-term construction related impacts to air quality, noise, and storm water runoff.

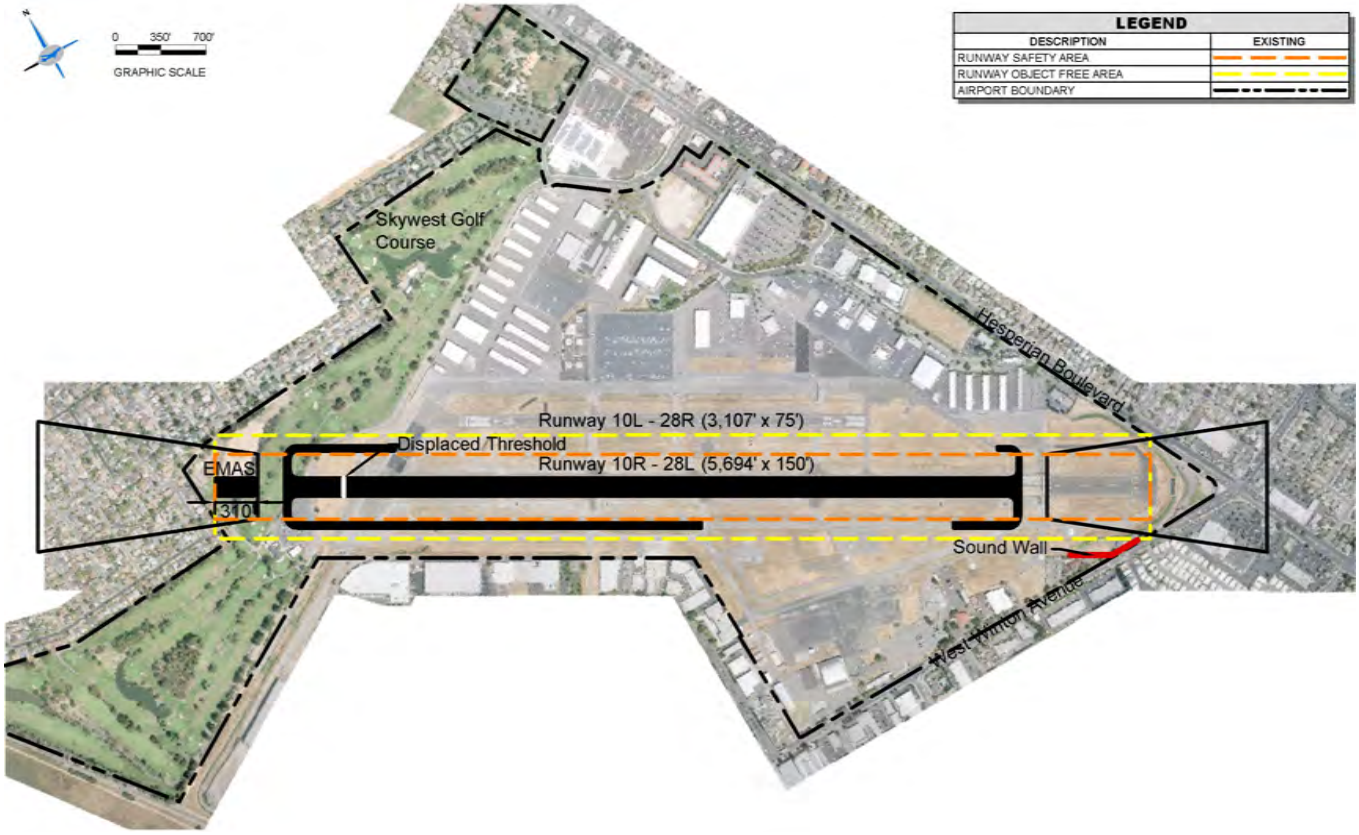
Round 2 Analysis

Criterion	Rank	Points
Usable Runway Length	Decreases	3
FAA Design Standards	Yes, with declared distances	2
Threshold Siting and Approach Surfaces	Increases	3
Project Cost	Low - $6.9 million	1
Environmental Impact	Low	1

Summary

While this alternative has very low project costs it severely impacts the operational capabilities of the airport. Runway lengths are constrained to the point that the design aircraft would be precluded from operating at the airport, making this alternative impracticable.

Round 2 – Alternative 7



The installation of EMAS (Engineering Materials Arresting System) on Runway 28L is the main discriminator of Alternative 7. The runway is translated 856 feet to provide full RSA beyond the end of Runway 28L and an overall runway length of 5,694 feet was retained. The configuration of the EMAS bed and available safety was initially conceptualized to maximize the amount of normal (non-EMAS) safety area beyond the end of Runway 10R.

With the translation of the runway, approximately 11 acres of the golf course would be lost and converted to airport use. Holes 10 and 18 and the driving range are within the translated runway and EMAS bed areas. Unlike the previous alternatives, this area would not be compatible as a golf course because aircraft would be much too close to the golf course during normal operations. Therefore, the Skywest Golf Course would require modification from its current layout, either by removing holes 10 and 18, or modifying the course to maintain 18 holes but less total yardage. A golf cart path can be routed around the end of the RSA, but would be included within the ROFA. The green for hole 17 is too close to the proposed taxiway and would need to be moved. Additionally, the Skywest Golf Course parking lot would need to be relocated to accommodate the translated runway and associated taxiways. As previously described, an alternative parking lot may be the paved area adjacent to Sulphur Creek and the industrial park. A bridge would be required to provide golf cart/pedestrian access.

Full ROFA is not provided at either runway end. On Runway 10R the ROFA includes a portion of the golf course pavilion and would be traversed by the golf cart path connecting the club house to the back nine holes. Approximately 791,443 square feet (99 percent) of ROFA are provided. The noise berm penetrates the ROFA beyond Runway 28L. As with other alternatives, a portion the noise berm will need to be relocated to provide adequate lateral ROFA limits. Assuming this project occurs, the corners of the ROFA still are traversed by the noise berm and there is insufficient room to relocate the noise berm outside of the ROFA. Approximately 96 percent, or

764,496 square feet of ROFA are provided. Acceptable levels of safety would be present at both runway ends and the non-standard ROFA could qualify for a modification to FAA design standards.

Since EMAS is included within this alternative, declared distances are necessary. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	5,694 feet	5,229 feet
Landing distance available (LDA)	5,229 feet	5,229 feet

The application of declared distances in this alternative requires a 465-foot displaced threshold on Runway 10R to provide full safety areas including the EMAS bed. On Runway 28L, two trees (Tree 28 and 30, see Figure 6-4) penetrate the threshold siting surface. Tree 28 penetrates the surface by approximately 10 feet and Tree 30 by about 2 feet. To prevent displacement of the landing threshold on Runway 28L, these trees should be trimmed or removed. This analysis assumes that the trees were trimmed, and therefore, no displaced threshold is required.

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	**Distance (feet)**
Runway 10R	5,229
Runway 28L	5,229
Effective Takeoff Length	
Runway 10R	5,694
Runway 28L	5,229

Landing and takeoff distances for both runways are increased from existing conditions. This is due to the translation of the runway to provide full RSA on Runway 28L and the installation of EMAS.

The rough order of magnitude costs for this alternative are higher than previous alternatives because of the EMAS bed installation and airfield modifications. Costs to implement this alternative are approximately $17.5 million.

Skywest Golf Course, owned by the City of Hayward, qualifies as a Section 4(f) property under the U.S. Department of Transportation regulations. Converting 11 acres of the golf course to airport use is a significant impact under the Section 4(f) regulation unless the City of Hayward determines that there is no significant impact to the public.

Translating Runway 10R-28L 856 feet to the northwest would move the 65 CNEL contour further into the San Lorenzo residential area northwest of the airport resulting in long-term noise impacts to that community. Noise impacts to the nearby Section 4(f) properties (Skywest Golf Course, Del Rey School, Del Rey Community Center and Park, and San Lorenzo Park) would need to be determined. The translation of the runway to the northwest would also create new impervious surfaces. The EMAS area would convert a pervious surface to a semi-pervious surface. The impacts to storm water runoff from these new impervious and semi-pervious surfaces would need to be determined and a National Pollution Discharge Elimination System (NPDES) permit would be required. Hayward Executive Airport is within a designated “moderate” sensitivity zone for archaeological resources, and although no resources have been recorded or identified in the immediate area of the airport, the potential exists for discovery of archaeological resources during construction and earth movement. Mature trees that would be removed or topped under this

alternative would need to be surveyed to determine if sensitive species of bats use the trees for their roosts, and if found to be true, suitable mitigation would need to be provided.

This alternative would also result in short-term construction-related impacts such as displacement of sensitive species and their habitat, noise, air quality, and runoff into Sulphur Creek, as well as impacts to wetlands.

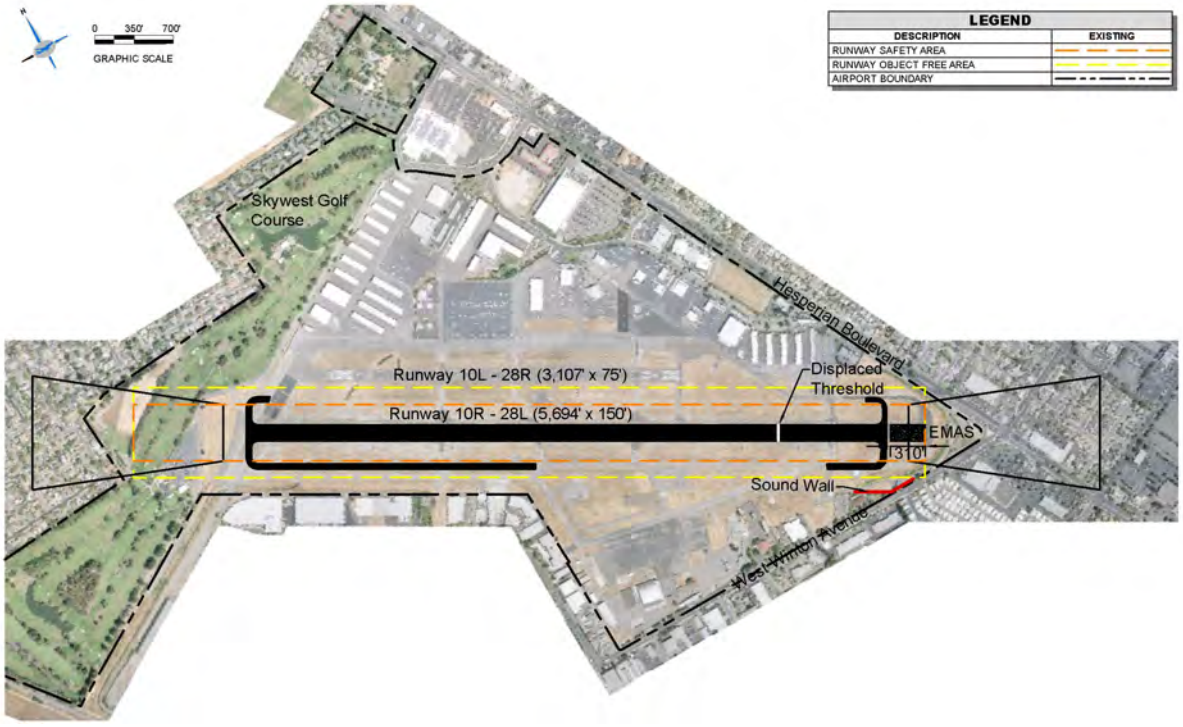
Round 2 Analysis

Criterion	Rank	Points
Usable Runway Length	Increases	1
FAA Design Standards	Yes, with declared distances and modifications to design standards	4
Threshold Siting and Approach Surfaces	Decreases	1
Project Cost	Medium – $17.5 million	2
Environmental Impact	High—Significant noise impacts to surrounding residences; potential Section 4(f) impact.	3

Summary

While there is a potential to modify this alternative and bring the EMAS bed closer to the runway, it would not significantly change the ranking of the alternative. Installation of EMAS is cost prohibitive with the EMAS bed costing approximately $5.5 million.

Round 2 – Alternative 8



In Alternative 8 EMAS is assumed for Runway 10R. The runway is translated 196 feet to accommodate the EMAS bed and required distance from the runway end. The golf course can remain at its present location, but the trees would need to be removed and the parking lot relocated. Low bushes or shrubs could be used in lieu of trees on the golf course and frangible screens can be erected.

Full RSA is provided on both runway ends. Full ROFA is provided beyond Runway 10R. As with other alternatives, the noise berm protrudes into the lateral extent of the ROFA near the end of Runway 28L. The noise berm should be relocated outside of the lateral ROFA limits. Assuming the noise berm is relocated, approximately 761,473 square feet (95 percent) of ROFA is available. This would represent an acceptable level of safety and could qualify for a modification to FAA design standards.

Since EMAS is included within this alternative, declared distances are necessary. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	5,039 feet	5,694 feet
Landing distance available (LDA)	5,039 feet	5,039 feet

With the installation of EMAS, a 655-foot displaced threshold is required. Trees 30 and 35 penetrate the threshold siting surface by approximately 6 and 4 feet, respectively. It is assumed that these two trees are trimmed or removed. No displaced threshold is required on Runway 10R.

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	**Distance (feet)**
Runway 10R	5,039
Runway 28L	5,039
Effective Takeoff Length	
Runway 10R	5,039
Runway 28L	5,694

Landing and takeoff distances for both runways are increased from existing conditions. This is due to the translation of the runway and installation of EMAS.

The rough order of magnitude cost for this alternative is $14.6 million, largely because of the EMAS bed. However, costs in this alternative are slightly lower than Alternative 7 because less modification to the airfield is required.

Translating Runway 10R-28L 196 feet to the northwest would move the 65 CNEL contour further into the San Lorenzo residential area northwest of the airport resulting in long-term noise impacts to that community. Noise impacts to the nearby Section 4(f) properties (Skywest Golf Course, Del Rey School, Del Rey Community Center and Park, and San Lorenzo Park) would need to be determined. The translation of the runway to the northwest would also create new impervious surfaces. The impacts to storm water runoff from these new impervious surfaces would need to be determined and a National Pollution Discharge Elimination System (NPDES) permit would be required. Hayward Executive Airport is within a designated "moderate" sensitivity zone for archaeological resources, and although no resources have been recorded or identified in the immediate area of the airport, the potential exists for discovery of archaeological resources during construction and earth movement. Mature trees that would be removed or topped under this alternative would need to be surveyed to determine if sensitive species of bats use the trees for their roosts, and if found to be true, suitable mitigation would need to be provided.

This alternative would also result in short-term construction-related impacts such as displacement of sensitive species and their habitat, noise, air quality, and runoff into Sulphur Creek, as well as impacts to wetlands.

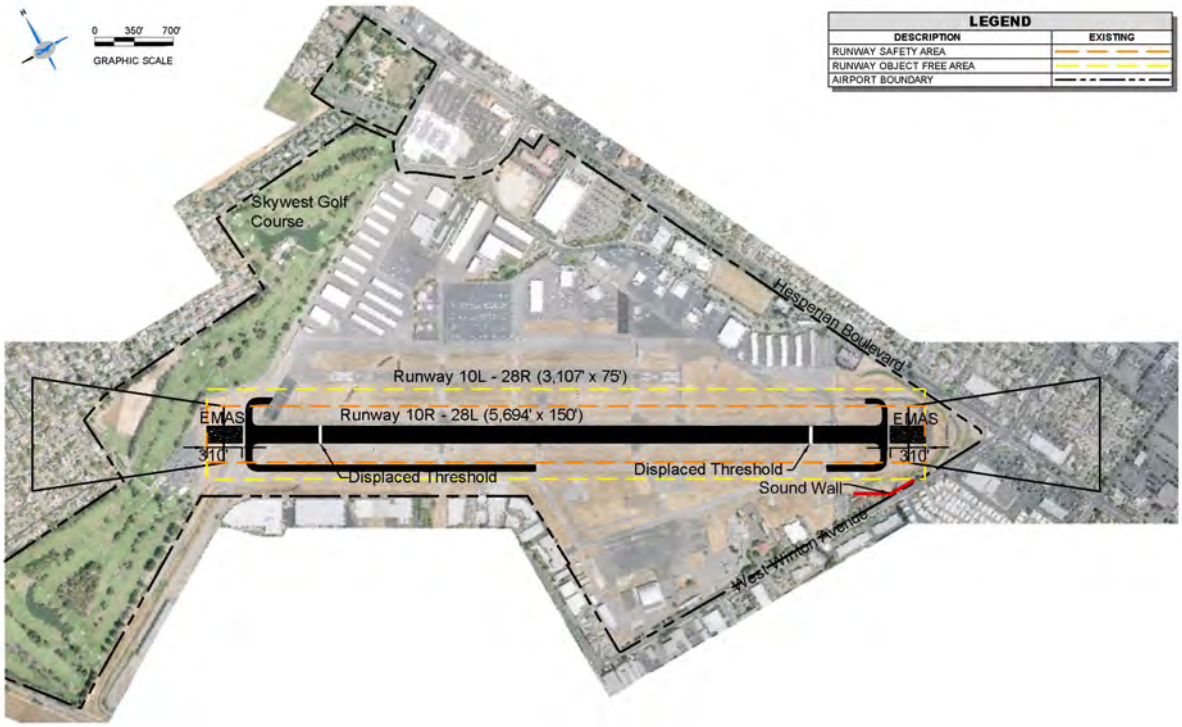
Round 2 Analysis

Criterion	**Rank**	**Points**
Usable Runway Length	Increases	1
FAA Design Standards	Yes, with declared distances and modifications to design standards	4
Threshold Siting and Approach Surfaces	Decreases	1
Project Cost	Medium - $14.6 million	2
Environmental Impact	Medium—Noise impacts to nearby residences.	2

Summary

The EMAS bed accounts for more than a third of the project cost in this alternative, and while the cost is lower than Alternative 7, the EMAS bed makes this alternative cost prohibitive.

Round 2 –Alternative 9



In Alternative 9 EMAS is installed on both runways and the golf course remains intact. While the overall runway length and aviation footprint do not change, the runway is translated 196 feet to accommodate the EMAS bed off the end of Runway 28L. This translation requires the construction of new entrance taxiways at both runway ends.

As seen in the above graphic, this alternative does not recommend modifications to the existing golf course access road or the golf course, and a corner of the ROFA extends beyond the airport fence. Consideration may be given to reroute the golf course access road, and modifying holes 17 and 18 of the golf course to accommodate full ROFA. Extended ROFA for Runway 28L is limited by the noise berm. As with other alternatives, the noise berm encroaches into the ROFA alongside the runway and the noise berm should be relocated. It is assumed that the noise berm would be relocated in this alternative. Approximately 784,303 square feet (98 percent) of ROFA are provided at Runway 10R and 773,348 square feet (97 percent) are provided at Runway 28L. This would represent an acceptable level of safety and could qualify for a modification to FAA design standards.

Since EMAS is included within this alternative, declared distances are necessary. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	5,039 feet	5,039 feet
Landing distance available (LDA)	4,384 feet	4,384 feet

The application of declared distances in this alternative requires a minimum 655-foot displaced threshold on both runways. Same as Alternative 8, Trees 30 and 35 penetrate the threshold siting surface by approximately 6 and 4 feet, respectively. It is assumed that these trees will be trimmed or removed.

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	**Distance (feet)**
Runway 10R	4,384
Runway 28L	4,384
Effective Takeoff Length	
Runway 10R	5,039
Runway 28L	5,039

The landing and take-off distances increases for Runways 10R and 28L.

The rough order of magnitude cost for this alternative is high ($21.7 million) due to fact that EMAS is installed on both runway ends.

Hayward Executive Airport is within a designated “moderate” sensitivity zone for archaeological resources, and although no resources have been recorded or identified in the immediate area of the airport, the potential exists for discovery of archaeological resources during construction and earth movement. Any mature trees that would be removed or topped under this alternative would need to be surveyed to determine if sensitive species of bats use the trees for their roosts, and if found to be true, suitable mitigation would need to be provided.

This alternative would also result in short-term construction-related impacts such as displacement of sensitive species and their habitat, noise, air quality, and runoff into Sulphur Creek, as well as impacts to wetlands.

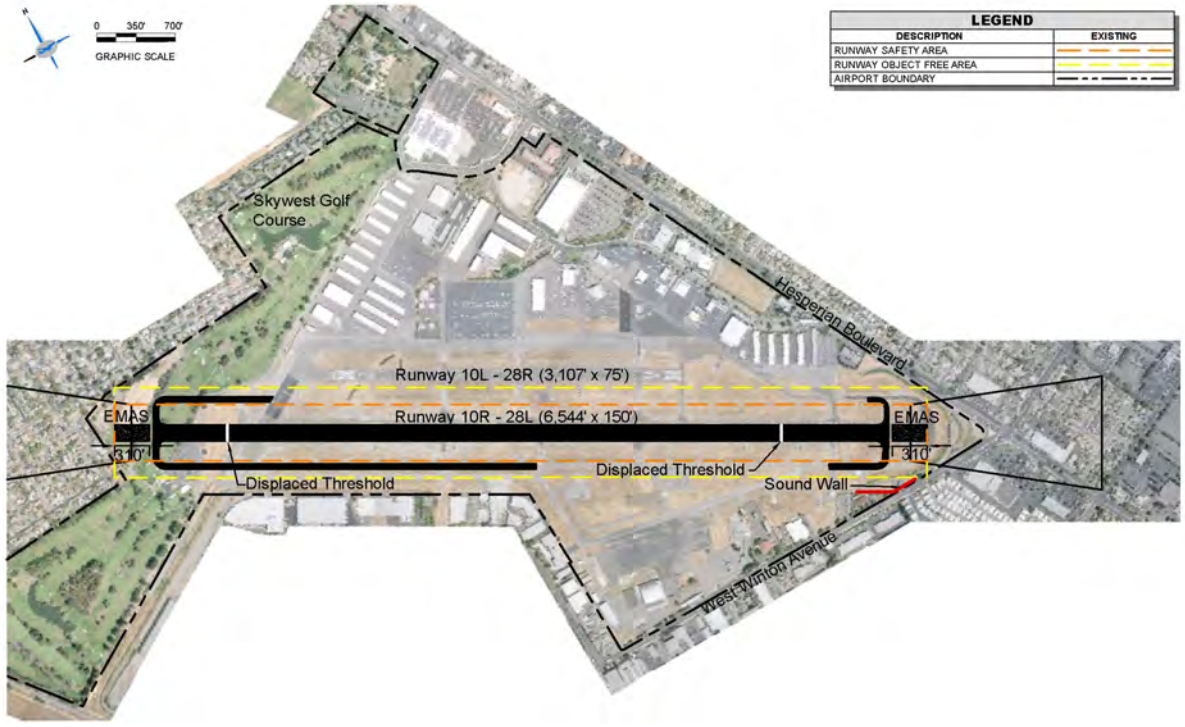
Round 2 Analysis

Criterion	**Rank**	**Points**
Usable Runway Length	Increases	1
FAA Design Standards	Yes, with declared distances and modifications to design standards	4
Threshold Siting and Approach Surfaces	Increases	3
Project Cost	High - $21.7 million	3
Environmental Impact	Low	1

Summary

Even though the usable runway length represents an overall increase, probably the second most critical length (landing distance on Runway 28L) is less than current conditions. Additionally, this alternative represents the second highest project cost.

Round 2 – Alternative 10



An ultimate runway length of 6,544 feet can be obtained by installing EMAS at the extreme limits of the airport boundary. This alternative would sever the Skywest Golf Course. Holes 10 and 18 would need to be removed, relocated, or reconfigured to accommodate the runway. The EMAS bed conflicts with the driving range, which would also need to be removed or relocated. Since this alternative represents a maximum build out of the runway, no space is provided for a golf cart path to connect the two halves of the golf course; rather, a tunnel would be required. Hole 17 would also need to be modified in order to accommodate the northern parallel taxiway and associated safety areas.

Since this alternative utilizes EMAS, declared distances are applied. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	6,544 feet	6,544 feet
Take off distance available (TODA)	6,544 feet	6,544 feet
Accelerate stop distance available (ASDA)	5,889 feet	5,889 feet
Landing distance available (LDA)	5,234 feet	5,234 feet

Full width ROFA is not provided at either runway end. The golf course pavilion is located within the lateral limits of the Runway 10R ROFA and will remain. The ROFA is also limited by the perimeter fence of the golf course. Approximately 793,036 square feet (99 percent) of ROFA is provided. Similar to other alternatives, the lateral ROFA for Runway 28L is penetrated by the noise berm and Hesperian Boulevard and West Winton Avenue. Assuming the noise berm can be relocated, approximately 777,200 square feet (97 percent) of ROFA are provided. This would represent an acceptable level of safety and could qualify for a modification to FAA design standards.

With the application of declared distances, minimum displaced thresholds (for full RSA) are required. The minimum displaced thresholds for both runway ends are 655 feet. It is assumed

that Trees 30 and 35, which penetrate the threshold siting surface by 6 and 4 feet (respectively) are trimmed or removed.

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	**Distance (feet)**
Runway 10R	5,234
Runway 28L	5,234
Effective Takeoff Length	
Runway 10R	5,889
Runway 28L	5,889

Not surprisingly, landing and takeoff distances increase in this alternative from present conditions.

The rough order of magnitude cost for this alternative is high because of the costs associated with two EMAS beds and the runway extension is approximately $25 million.

Skywest Golf Course, owned by the City of Hayward, qualifies as a Section 4(f) property under the U.S. Department of Transportation regulations. Dividing the golf course to accommodate airport use is a significant impact under the Section 4(f) regulation unless the City of Hayward determines that there is no significant impact to the public.

Extending Runway 10R-28L to the northwest would move the 65 CNEL contour further into the San Lorenzo residential area northwest of the airport resulting in long-term noise impacts to that community. Noise impacts to the nearby Section 4(f) properties (Skywest Golf Course, Del Rey School, Del Rey Community Center and Park, and San Lorenzo Park) would need to be determined. The translation of the runway to the northwest would also create new impervious surfaces. The impacts to storm water runoff from these new impervious surfaces would need to be determined and a National Pollution Discharge Elimination System (NPDES) permit would be required. Hayward Executive Airport is within a designated “moderate” sensitivity zone for archaeological resources, and although no resources have been recorded or identified in the immediate area of the airport, the potential exists for discovery of archaeological resources during construction and earth movement. Any mature trees that would be removed or topped under this alternative would need to be surveyed to determine if sensitive species of bats use the trees for their roosts, and if found to be true, suitable mitigation would need to be provided.

This alternative would also result in short-term construction-related impacts such as displacement of sensitive species and their habitat, noise, air quality, and runoff into Sulphur Creek, as well as impacts to wetlands. Construction of a tunnel, while a short-term impact, would be significant.

Round 2 Analysis

Criterion	**Rank**	**Points**
Usable Runway Length	Increases	1
FAA Design Standards	Yes, with declared distances and modifications to design standards	4
Threshold Siting and Approach Surfaces	Increases	3
Project Cost	High - $25 million	3
Environmental Impact	High—Significant noise impacts to surrounding residences; potential Section 4(f); significant construction impacts.	3

Summary

This alternative effectively represents the maximum runway length that could be accommodated within the existing airport property. Due to the high costs of this alternative, and high environmental impacts, this alternative does not appear to be feasible and would require extensive additional studies; however, it may be considered as an ultimate runway configuration in the distant future (beyond 2020).

Conclusion of Round 2

The matrix below shows a summary of the Round 2 results.

Criteria	Alternative						
	4	5	6	7	8	9	10
Usable Runway Length	1	1	3	1	1	1	1
FAA Design Standards	2	4	2	4	4	4	4
Threshold Siting and Approach Surfaces	1	1	3	1	1	3	3
Project Cost	1	1	1	2	2	3	3
Environmental Impact	2	2	1	3	2	1	3

Table 6-2 shows the weighted ranking of the Round 2 alternatives.

Table 6-2
ROUND 2 WEIGHTED EVALUATION

Criteria	Weighting Factor	Alternatives													
		4		5		6		7		8		9		10	
		Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Usable Runway Length	5	1	5	1	5	3	15	1	5	1	5	1	5	1	5
FAA Design Standards	4	2	8	4	16	2	8	4	16	4	16	4	16	4	16
Threshold Siting and Approach Surfaces	3	1	3	1	3	3	9	1	3	1	3	3	9	3	9
Project Cost	2	1	2	1	2	1	2	2	4	2	4	3	6	3	6
Environmental Impact	1	2	2	2	2	1	1	3	3	2	2	1	1	3	3
Score			**20**		**28**		**35**		**31**		**30**		**37**		**39**

As can be seen in Table 6-2, Alternative 4 is the best ranking alternative (the alternative with the lowest score represents the best alternative). Alternative 5, which is similar to Alternative 4 in concept, represents the second best alternative. Alternative 10, which effectively shows the ultimate runway length available at Hayward, ranks the worst, due to its high project costs and high environmental impacts.

Recommended Runway 10R-28L Concept

Alternative 4 is the recommended Runway 10R-28L concept, as it best addresses the criteria used to evaluate the alternatives. This alternative represents a good blend of useable runway length, increased safety, and is primarily environmentally compatible.

Refinements to the Recommended Concept

After distributing the airfield alternatives to stakeholders and discussions with the FAA, a refined concept was derived (see Figure 6-5). While Alternative 4 represents the best alternative to address FAA Design standards for ARC D-II, there are two distinct challenges to implement the alternative:

- **Skywest Golf Course**—The Skywest Golf Course is part of the airport property as depicted in the Exhibit "A" – Property Map. However, the property is presently leased to the Hayward Area Recreation and Park District and the lease expires in 2019. The golf course provides significant revenues to the airport from fees charged. Loss of this revenue would have a serious negative impact to the sustainability of the airport as an enterprise. The airport will not be able to reclaim

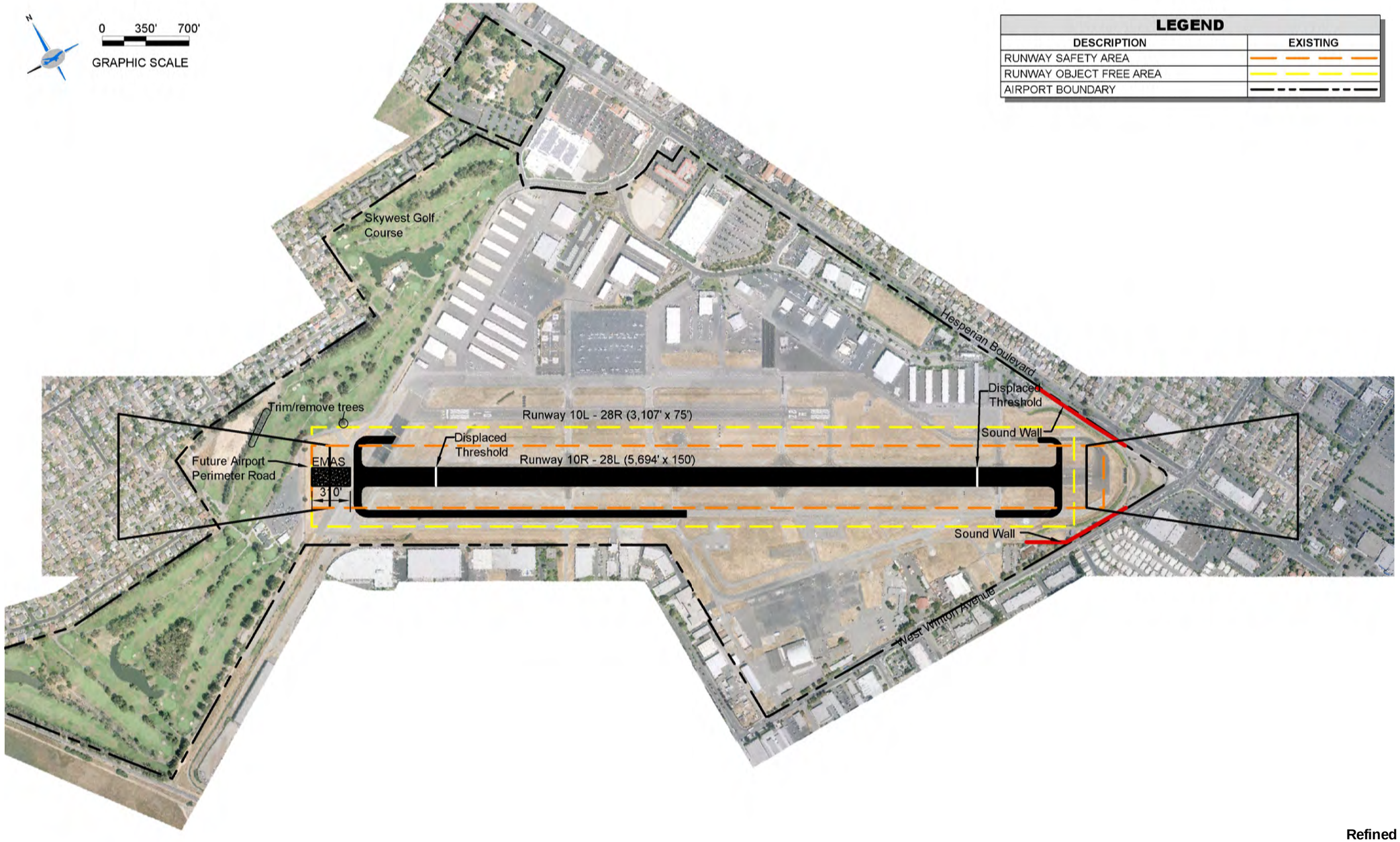


Figure 6-5
Refined Recommended
Runway 10R – 28L Concept

this land until the lease expires. This effectively postpones the airport's ability to implement this alternative until after 2019. Opportunities to reclaim the golf course property prior to the lease expiration would be met with resistance and, as noted above, are potential Section 4(f) impacts. Since the Skywest Golf Course leases land from the airport, it provides revenue to the airport to support airport operations and maintenance.

- **San Lorenzo Neighborhood**—Presently, the Skywest Golf Course provides a buffer for the adjacent San Lorenzo Neighborhood. Alternative 4 would eliminate a portion of this buffer, including several trees that help shield the neighborhood from aircraft operations noise.

Alternative 4 was therefore refined to minimize/remove impacts to the Skywest Golf Course. The proposed runway translation was reduced to 196 feet and EMAS is proposed for Runway 28L (the EMAS bed will be on the westerly side of the runway). The EMAS bed is 310 feet long by 170 feet wide and is set back 35 feet from the runway threshold.

Installation of EMAS will increase the level of safety at Hayward Executive Airport. The precedence for EMAS installation at reliever airports has been set (see Table 6-3). These EMAS installations received FAA funding and support. As seen in Table 6-3, three airports are identical to Hayward in that they are GA/reliever airports and do not have commercial service. Hayward's primary runway is longer than that of two other airports (Greenville Downtown and Dutchess Airport) and there are more based jets at Hayward than at four of the GA and reliever airports with EMAS. Only Teterboro had more operations in 2008 than Hayward.

Table 6-3
GA AND RELIEVER AIRPORTS WITH EMAS

Airport	Commercial Service	No. of EMAS Systems	Installation Date	Length of RWY with EMAS	Longest RWY	Based Jets	No. of Operations (2008)
Greenville Downtown *Greenville, SC*	No	1	2003	5,393	5,393	18	76,622
Dutchess County *Poughkeepsie, NY*	No	1	2004	5,001	5,001	0	99,914
Teterboro *Teterboro, NJ*	Yes	1	2006	6,013	7,000	91	202,193
St. Paul Downtown *St. Paul, MN*	No	2	2008	6,491	6,491	35	126,079
Reading Regional Reading, PA	Yes	1	2009	6,350	6,350	11	91,258
Kansas City Downtown *Kansas City, MO*	Yes	1	2009	7,101	7,101	38	95,438
Smith Reynolds *Winston-Salem, NC*	Yes	1	2010*	6,655	6,655	18	59,569

* Additional project currently under contract.
RWY – Runway; No. - Number
Source: http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=6279

With these refinements, the golf course access road and parking lot can remain. While the FAA would prefer that the entire RPZ area remain clear, it is noted that these uses are present today. This alternative requires a minimum displaced threshold on Runway 10R of 655 feet; however, this location is dependent upon the trimming or removal of several tall trees adjacent to the 10th hole of the golf course (dividing the driving range and hole 10). With the exception of the tree trimming noted, there would be no impacts to the golf course. Additionally, there is room between the EMAS bed and the existing airport perimeter fence to accommodate a planned airport perimeter service road.

Full RSA is provided in this alternative and approximately 98 percent (786,000 square feet) of ROFA is provided. The proposed service road would traverse the ROFA. Therefore, vehicles using the service road should be equipped with radios to contact the ATCT prior to entering the ROFA.

Refinements were also made on Runway 28L. With the removal of the noise berm, and installation of the sound walls, approximately 235 feet of full width ROFA is available. To provide ROFA for aircraft landing on Runway 28L, a 676-foot displaced threshold is required. Tree 30 penetrates the threshold siting surface by approximately 12 feet and Tree 31 is within approximately 5 feet of the threshold siting surface. Tree 30 requires immediate trimming and both Tree 30 and 31 should be trimmed on a regular basis to maintain a clear 20 to 1 slope, starting 200 feet on the approach side of the displaced threshold. This alternative provides approximately 424 feet of RSA beyond Runway 28L (212,000 square feet or 42 percent) and 188,000 square feet (24 percent) of ROFA. These represent significant deviations that would not be available for a modification or waiver from FAA design standards. Therefore, declared distances would be applied to provide adequate safety areas. Declared distance for Runways 10R and 28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	5,694 feet
Accelerate stop distance available (ASDA)	4,929 feet	5,694 feet
Landing distance available (LDA)	4,274 feet	5,018 feet

The effective operational characteristics of this alternative are shown below:

Effective Landing Length	**Distance (feet)**
Runway 10R	4,274
Runway 28L	5,018
Effective Takeoff Length	
Runway 10R	5,694
Runway 28L	5,694

This represents a 269-foot increase in landing length available on Runway 10R and a 10-foot decrease in landing length for Runway 28L. These differences would not change the ability of the airport to accommodate aircraft from what presently use the airport.

Rough order of magnitude costs for this alternative are $14.9 million. The bulk of these estimated costs are due to the addition of EMAS and taxiway modifications, including the realignment of Taxiway Z. This alternative is a less costly alternative than translating the runway more to the southwest, an alternative that was rejected due to cost and associated impact to the airport from loss of the primary runway.

RUNWAY 28R / TAXIWAY A ISSUE

Taxiway A at Hayward runs parallel to Runway 10L-28R then turns diagonally and crosses the extended runway centerline of Runway 28R and then serves as the parallel taxiway for the primary runway. Aircraft with tail heights greater than 10 feet penetrate the approach surface for Runway 28R. The current configuration of Taxiway A with respect to Runway 28R is essentially an end around taxiway (EAT). EATs are more commonly contemplated at large commercial airports, and can potentially limit runway incursions and increase airfield capacity.

The Airport Obstructions Standards Committee (AOSC) has analyzed and approved EATs for Atlanta Hartsfield-Jackson International Airport and Dallas/Fort Worth International Airport (AOSC Decision Documents 3 and 6, respectively). The consideration process for these end around taxiways, analyzed four areas: TERPS, human factors, RPZ, and overflights. Decision Document 7 of the AOSC provides general parameters for EAT and notes that it forms the basis for design standards of EAT as included in AC 150/5300-13. Based upon the documents mentioned above, the following criteria must be met:

- The EAT must be clear of the RSA,
- The EAT must be entirely outside of ILS critical areas,
- The tail height of the design aircraft does not penetrate Terminal Instrument Procedures (TERPS) and threshold siting surfaces (TSS), and
- The tail height of the design aircraft does not penetrate Federal Aviation Regulation (FAR) Part 77 approach surfaces.

When reviewing the above criteria with respect to Hayward, Runway 28R, it is found that the first two criteria are met. However, the tail height of the design aircraft is 24.42 feet tall, and penetrates the threshold siting surface and FAR Part 77 approach surfaces. The following alternatives were developed to correct this issue.

A. No Action. This alternative is shown in Figure 6-6.

B. Relocate Runway Threshold. To accommodate a tail height of approximately 24 feet, the runway should be translated 480 feet (see Figure 6-7). However, due to the configuration of the airfield along with the threshold siting and FAR Part 77 approach surfaces, aircraft taxiing on the portion of Taxiway A parallel with Runway 10L-28R will penetrate the approach and threshold siting surfaces. Therefore, any aircraft with tail heights greater than 12 feet will still penetrate the approach surface. Aircraft taxiing on the diagonal portion of Taxiway A will be below the approach and threshold siting surfaces when Taxiway A intersects the extended runway centerline.

C. Relocate Taxiway A. This concept relocates Taxiway A along the approach surface to a point where the design aircraft can safely transition under the approach surface without presenting an obstruction – approximately 732 feet from the end of Runway 28R (see Figure 6-8). The relocated taxiway would join the existing Taxiway A and continue toward Runway 28L. This concept involves removing two East T-hangars and the large conventional hangar.

D. Close Taxiway A. This alternative suggests closing part of Taxiway A, either physically, or through operating procedures. Traffic traveling from the north hangars to Runway 28L would be rerouted along Taxiways C and Z, crossing two active runways and then continuing along Taxiways Z and Z1 to Runway 28L (see Figure 6-9). This concept prevents any penetrations of either the approach surface of the runway protection zones (RPZ), but could increase the possibility of runway incursions. However, due to the fact that Hayward is a towered airport and due to current ATCT line of sight issues, the significance of runway incursions appears to be lessened as ground controllers will have good visibility of aircraft as they transition from the north to the south side of the airport. Conversely, if the operations continue on Taxiway A, aircraft leaving the East T-Hangar complex may conflict with aircraft proceeding to Runway 28L for takeoff.

E. Install Holdlines. Rather than permanently closing Taxiway A, holdlines would be installed which would preclude aircraft from taxiing through the approach surface of Runway 28R while an aircraft is on final approach for Runway 28R (see Figure 6-10). Similar to the previous concept, the ATCT would be responsible for assuring that aircraft is clear of the approach surface prior to allowing an aircraft to proceed on Taxiway A. This approach would be similar to what is found on Taxiway F at the airport. Here, holdlines are present which hold aircraft outside of the approach surfaces for Runways 10L and 10R. This concept could limit possible incursions and retain Taxiway A as a useable taxiway.

F. Raise Runway / Lower Taxiway A. To allow the appropriate tail height without penetration of the FAR Part 77 approach surface and threshold siting surface the runway could be raised and the taxiway lowered. This would require demolishing the short runway and re-grading the runway, connecting taxiways, and Taxiway A. Such a dramatic change in airfield elevations will have significant impacts to landside facilities, such as aprons, FBOs, and impact airfield drainage. An example of these would be the significant difference in elevation of the lower Taxiway A and

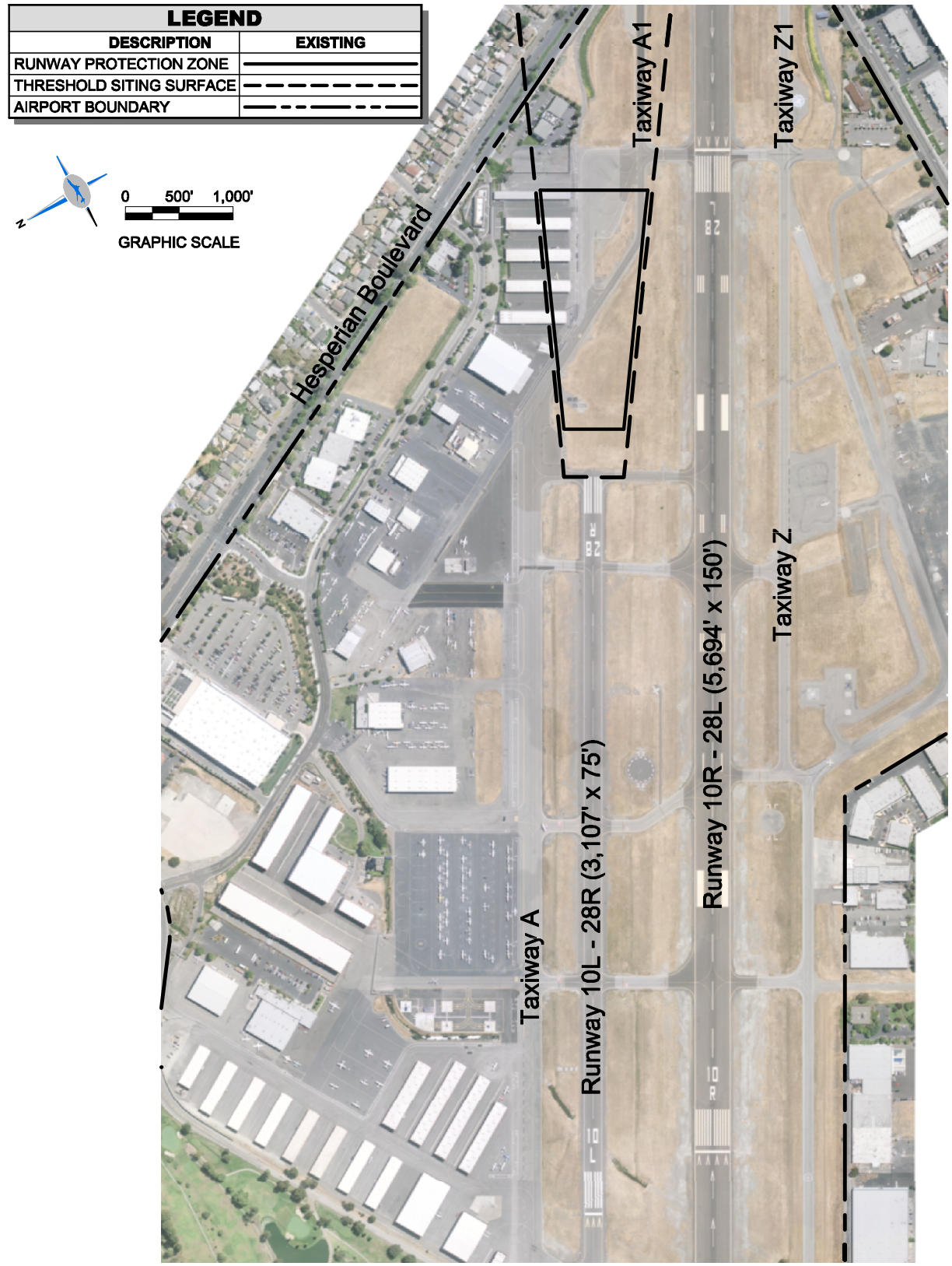


Figure 6-6
Taxiway A Alternative A – No Action

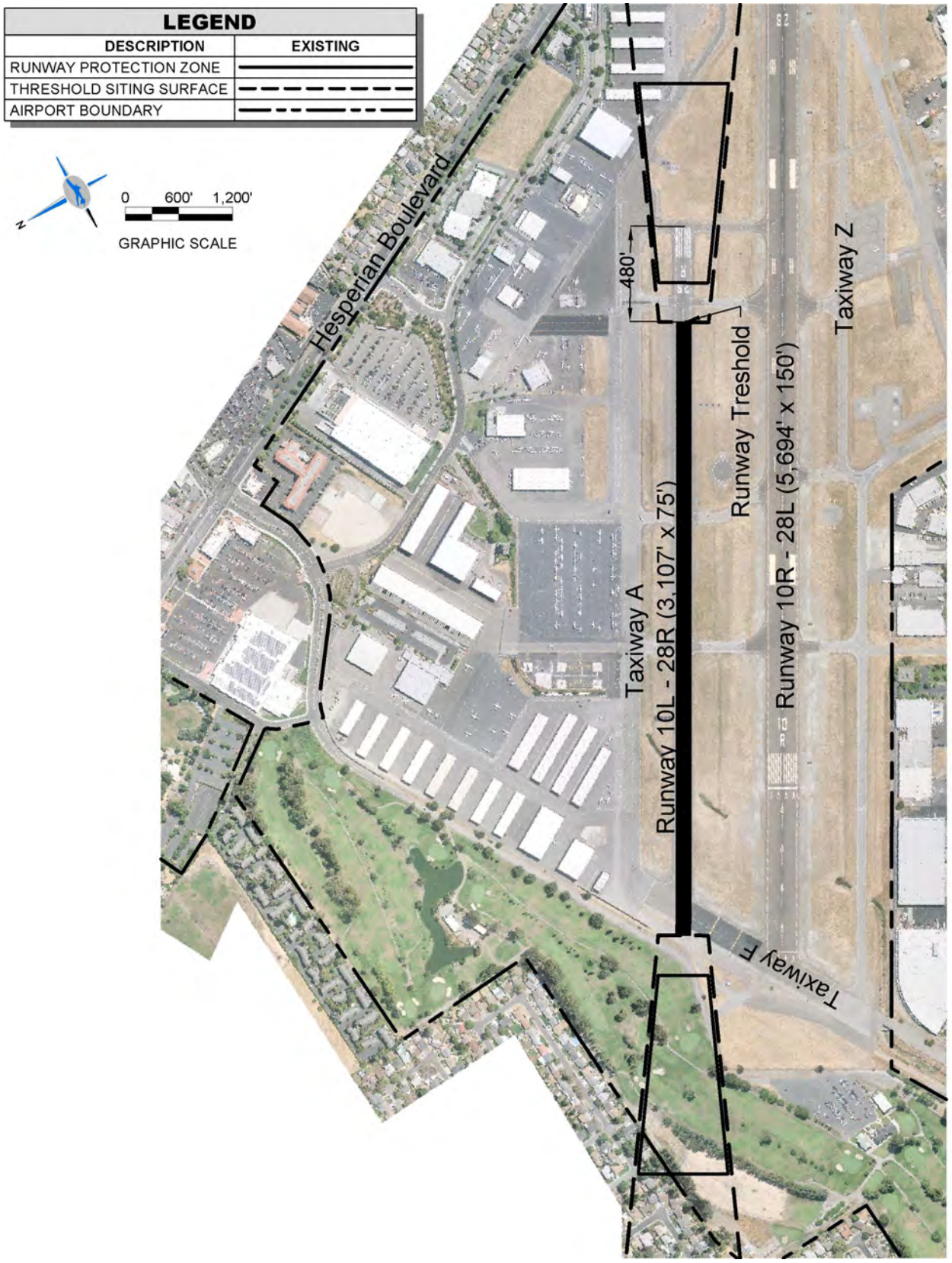


Figure 6-7
Taxiway A Alternative B – Relocate Runway Threshold

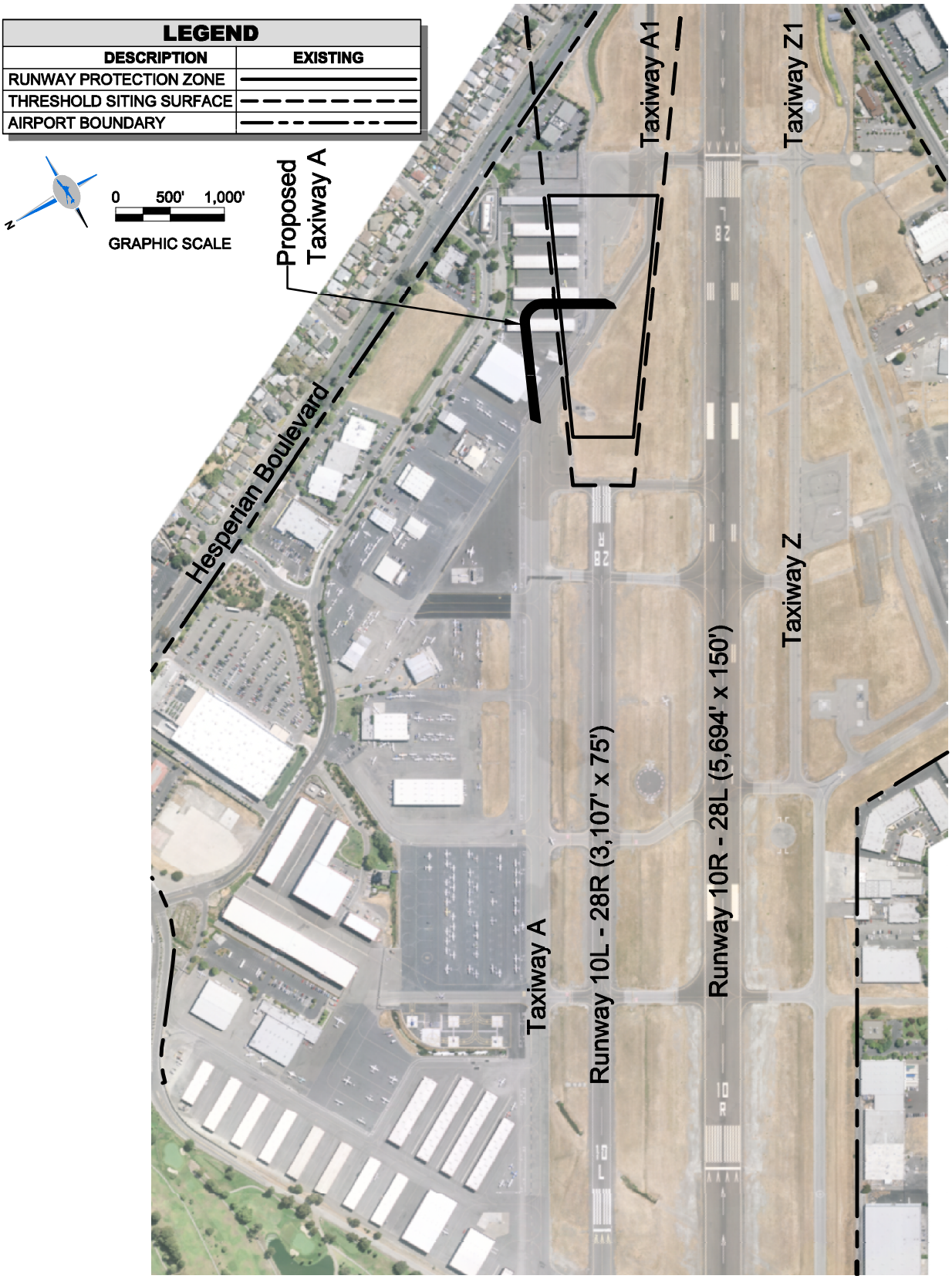


Figure 6-8
Taxiway A Alternative C – Relocate Taxiway A

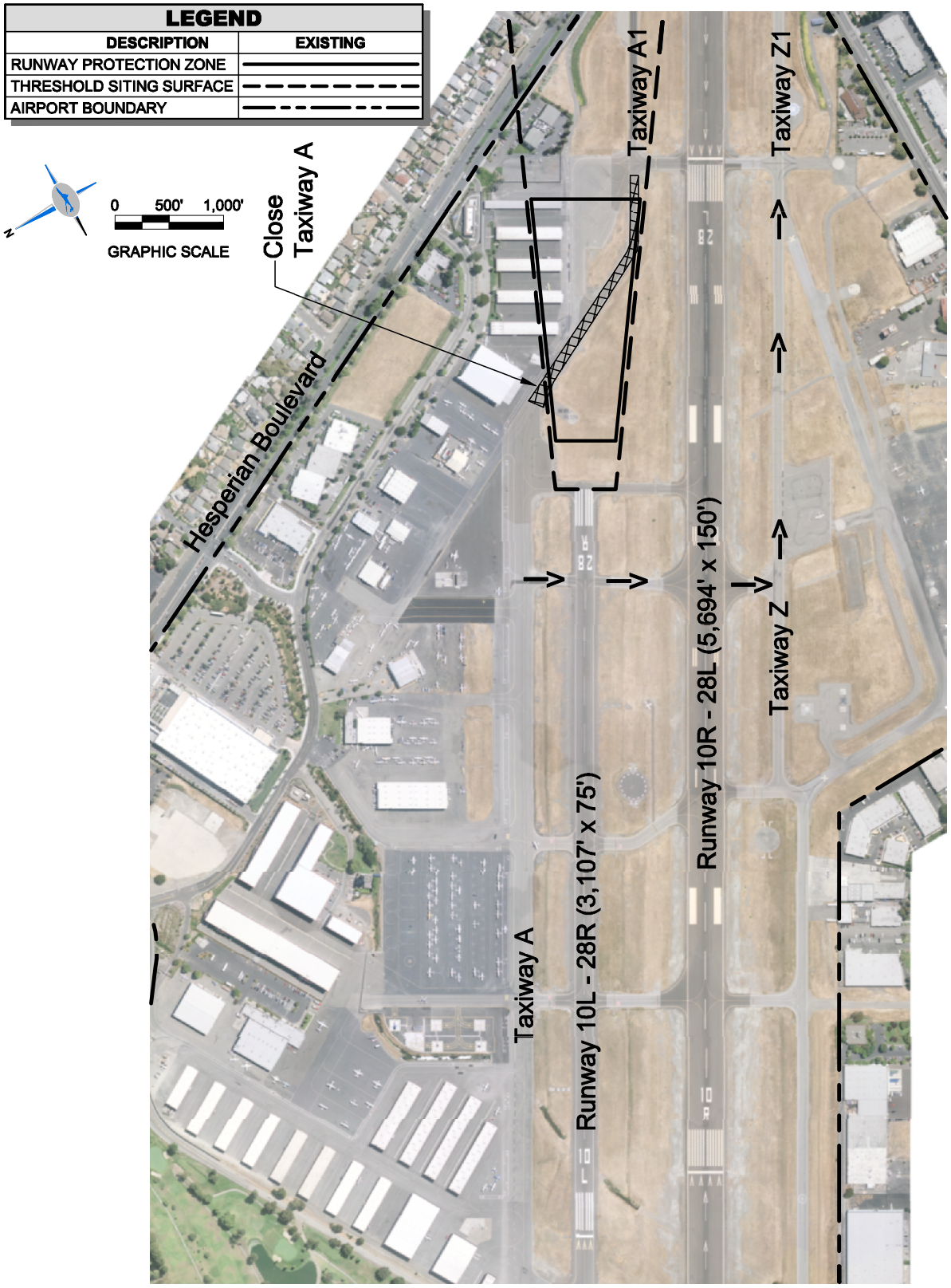


Figure 6-9
Taxiway A Alternative D – Close Taxiway A

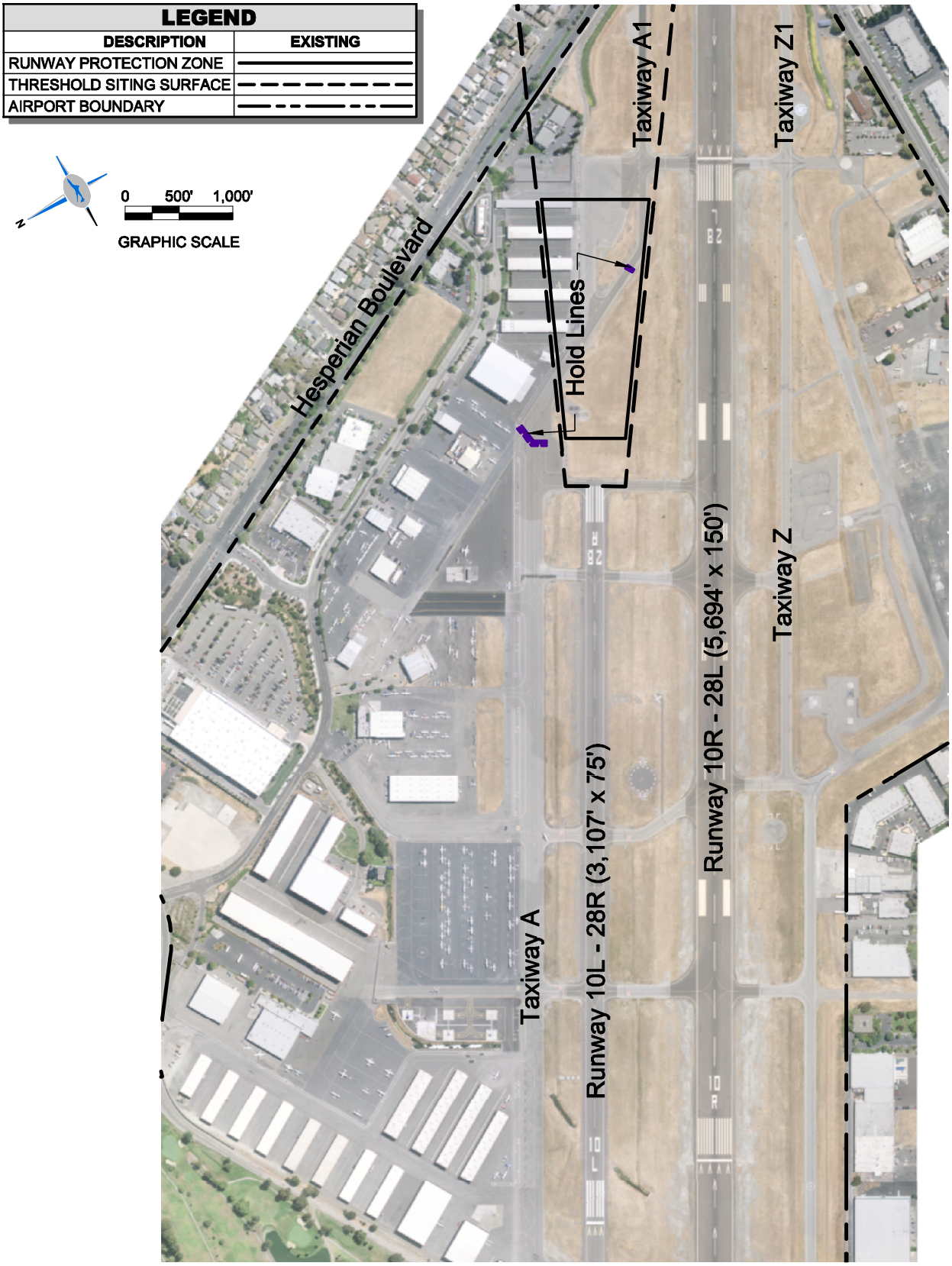


Figure 6-10
Taxiway A Alternative E – Install Holdlines

the large conventional hangar adjacent to where Taxiway A turns southward. There is insufficient room between the large hangar and taxiway to allow for dramatic elevation changes. Additionally, it is unlikely that a 14-foot difference in elevation can be realized to remove the taxiing aircraft tails from the approach and threshold siting surfaces.

G. Displaced Threshold. Alternative G proposes displacing the landing threshold by 205 feet to accommodate aircraft of 24-foot tail heights (see Figure 6-11). The design aircraft would still penetrate the approach surface, but not the threshold siting surface. This would limit the types of approaches available to the short runway. Since the short runway currently is a visual runway, this alternative does not negatively impact current approaches.

H. Shorten Runway 28R. This alternative shortens Runway 28R by 480 feet (see Figure 6-12). This distance allows Group II aircraft to use Taxiway A without penetrating the approach surface. Runway 10L-28R will be reduced to 2,627 feet which is longer than San Carlos (2,600 feet) and Palo Alto (2,443 feet). Existing runway pavements will remain, allowing for the runway to be lengthened during periods of maintenance on the primary runway.

Evaluation of Alternatives

The best solution for this issue can - and issues that follow - be determined through the application of a comparative evaluation process whereby each alternative is compared with all other solutions and after consideration of all important factors, one of the solutions will appear better than the others. Additionally, a "No Action" alternative is used to provide a benchmark to compare alternatives to, and can be used to validate the need to make changes to the airport to correct the issue being analyzed.

The comparative screening process used to analyze this issue – and issues that follow – is predicated on technical, environmental and economic factors, and involves factors that are quantifiable as well as qualitative. The screening ultimately reduces down to a ranking system which reflects how well each alternative achieves the anticipated level of performance.

The following screening criteria are used to evaluate alternatives to this issue and will be used for subsequent airside issues and alternatives.

- FAA Design Standards – The selected alternative should meet all FAA standards to the extent practicable. Any deviations from FAA standards will require a modification to FAA design standards.
- Existing Operations – Ideally the proposed alternative will have little to no impact on existing operations.
- Existing Airfield – Significant changes to the airfield configuration should be avoided; as such changes have a corresponding impact on airfield operations and landside facilities.
- Landside Facilities – Similar to the previous criterion, impacts to the landside facilities have a ripple effect on airfield operations and can negatively impact the overall success of the airport.
- Costs – The recommended alternative should seek to minimize project costs. A qualitative review of the proposed alternative was done to assess potential order of magnitude costs.

All alternatives were vetted through the above noted screening criteria. The analysis is described below and the results are summarized in Table 6-4.

FAA Design Standards – A key consideration is if the alternative meets FAA design standards. Alternatives that do not meet FAA design standards should not be considered as viable options to resolving the Runway 28R/Taxiway A issue. As seen in the summary table, Alternatives C, D, E, F,

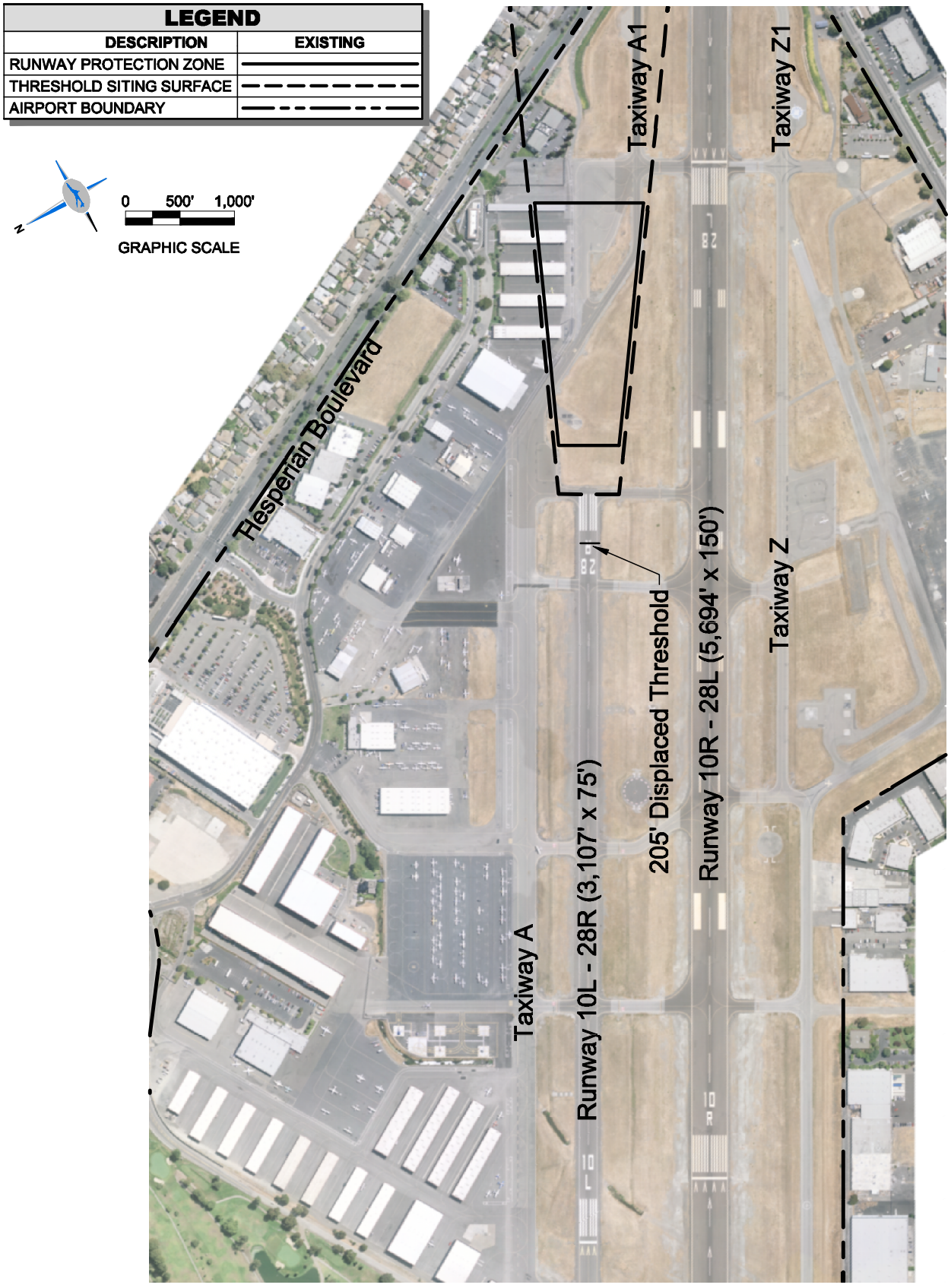


Figure 6-11
Taxiway A Alternative G – Displaced Threshold

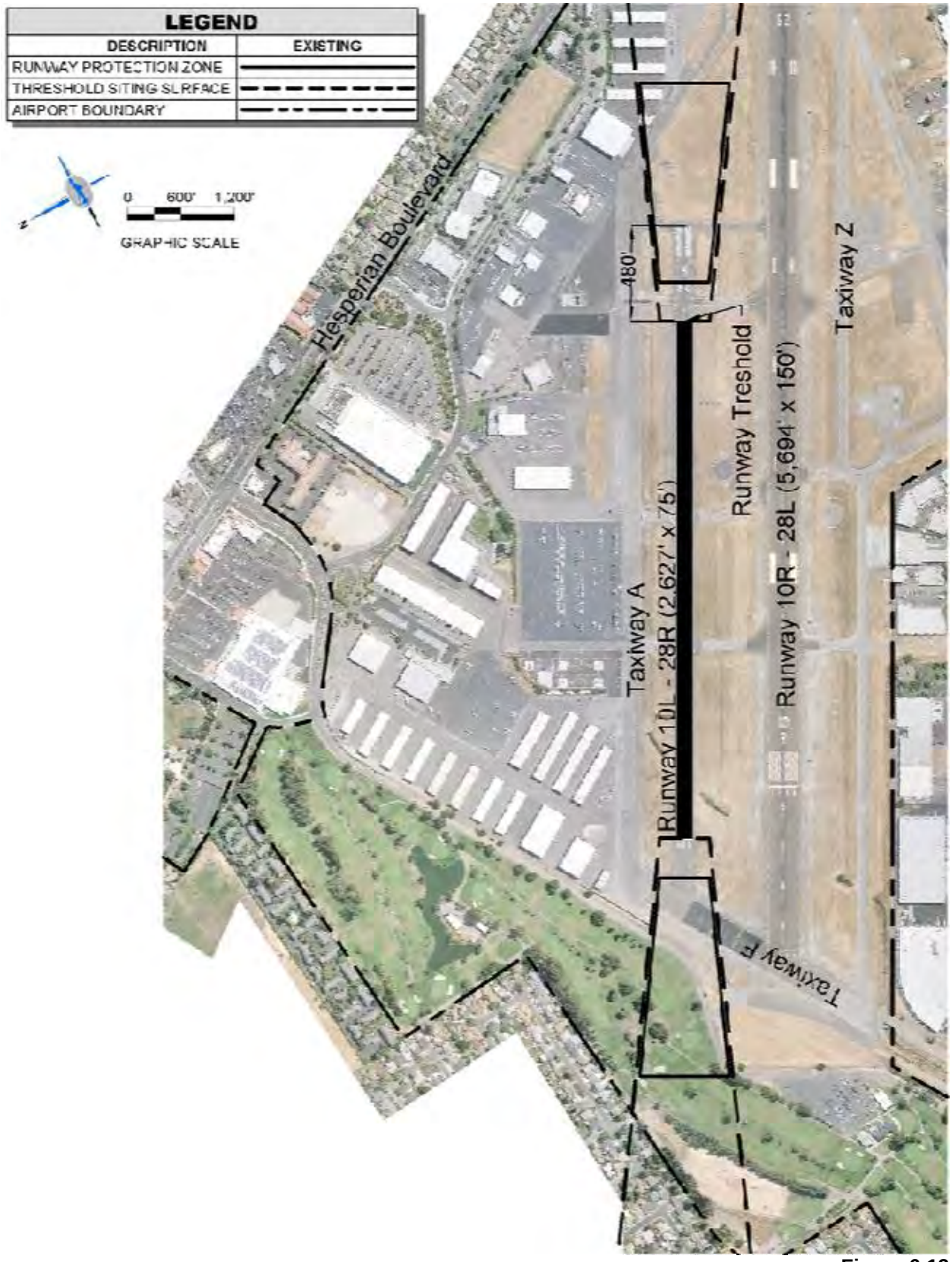


Figure 6-12
Runway 28R RPZ Alternative H – Shorten Runway 28R

Table 6-4
RUNWAY 28R/TAXIWAY A ALTERNATIVES EVALUATION

Alternative	FAA Design Standards	Existing Operations	Existing Airfield	Landside Facilities	Costs
A – No Action	Does not meet FAA design standards.	No change.	No change.	No change.	None.
B – Relocate Runway Threshold	Does not meet FAA design standards – aircraft on parallel TWY penetrate Part 77.	Minimal impact – relocated RWY intersects TWY F.	Relocated RWY essentially leaves airfield intact; no new pavement.	No change to existing landside facilities.	Medium cost – requires additional RWY pavement to be added on RWY 10L.
C – Relocate Taxiway A	Meets FAA design standards.	Relocated TWY increases capacity as EAT is viable; but also increases taxi distances to RWY 28L.	TWY system is reconfigured to provide an EAT.	High impact on existing landside facilities; requires demolition of large hgr and 2 rows of East T-Hgrs	High cost – long TWY segment and costs to relocate hgrs.
D – Close Taxiway A	Meets FAA design standards.	Limits taxi routing to RWY 28L to TWY Z / Z1. RWY crossings at TWY C.	No change to the physical airfield configuration.	No direct impact on existing landside facilities.	Low cost – accomplished through operating procedures/markings
E – Install Holdlines	Meets FAA design standards.	Controls taxi routing to RWY 28L, but limits capacity from present conditions.	Additional markings required; no pavement changes.	No change to existing landside facilities.	Low cost – two new holdlines painted.
F – Raise Runway/Lower Taxiway A	Meets FAA design standards.	New grading may limit aircraft access to some areas (grades too steep).	Significant changes to the airfield longitudinal and traverse grades.	Potential changes to the landside facilities to accommodate new grading.	Extreme costs to reconstruct and grade airfield/ landside.
G – Displaced Threshold	Partially meets FAA design standards.	Shorter landing distance on RWY 28R.	Additional markings required; no pavement changes.	No change to existing landside facilities.	Low cost – paint displaced threshold markings.
H – Shorten Runway 28R	Meets FAA design standards	Minimal impact. More aircraft use primary RWY	Shorten RWY; no changes to pavement; restriping	No change to existing landside facilities	Low cost – restriping and relocation of visual aids

EAT = end around taxiway; hgr = hangar; hgrs = hangars; RWY = runway; TWY = taxiway

and H completely meet design standards. These four alternatives are the only ones that appear to be viable.

Existing Operations – While there is a strong desire to minimize impacts on existing operations, due to the nature of the problem, the solution will likely have some impact to Hayward's operations. All alternatives that meet FAA design standards have impacts on operations. However, while there are impacts on operations, in some cases the impact results in a safer more controlled flow of ground operations. This is especially true for Alternatives C, D, and E. Alternative H will have minimal impacts to operations; aircraft requiring longer runway lengths will use the primary runway.

Existing Airfield – To the extent practicable, the existing airfield should remain intact. Alternatives B, C, F, and H propose changes to the existing airfield. Alternatives C and F present the most significant changes to the existing airfield. Alternatives E, G, and H require relatively minor restriping projects of existing pavement. Alternative D does not require any changes to the existing airfield.

Landside Facilities – Several alternatives (B, D, E, G, and H) do not require modification to the existing landside facilities. Alternative C creates a significant impact to the landside development as the large hangar and two rows of the East T-Hangars would need to be demolished to accommodate the realigned taxiway. Alternative F has the potential for creating significant impacts to the landside, as some developments are relatively close to Taxiway A and could be impacted by grade and elevation changes required.

Costs – As seen in Table 1, Alternatives D, E, G, and H represent the lowest cost solutions to resolve the issue. Alternative F represents the highest cost, as it essentially requires the entire airfield to be reengineered and reconstructed. Alternative C also has a high cost associated with it, due to the landside facility impacts.

Recommended Alternative

After vetting the alternatives through the screening process it is found that Alternative H presents the best solution to resolve the Runway 28R/Taxiway A conflict. This alternative represents a near term solution and the runway may be returned to its present length at a later time, which should be addressed in a subsequent master plan. The subsequent master plan should also analyze the non-standard design of Taxiway A and penetrations to the taxiway object free area. Costs to implement this alternative are low, and there are no significant impacts to the existing airfield and no direct impacts to existing landside facilities. While this alternative impacts existing operations, impacts are lessened as aircraft requiring a longer runway will have access to the primary runway.

RUNWAY 28R RUNWAY PROTECTION ZONE

There are five T-hangar buildings, referred to as the East T-Hangars, which are located within the Runway 28R runway protection zone (RPZ). According to FAA AC 150/5300-13, an RPZ's function is to enhance and protect people and property on the ground. It is recommended that the RPZ are owned by the airport owner. Such control includes clearing RPZ areas and maintaining them clear of incompatible objects and activities. It is desirable to clear all objects from the RPZ, although some uses are permitted. The locations of the East T-Hangars do not qualify for the permitted uses within an RPZ. The East T-Hangars were built in the 1960s/1970s and are fast approaching the end of their useful life. Alternatives on how to accommodate a clear RPZ are as follows:

A. No action. This alternative is depicted in Figure 6-13.

B. Shorten Runway 10L-28R. To accommodate the current configuration of the East T-Hangars and locate them outside of the Runway 28R RPZ, Runway 10L-28R could be shortened from 3,107 feet to 2,529 feet. A length of 2,529 feet limits the types of aircraft using the runway. At 3,107 feet the runway accommodates 95 percent of small airplanes with less than 10 passenger seats. When reducing the runway length to 2,529 feet, this limits the types of aircraft to 75 percent of small airplanes with less than 10 passenger seats. Aircraft not accommodated on the shortened runway will require use of the primary runway. This will result in a mixing of slower single engine aircraft with high performance jet aircraft and effectively reduces capacity of the airport. This alternative is shown in Figure 6-14.

C. Close Runway 10L-28R. The East T-Hangars could remain if Runway 10L-28R were closed (Figure 6-15). This would also allow for additional space to be used for hangar and apron developments. On the other hand, all aircraft flying into Hayward would then use the primary runway, which diversifies the aircraft types and sizes using Runway 10R-28L mixing slow single-

Figure 6-13
Runway 28R RPZ Alternative A – No Action

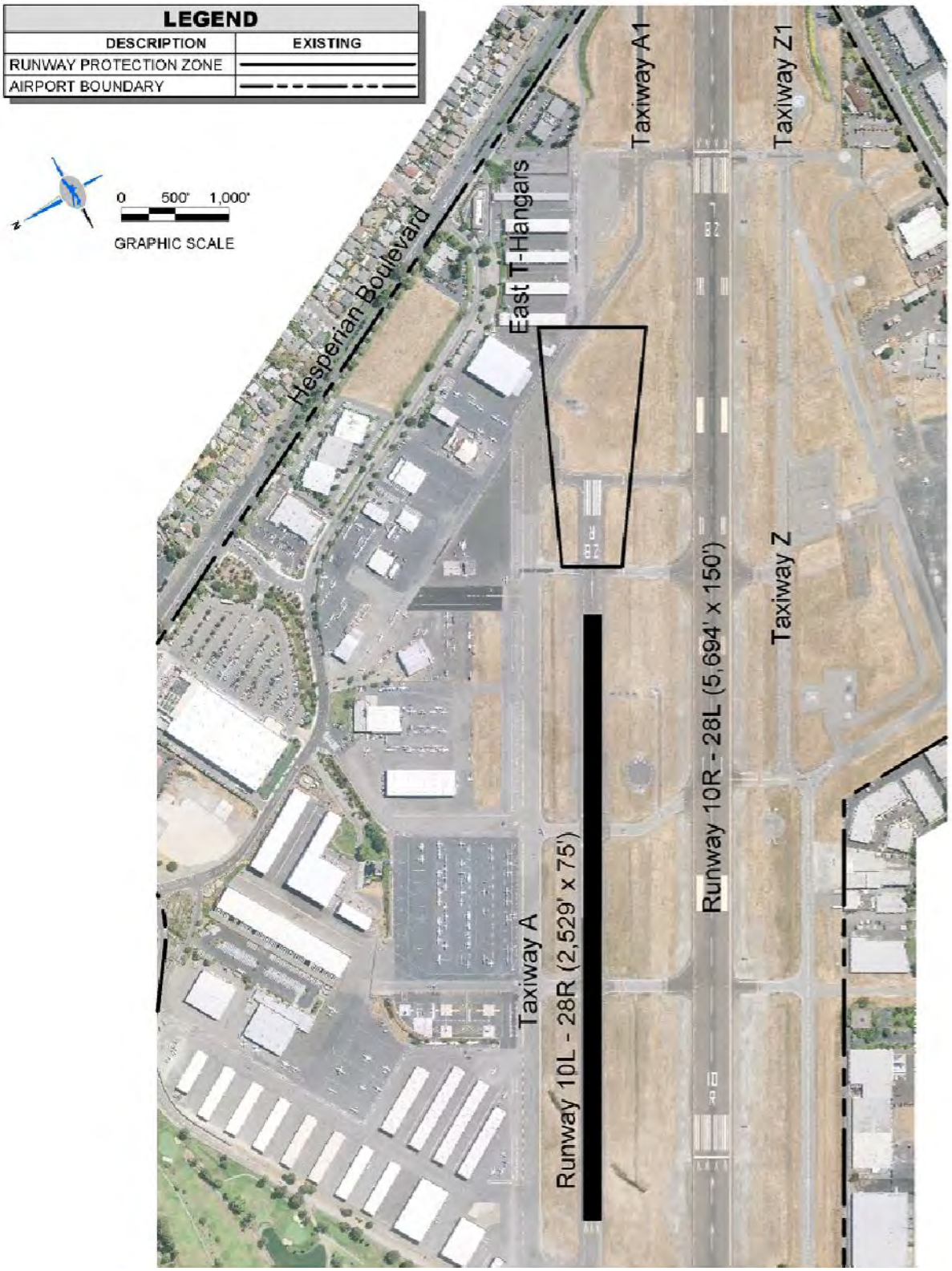


Figure 6-14
Runway 28R RPZ Alternative B – Shorten Runway

Figure 6-15
Runway 28R RPZ Alternative C – Close Runway

engine aircraft with high performance jet aircraft. This increase in aircraft types and closing of a runway could cause delays on the primary runway and potentially hinder growth, reduce capacity, and is an inefficient use of airport property. Overall safety would be reduced due to mixing of low and high performance aircraft.

D. Relocate Hangar Buildings. An alternative to accommodate a clear Runway 18R RPZ is to move the hangar buildings to a different location on the airport as seen in Figure 6-16. The five buildings could be shifted northeast of their current location to minimize impacts to the central portion of the RPZ. Moving the buildings to the northeast does not remove the hangars from the RPZ. Three of the five hangars will still extend into the RPZ. Alternatively, the hangars could be relocated to the south side of the airport. Moving these buildings will be problematic as they are of brick construction.

E. Remove Hangar Buildings. The hangars were originally built in the 1960s/1970s and are fast approaching the end of their useful life. Finding parts to maintain buildings is difficult as often times parts must be custom manufactured and maintenance can incur significant cost. This alternative proposes to build new hangars at a different location of the airport outside of all safety areas and corresponding with the building restriction line. The East T-Hangars shall be removed at the end of the buildings useful lives, as leases expire, or at the City's discretion (Figure 6-17). A potential short-term option would be to shorten hangar buildings as leases expire to remove them from the RPZ. The City will monitor maintenance costs and ultimately will decide when the hangars are to be removed alternative proposes to build new hangars at a different location of the airport outside of all safety areas and corresponding with the building restriction line. The East T-Hangars shall be removed at the end of the buildings useful lives, as leases expire, or at the City's discretion (Figure 6-16). A potential short-term option would be to shorten hangar buildings as leases expire to remove them from the RPZ. The City will monitor maintenance costs and ultimately will decide when the hangars are to be removed.

Evaluation of Alternatives

The alternatives were vetted through the previously noted screening criteria for the Runway 28R/Taxiway A issue. The analysis is described below and the results are summarized in Table 6-5.

Table 6-5
RUNWAY 28R RPZ ALTERNATIVES EVALUATION

	FAA Design Standards	Existing Operations	Existing Airfield	Landside Facilities	Costs
A - No Action	Does not meet FAA design standards	No change.	No change.	No change.	None.
B - Shorten Runway 10L-28R	Meets FAA design standards	Reduces types of aircraft that can use RWY 10R-28L; reduces capacity	Additional markings required - no new pavement	No change.	Low cost - change in operating procedures and markings
C - Close Runway 10L-28R	Meets FAA design standards	All operations would be on RWY 10R-28L causing reduced capacity, increased fleet mix, and potential delays	Significant impact - loss or RWY	Potential for increased landside facilities.	Low cost - change in operating procedures and markings
D - Relocate Hangar Buildings	Does not meet FAA design standards	No change.	No change.	Relocation of East T-Hangars	High cost - relocation of buildings
E - Remove Hangar Buildings	Meets FAA design standards	No change.	No change.	Removal of East T-Hangars/ relocation of based aircraft	Medium cost - removal of buildings

RWY – Runway

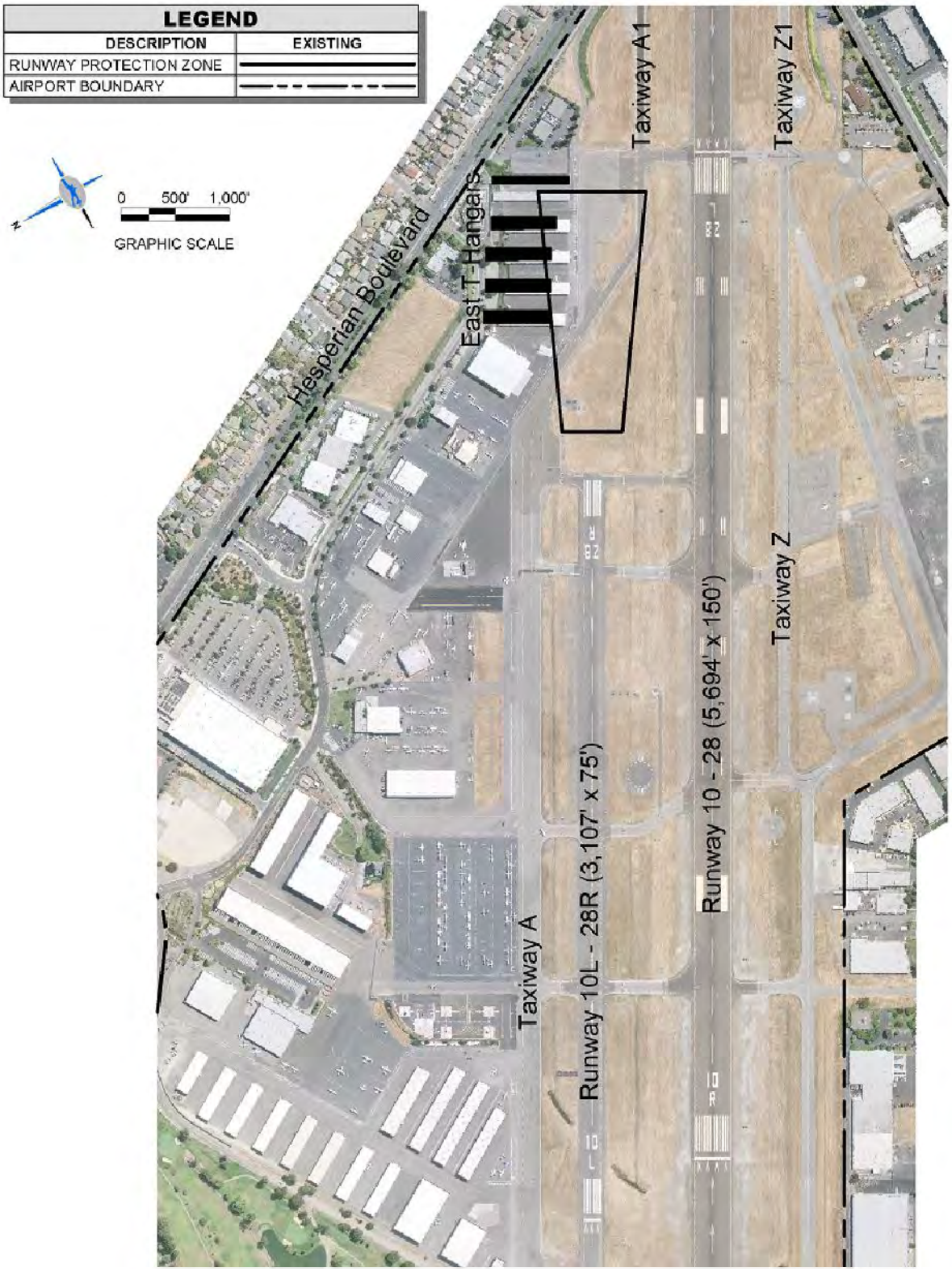


Figure 6-16
Runway 28R RPZ Alternative D– Relocate Hangars

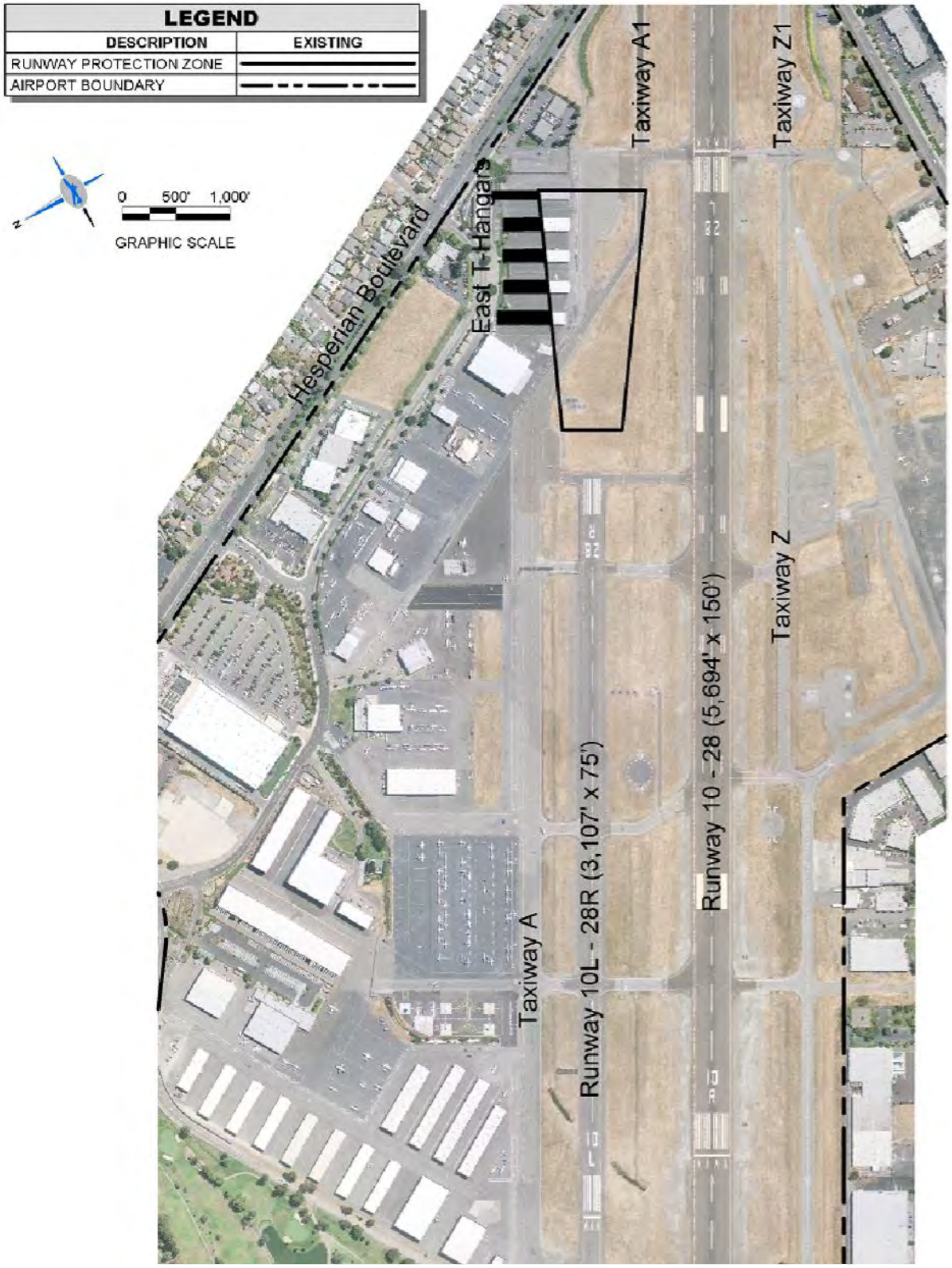


Figure 6-17
Runway 28R RPZ Alternative E – Remove Hangars

FAA Design Standards – A key consideration is if the alternative meets FAA design standards. Alternatives that do not meet FAA design standards should not be considered as viable options to resolving the Runway 28R/RPZ issue. As seen in the summary table, Alternatives B, C, and E completely meet design standards. These three alternatives are the only ones that appear to be viable.

Existing Operations – It is important to maintain Hayward's current level and expected growth of operations. Alternatives should not negatively impact existing operations. Alternatives that do not affect existing operations are A, D, and E.

Existing Airfield – To the extent practicable, the existing airfield should remain intact. The only alternative that significantly impacts the existing airfield is Alternative C. Minor changes are suggested in Alternative B considering additional markings. Alternatives A, D, and E provide options that do not affect the airfield.

Landside Facilities – Three alternatives (A, B, and C) do not require modification to the existing landside facilities. Alternative C provides the opportunity for increased landside development. Both Alternatives D and E create an impact to the landside development as the East T-Hangars would need to be relocated or demolished, respectively.

Costs – Alternative A represents the lowest cost solution by not implementing any changes. Low-cost Alternatives B and C include changing of operating procedures and markings. Table 6-5 indicates that the highest cost alternative is Alternative D due to the relocation of the existing East T-Hangars. Similarly, a medium cost alternative is Alternative E for the cost of removing the East T-Hangar buildings.

Recommended Alternative

After vetting the alternatives through the screening process it is found that Alternative E presents the best solution to resolve the Runway 28R RPZ issue. The implementation of this alternative will be gradual and will result in the least overall impact to the airport. Alternative E meets FAA design standards and does not change existing operations or the existing airfield. Landside facility impacts include the removal of the East T-Hangars which improves the overall safety of Hayward Executive Airport. Costs to implement this alternative are relatively high but are offset by the constant cost to maintain and rehabilitate the hangars. Once the East T-Hangars are removed, consideration should be given to realigning Taxiway A to remove the diagonal portion and returning the short runway to its present length.

TAXIWAY A / SERVICE ROAD

Another issue reviewed during the airside alternative analysis at Hayward is the location of the service road. As was noted in Chapter 5, the service road paralleling Taxiway A infringes upon the taxiway object free area (TOFA). Additionally, a portion of the service road – near the East T-Hangars – is located within the taxiway safety area (TSA). The following alternatives were developed to mitigate this issue:

A. No action. This alternative is depicted in Figure 6-18.

B. Relocate Service Road. This alternative relocates the service road. For the parallel portion of the service road, and requires moving the service road easterly by 4 feet and requires the removal of approximately 15 tie-downs. Near the end of Runway 28R where the service road is also within the TSA, opportunities to relocate the service road are scarce. Relocation in this area will require either relocating the service road on the east side of the East T-Hangars or demolishing portions of existing hangar structures, including the large conventional hangar. Since demolition of hangars for the service road is not feasible, it is assumed that the service road would be re-routed along the perimeter fence, east of the East T-Hangar complex (see Figure 6-19).

C. Relocate Taxiway A. Since the separation of Taxiway A to Runway 10L-28R exceeds separation standards, this alternative relocates Taxiway A 4 feet westerly (see Figure 6-20). This small shift in taxiway location does not impact separation standards and Airplane Design Group II aircraft traversing Taxiway A will not be within the OFZ (obstacle free zone) or ROFA associated with the short runway. In the area near the end of Runway 28R, Taxiway A would be

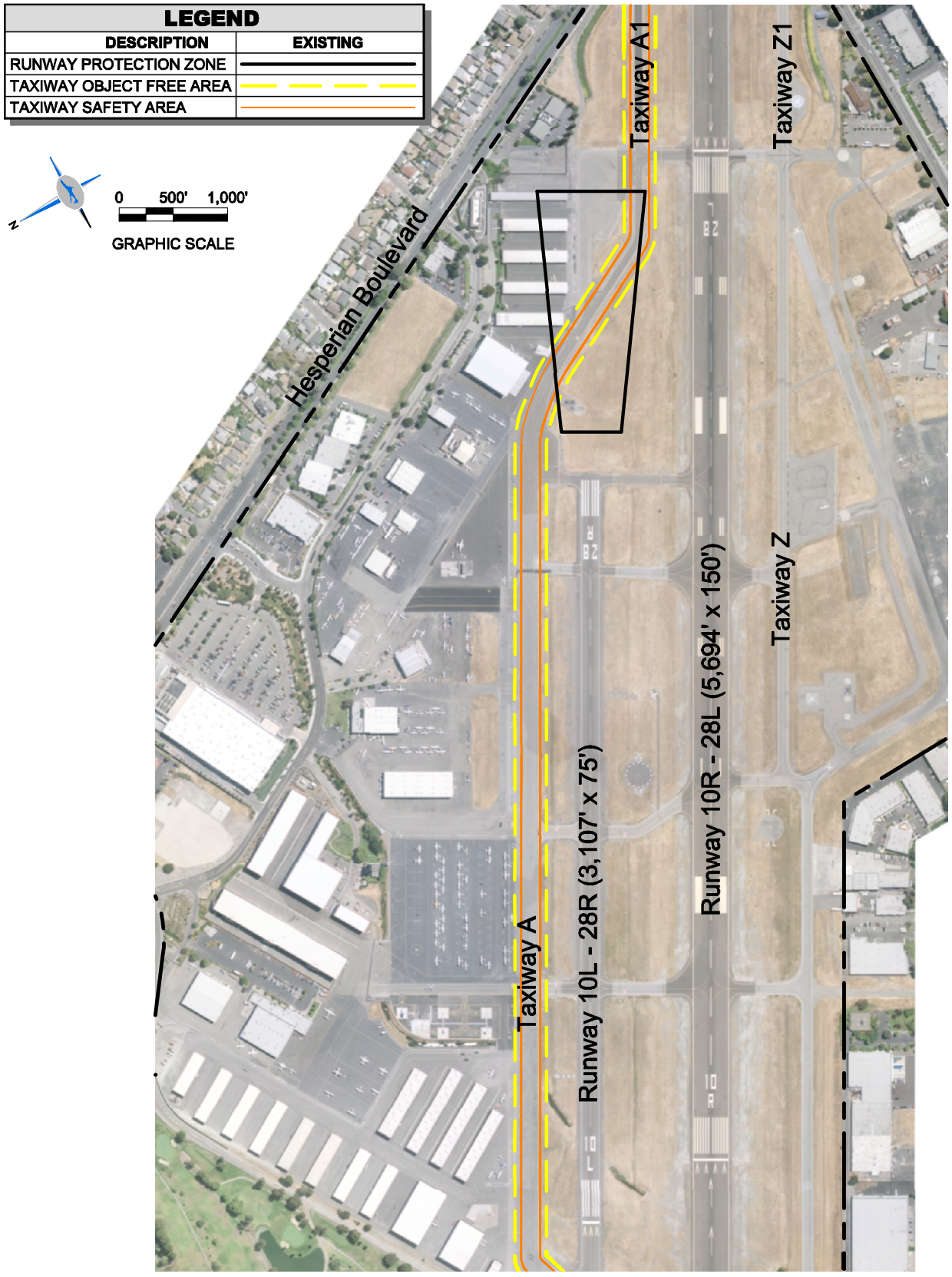


Figure 6-18
Service Road Alternative A – No Action

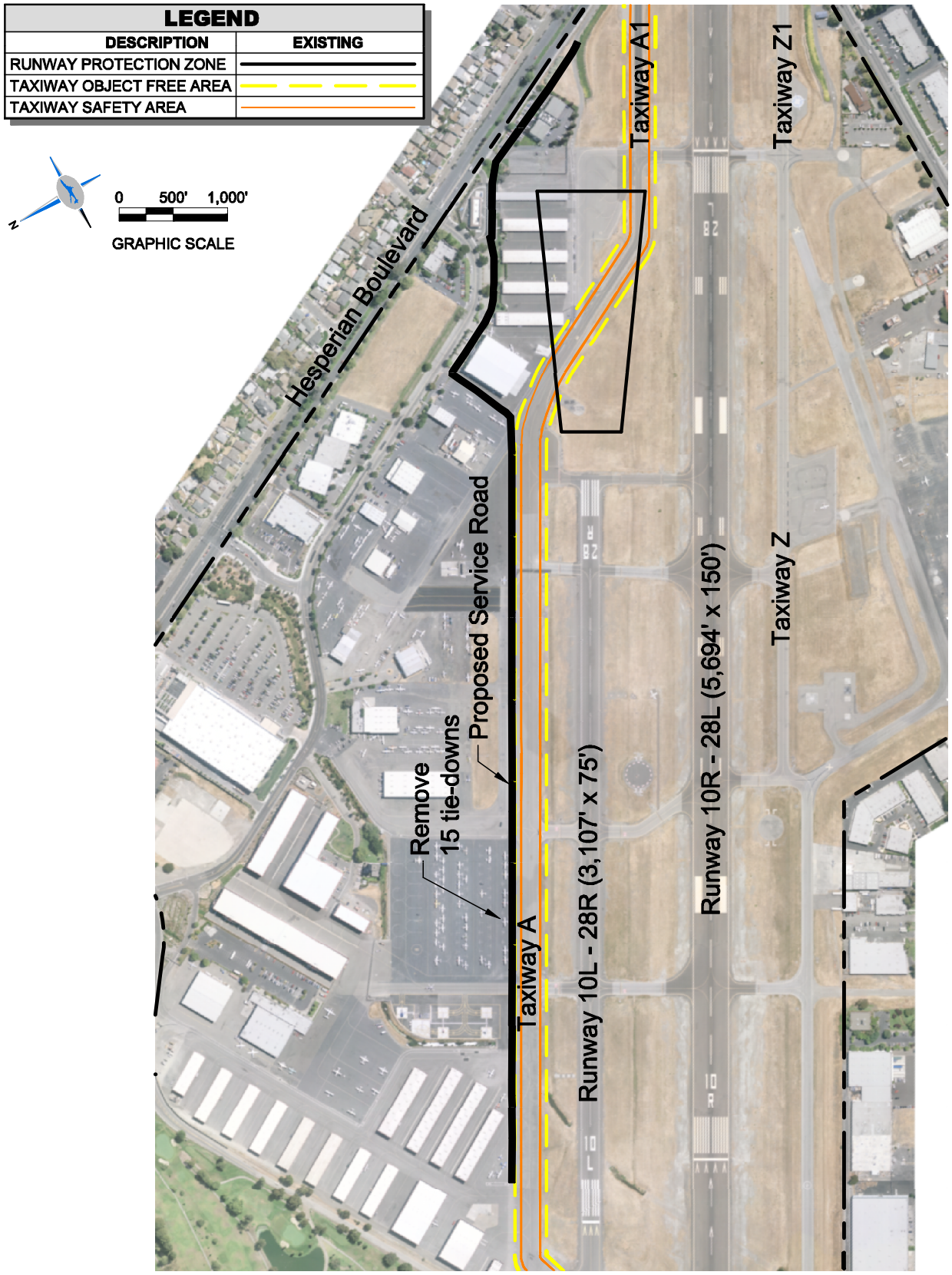


Figure 6-19
Service Road Alternative B – Relocate Service Road

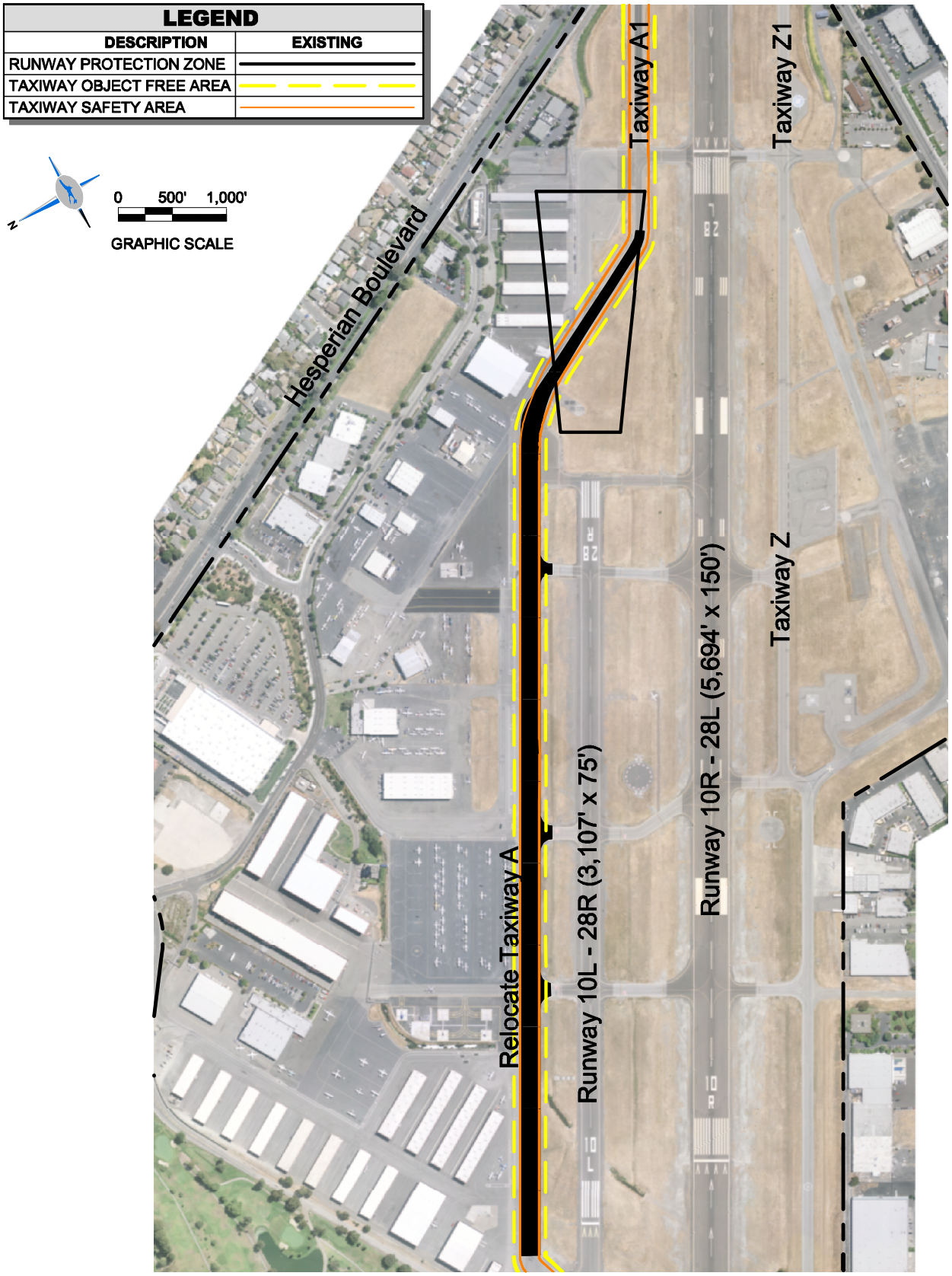


Figure 6-20
Service Road Alternative C – Relocate Taxiway A

D. relocated to provide full TSA and TOFA. However, shifting the taxiway closer to the runway end will further impact the Runway 28R/Taxiway A discussed previously.

E. Relocate and Close a Portion of Road. This alternative proposes two actions to mitigate the issue. First is to relocate the service road along the parallel portion of Taxiway A easterly 4 feet. The second action is to close the service road that traverses the TSA near the East T-Hangars to all vehicles, except those that are in communication with the ATCT (see Figure 6-21). Since the TSA represents movement area for Taxiway A, all vehicles using this segment of the road should be in contact with the ATCT. All other vehicles will need to use public streets (Skywest Drive, Hesperian, and West Winton Avenue) to move from one side of the airport to the other.

Evaluation of Alternatives

The evaluation process for this issue mirrors that of the Runway 28R/Taxiway A issue. Similar screening criteria are used:

- FAA Design Standards
- Existing Operations
- Existing Airfield
- Costs

As with the previous issue, a "No Action" alternative is used as a benchmark. All alternatives were passed through the above noted screening criteria. The analysis is described below and the results are summarized in Table 6-6.

Table 6-6
TAXIWAY A/SERVICE ROAD ALTERNATIVES EVALUATION

Alternative	FAA Design Standards	Existing Operations	Existing Airfield	Landside Facilities	Costs
A – No Action	Does not meet FAA design standards.	No change.	No change.	No change.	None.
B – Relocate Service Road	Meets FAA design standards.	Operations are safer due to service road being moved from TSA and TOFA.	No change to the existing airfield.	Remove 15 tie-downs. Potential access conflicts to existing facilities due to new road location.	Relocating the service road to accommodate existing landside facilities will be costly.
C – Relocate Taxiway A	Meets FAA design standards.	Further impacts Runway 28R/ Taxiway A issue.	Taxiway A is relocated to accommodate service road.	No impact to landside facilities.	Costs more to relocate the taxiway 4 feet than it does to move the road.
D – Relocate and Close a Portion of Road	Meets FAA design standards.	Limits vehicle access from one side of the airport to the other.	No change to the existing airfield.	Remove 15 tie-downs.	Lowest costing alternative.

TSA = taxiway safety area; TOFA = taxiway object free area.

FAA Design Standards – With the exception of the "No Action" alternative, all alternatives meet FAA design standards.

Existing Operations – Alternative B does not impact existing operations. Alternative C causes an increased conflict with respect to the Runway 28R/Taxiway A issue. However, since the proposed action is to discontinue use of Taxiway A in this area, this impact is expected to be minimal. Alternative D

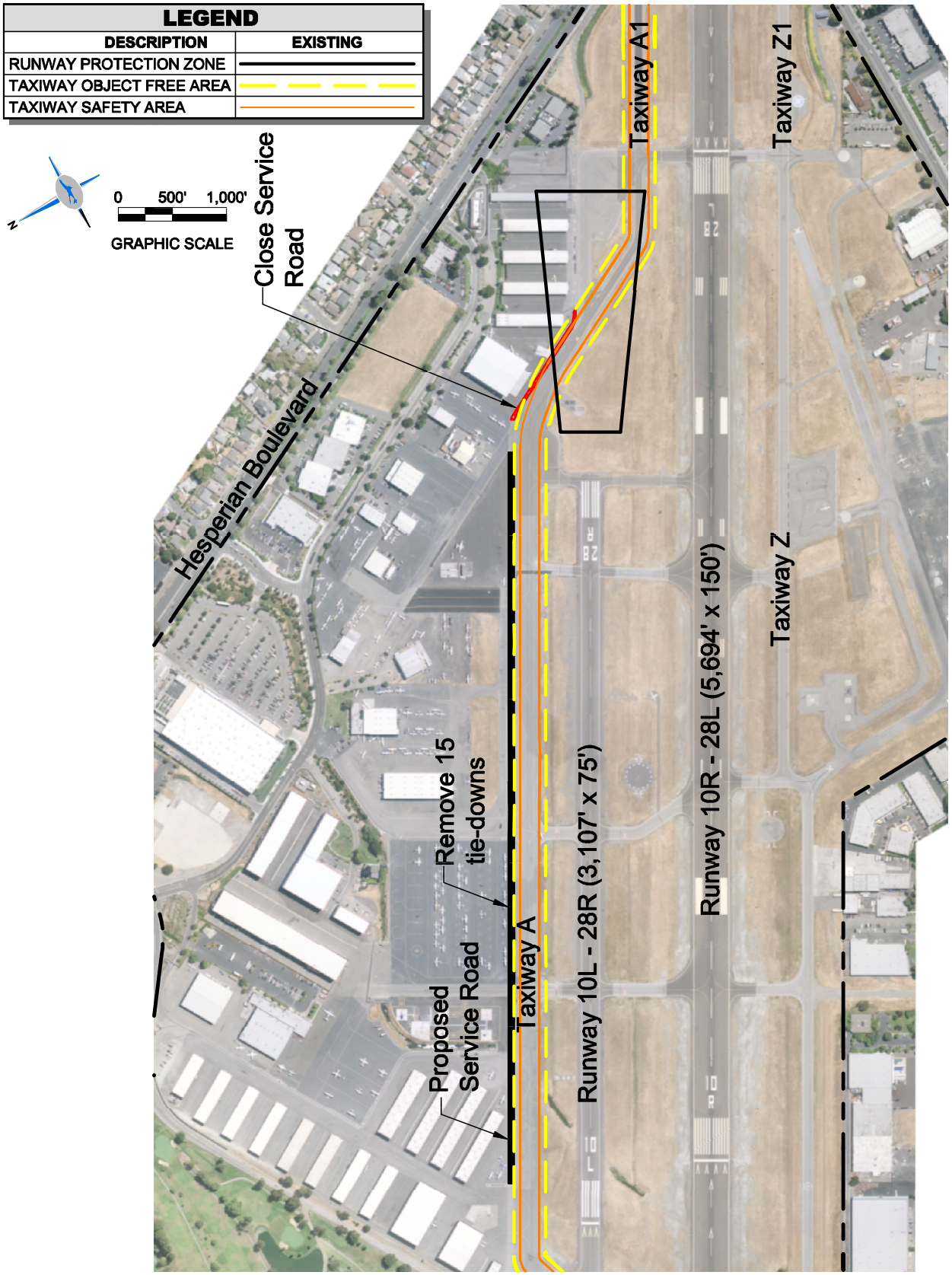


Figure 6-21
Service Road Alternative D – Relocate and Close a Portion of Road

impacts existing operations by requiring vehicles to be in communication with the tower. While this does represent an increased load on ATCT staff, the amount of traffic expected on the service road is limited to airport maintenance vehicles and certain support vehicles, such as fuel trucks.

Existing Airfield – Alternative C is the only alternative that impacts the existing airfield. This alternative proposes to relocate Taxiway A 4 feet westerly. This is a small change to the existing airfield configuration, and does not create any other impacts. However, as noted above, relocation of the diagonal portion of Taxiway A further impacts the Runway 28R/Taxiway A issue.

Landside Facilities – Only Alternative C proposes no impact to the existing landside facilities. Alternatives B and D impact existing landside facilities as both alternatives remove 15 tie-downs. However, Alternative B creates a more substantial impact as it re-routes the service road on the east side of the East T-Hangars and the large conventional hangar.

Costs – Alternative D has the lowest relative cost of all the alternatives. Since Alternative B requires reconfiguration of certain landside facilities, it is assumed that this would be a significant cost item. Similarly, construction of new airfield pavement, as required in Alternative C, would be more costly than Alternative D.

Recommended Alternative

Alternatives C and D are the top two ranking alternatives. At the end of the evaluation a hybrid of the two alternatives represents the best alternative. The recommended alternative proposes to relocate the parallel portion of the service road 4 feet easterly, but retain the diagonal portion in its present location. Since Taxiway A will effectively be closed to aircraft, the vehicle TSA/TOFA conflict is nullified. However, should Taxiway A remain open, Alternative D represents the best alternative.

AIRPORT TRAFFIC CONTROL TOWER SITING

The airport is a controlled facility in that there is a FAA Airport Traffic Control Tower (ATCT) responsible for the control of air traffic on and around the airport, and therefore the analysis of facility requirements did not indicate the need for additional air traffic control (ATC) facilities. During a meeting with airport management and through a subsequent inspection of the control tower cab, it was discovered that the current tower location and height do not permit an unobstructed view of all aircraft movement areas. Specific areas where the ATCT does not have a clear line of site include the westerly portion of Taxiway A, run up apron for Runway 28L, aircraft exiting the East T-Hangar complex, and aircraft exiting the ParkAvion complex. Therefore, as part of this ALP Update potential sites for a new (replacement) control tower were considered. It should be noted that the timing of such development is dependent on FAA programming, and the evaluation of the need for a new ATCT and siting of a replacement control tower is the responsibility of the FAA. Potential sites for a new ATCT are identified, however, it is important to remember that the final location of a potential control tower will be determined by the FAA based on a special study to be performed by the FAA and will consider requirements stated in FAA Order 6480.4.

Three potential sites were identified (see Figure 6-22). Site 1 is adjacent to the present location of the ATCT. If this site is used, the ATCT will need to be taller, further obstructing FAR Part 77 transitional surfaces. Site 2 is on the south side of the airfield, and could be accessed by an existing gate near Taxiway E. From this location ATC staff will have clear visibility of all movement areas. However, an ATCT at this location will likely penetrate the FAR Part 77 transitional surfaces. The final site, Site 3, is located adjacent to the CANG leasehold. Again, at this location ATC will have clear visibility of all movement areas, though the industrial park buildings may require a slightly taller tower. Even with a slightly taller tower, it is expected that the ATCT would not penetrate FAR Part 77 transitional surfaces.

While it is understood that FAA will need to conduct a special study to properly locate the ATCT, Site 2 offers several advantages and seems to represent the best location. This site would permit good views of the entire airfield and dedicated access to ATCT staff could be provided. This site would enable controllers to better view Oakland arrival traffic that sometimes crosses over the airport from the north.

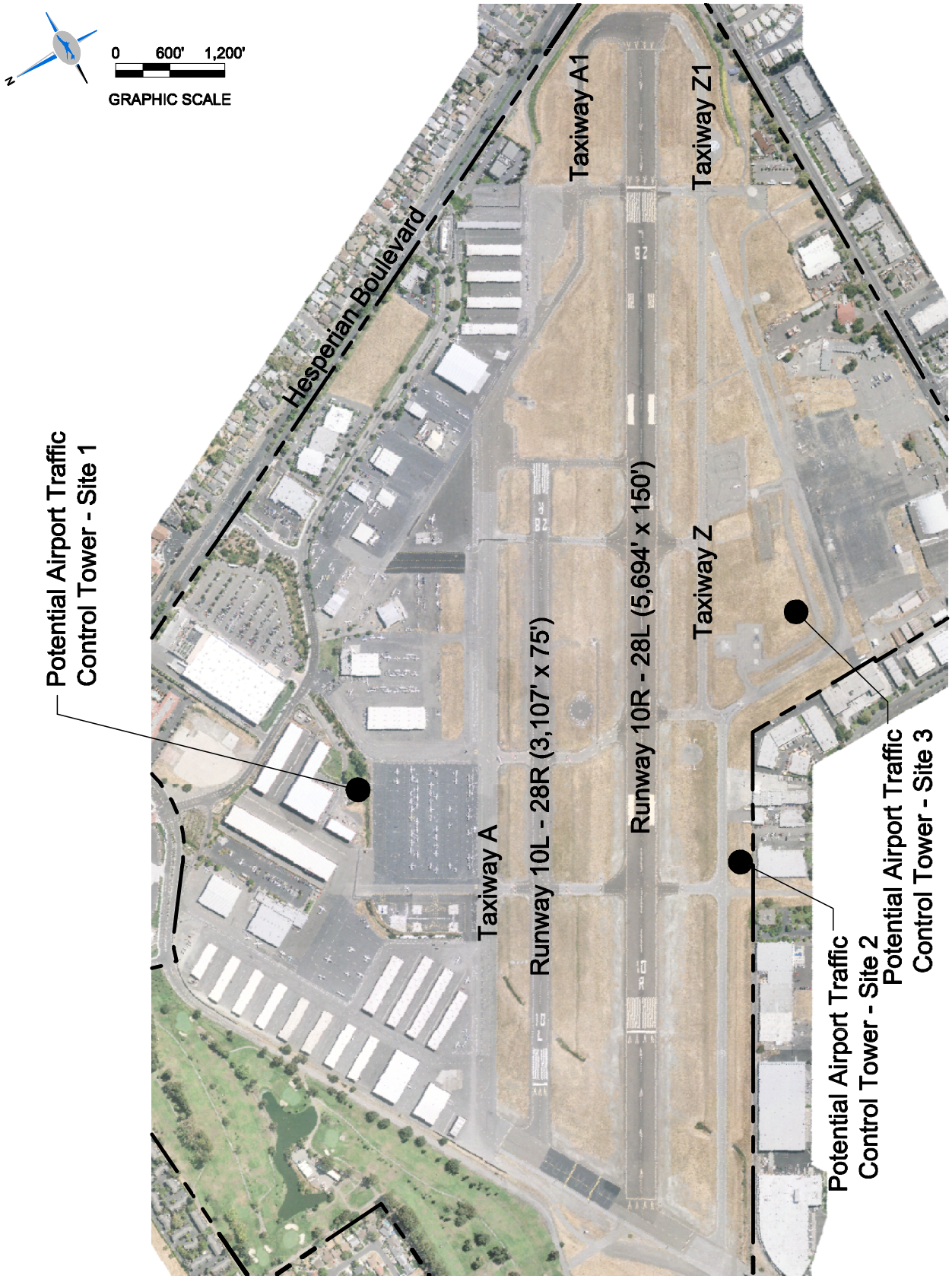


Figure 6-22
Potential Airport Traffic Control Tower Sites

LANDSIDE ALTERNATIVES

Landside alternatives for the Airport Layout Plan Update were limited to the inclusion of known projects discussed in Chapter 3. Landside requirements for this ALP Update are assumed to be the same as what was identified in the 2002 Master Plan. The landside requirements are assumed to be met through facilities shown on the current ALP and the planned FBO developments. These developments are described below, along with redevelopment of the California Air National Guard facility, a potential Small individual hangar park/complex, the West A Street extension, and alternative golf course access and parking.

California Air National Guard

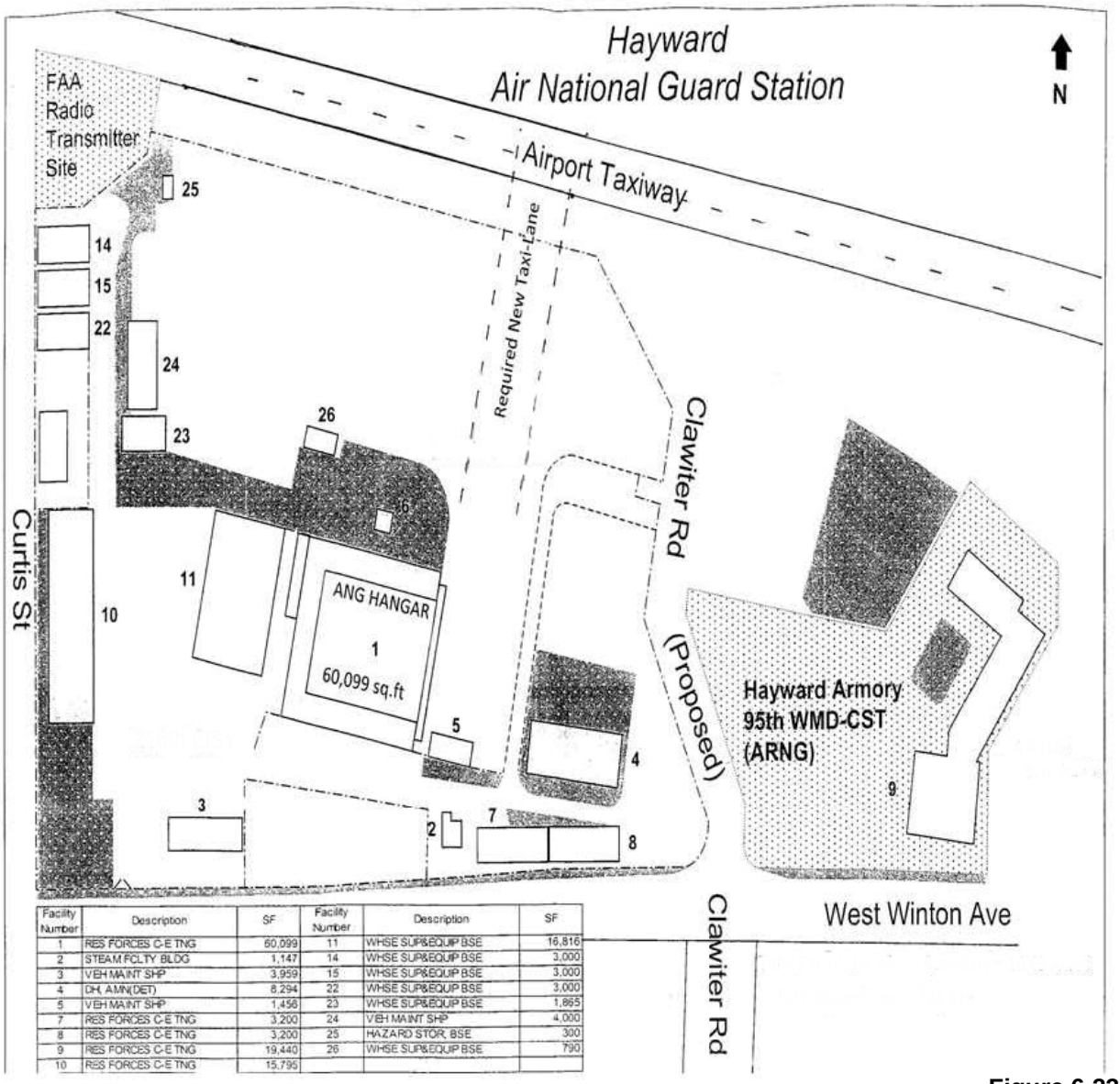
The California Air National Guard (CANG) previously occupied airport property through a lease agreement with the City along the south side of the airport. Approximately 17 acres will be returned to the City for redevelopment. Figure 6-23 depicts the area to be returned and redeveloped. As can be seen in Figure 6-23, the former CANG property to be developed is located along West Winton Avenue and is accessible via a gate located at the intersection of Clawiter Road and West Winton Avenue. Airside access is provided via Taxiway Z and a connecting taxilane that borders the northern edge of the site.

The former CANG site is presently under directives by the United States Environmental Protection Agency (EPA), State of California Regional Water Quality Control Board (RWQCB), and State of California Department of Toxic Substances (DTSC) for determination of further action to fully release the site from federal oversight and environmental cleanup. In November of 2008 a Record of Decision was issued and submitted as evidence, that the Department of the Air Force and the Air National Guard had exhibited due diligence in fully mitigating all concerns related to the known areas of contamination and what, if any, further monitoring or cleanup actions may be necessary to fully release the site from the Notice of Required Action by the State of California DTSC.

City and airport staffs have continuously met with Air National Guard personnel to determine a course of action for either continued site monitoring or mitigation that potentially might be required to achieve environmental closure of the site. Both the Air National Guard Bureau and the DTSC entities are working towards a collective resolution for any remaining issues related to previous military use of the former CANG property. It is the desire of the Air National Guard to convey a release of property back to the City of Hayward for development, contingent upon the agreement that the Department of Defense and the Air National Guard would have rights to access the site while ongoing mitigation and monitoring occurs.

In April 2009, the City of Hayward advertised a Request for Proposals from interested parties to develop this 17-acre parcel. Five proponents submitted their proposals to the City on May 29, 2009. Neither the City of Hayward, nor proponents developing the site will be obligated to assume the responsibility of or become the recipient of any action or actions requiring the cleanup of the former CANG site. The Request for Proposals defined the following minimum standards:

- The large 60,099-square foot hangar is to remain.
- Redevelopment and reuse of the large hangar is to include a defined space that will be used to house memorabilia and function as a museum open to the general public.
- Construction of a taxilane from the northern taxilane to the large hangar.
- Pavement construction shall be sufficient to support aircraft within FAA specified Aircraft Design Group II. Minimum weight bearing capacity of ramp and taxilane space constructed shall be of sufficient design and pavement thickness to support aircraft weighing up to 100,000 pounds dual tandem wheel weight.
- Hangars are to be constructed for the purpose of private or corporate-owned aircraft storage and not for scheduled or non-scheduled air carrier commercial operations or any non-aviation use whatsoever. Commercial operations conducted under FAR Part 135 air-taxi or charter operations are approved.



Facility Number	Description	SF	Facility Number	Description	SF
1	RES FORCES C-E TNG	60,099	11	WHSE SUP&EQUIP BSE	16,816
2	STEAM FCLTY BLDG	1,147	14	WHSE SUP&EQUIP BSE	3,000
3	VEH MAINT SHP	3,959	15	WHSE SUP&EQUIP BSE	3,000
4	DH, AMN(DET)	8,294	22	WHSE SUP&EQUIP BSE	3,000
5	VEH MAINT SHP	1,456	23	WHSE SUP&EQUIP BSE	1,865
7	RES FORCES C-E TNG	3,200	24	VEH MAINT SHP	4,000
8	RES FORCES C-E TNG	3,200	25	HAZARD STOR, BSE	300
9	RES FORCES C-E TNG	19,440	26	WHSE SUP&EQUIP BSE	790
10	RES FORCES C-E TNG	15,795			

Figure 6-23
California Air National Guard Lease Area

Hayward Airport Development Group, LLC was the selected developer for the former CANG site. Their conceptual layout is presented in Figure 6-24.

Small Individual Hangar Park / Complex

As was mentioned in Chapter 5, there is a desire to increase hangar capacity for smaller general aviation (GA) aircraft. These hangars could be similar in size and configuration to the West T-Hangars currently at the airport but may also be small box hangars. The new small individual hangar complex should accommodate approximately 48 individual hangar spaces. These hangars can be developed by the City or private developers. If hangars are constructed by private developers, guidelines will include regulations on time frames for obtaining permits, starting construction, and completing constructions.

Developments shall be in accordance with all applicable airport, City, State, and FAA requirements, codes and regulations.

Figure 6-24
Conceptual Development of former CANG Leasehold

Two potential locations were identified that could accommodate the small individual hangar park/complex (see Figure 6-25). The first location is the former CANG site and the second location is the lease parcel known as Epic Aviation, located east of the ATCT. The area is currently leased, pending construction, but could be redeveloped as a small individual hangar park/complex if construction is not completed by December 31, 2010, when the lease will expire and revert to the City. While it is understood that there are other potential uses for this parcel, the Epic Aviation parcel would present an ideal location for smaller GA aircraft, as that is the predominate use of the present area. Additionally, business jets and other corporate aircraft should be segregated from recreational type aircraft to increase efficiency and safety of operations at the airport. This can be done by developing the south side of the airport as a corporate jet center and utilizing the north areas of the airport primarily for recreational/single engine piston type aircraft.

General Aviation Terminal

The 2002 Master Plan identified a need for a 12,000-square foot general aviation terminal building. A general aviation terminal often provides space for pilot's lounge, flight planning, airport administration offices, storage, restrooms, office space that can be leased, and a restaurant. The various FBOs at the airport provide the same services as a general aviation terminal building would, but the large FBOs at Hayward cater more to the corporate/business users of the airport. Also, these facilities are scattered at various locations around the airport and none are immediately adjacent to the City owned transient ramp. The proposed GA terminal building would be located adjacent to, and west of, the ATCT and administration building. The proposed building could be two-stories. Direct access from the transient

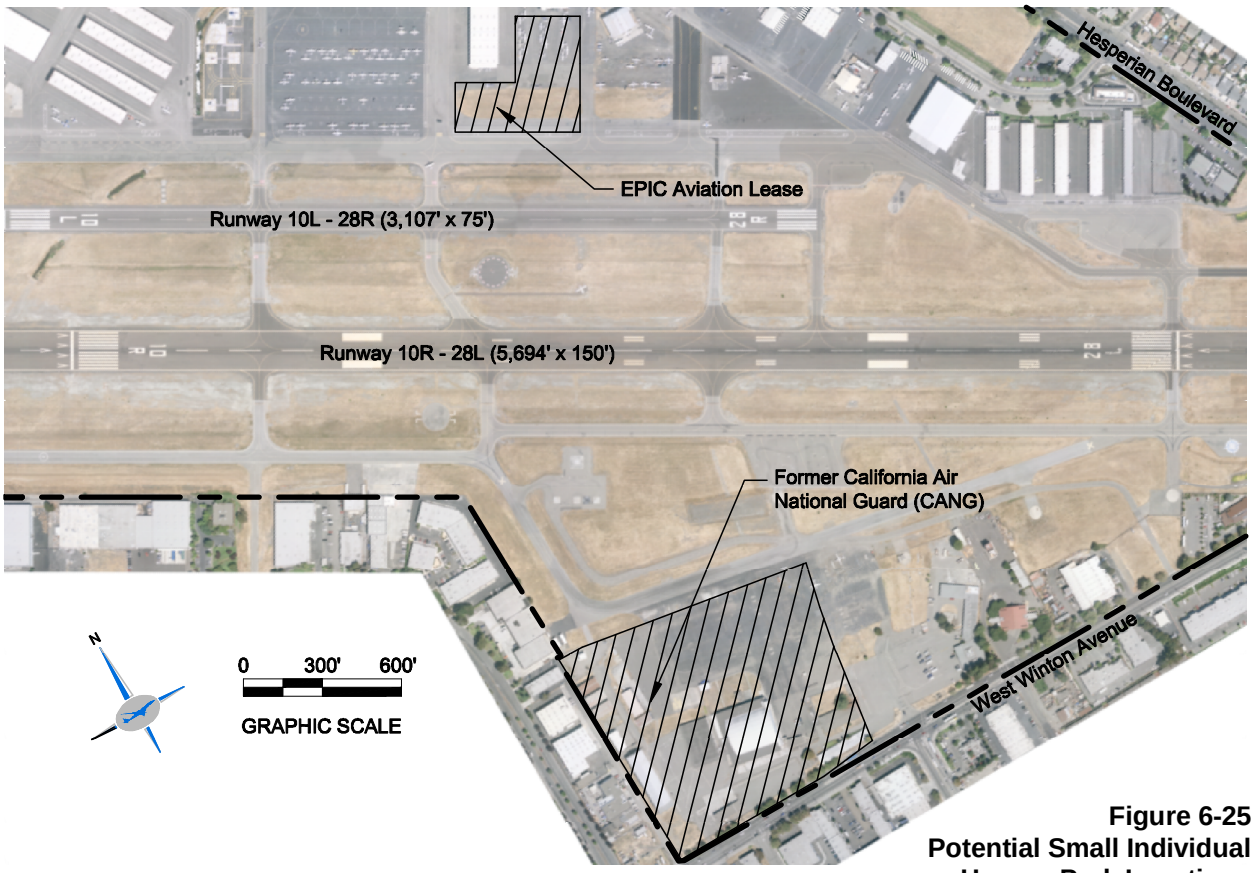


Figure 6-25
Potential Small Individual Hangar Park Locations

ramp to the terminal will be provided through dedicated pedestrian access. This location is highly visible from the transient ramp. However, it is noted that this area provides limited auto parking and providing adequate auto parking in this area may be difficult. Therefore, it may be necessary to utilize some of the transient tie-down area to accommodate the future terminal building and/or automobile parking. Figure 6-26 depicts a potential location for the proposed two-story GA terminal.

Perimeter Service Road

Issues with the existing service road as it relates Taxiway A were discussed in detail in previous sections of this chapter. Presently, there are dedicated service roads on the north side of the airport and around the eastern runway ends. Perimeter service roads should be included on the south side of the airport and around the western runway ends. The perimeter service road south of the airport should be located outside of the taxiway object free area associated with Taxiway Z. The taxiway object free area width is 131 feet wide, or 65.5 feet on either side of the taxiway centerline. The perimeter service road should loop around the proposed EMAS bed for Runway 10R, parallel the existing airport perimeter fence and rejoin with the service road paralleling Taxiway A (see Figure 6-27). Since this alignment traverses the corners of the ROFA, vehicle using the perimeter service road should be equipped with radios to communicate with the tower.

On the eastern side, the south noise berm will be removed and sound walls installed. Additionally, the existing blast fence will be relocated and expanded to provide enhance blast protection for West Winton Avenue and Hesperian Boulevard. Figure 6-28 depicts the eastern perimeter service road, relocated blast fence, and sound walls. The perimeter service road is mostly beyond ROFA limits, but communication with the ATCT is encouraged due to the proximity of the road to Runway 28L end.

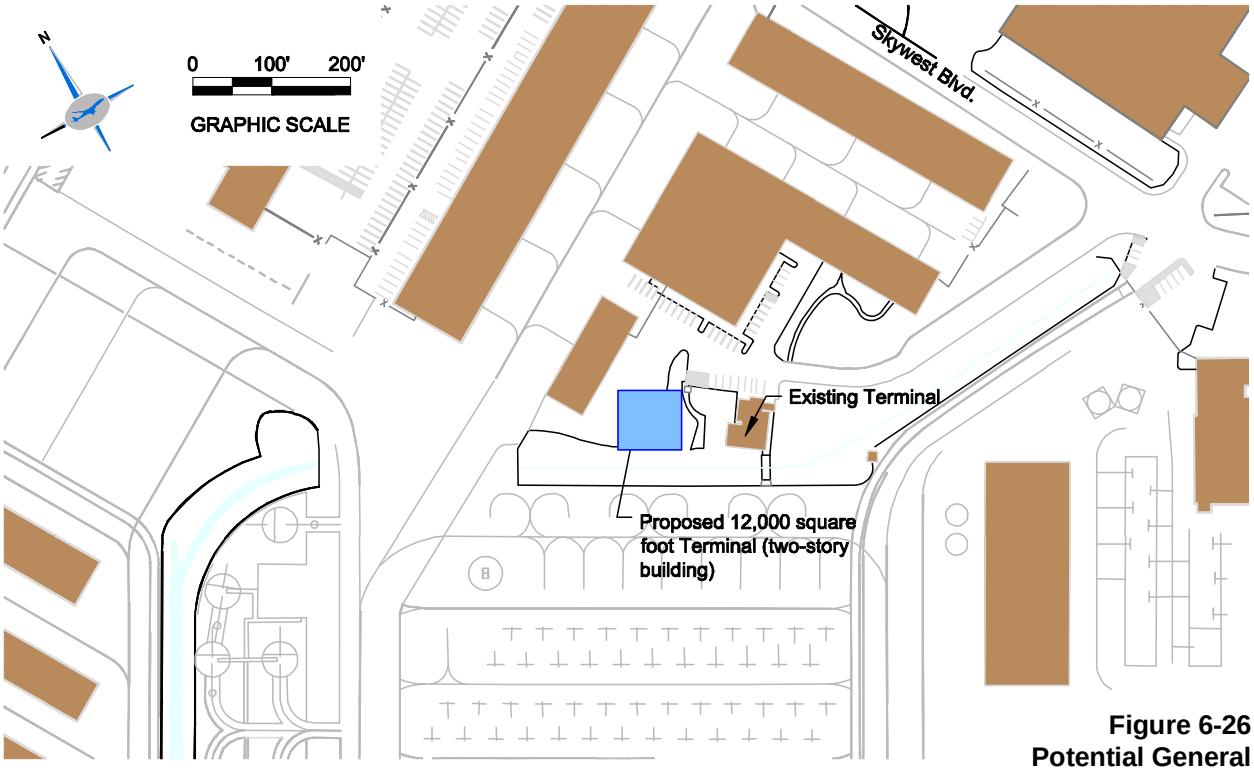


Figure 6-26
Potential General Aviation Terminal Location

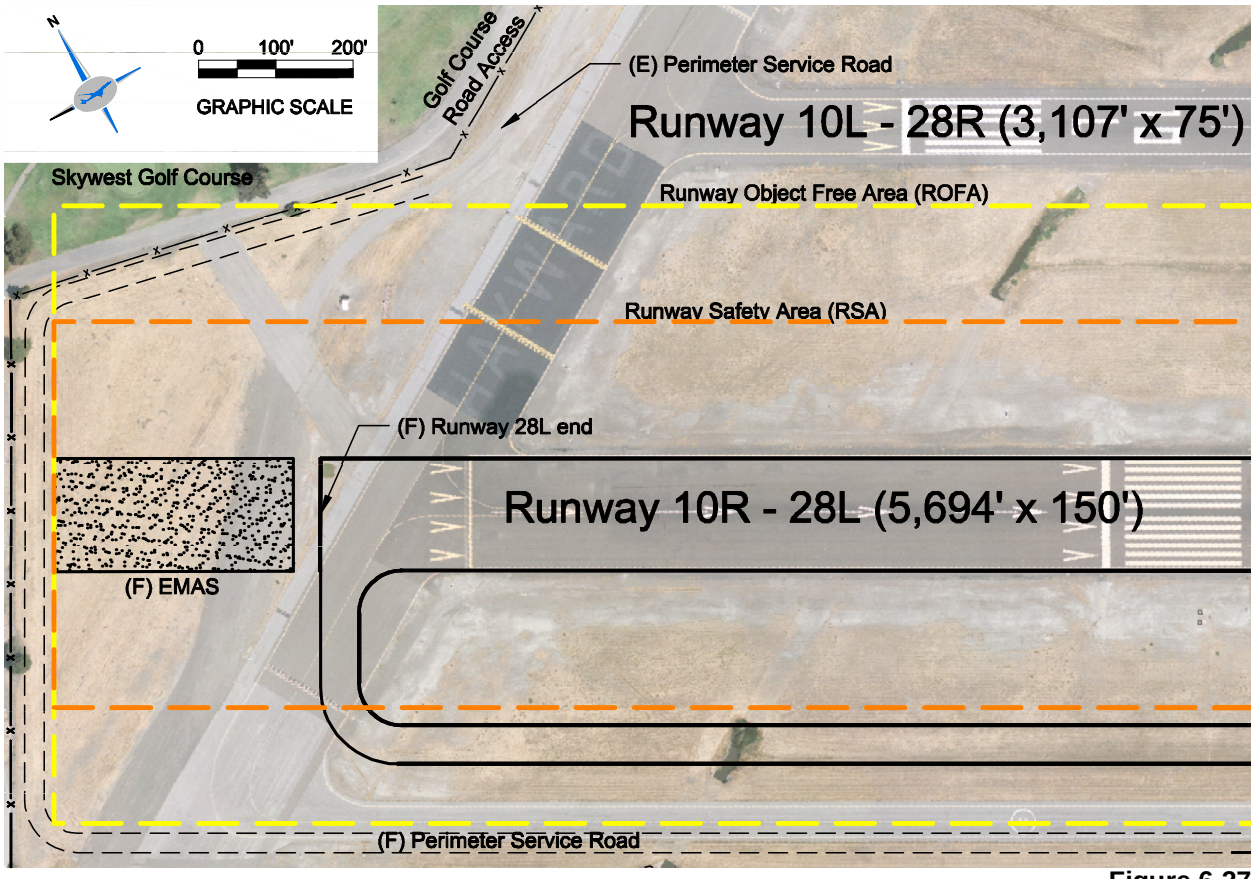


Figure 6-27
West Perimeter Service Road

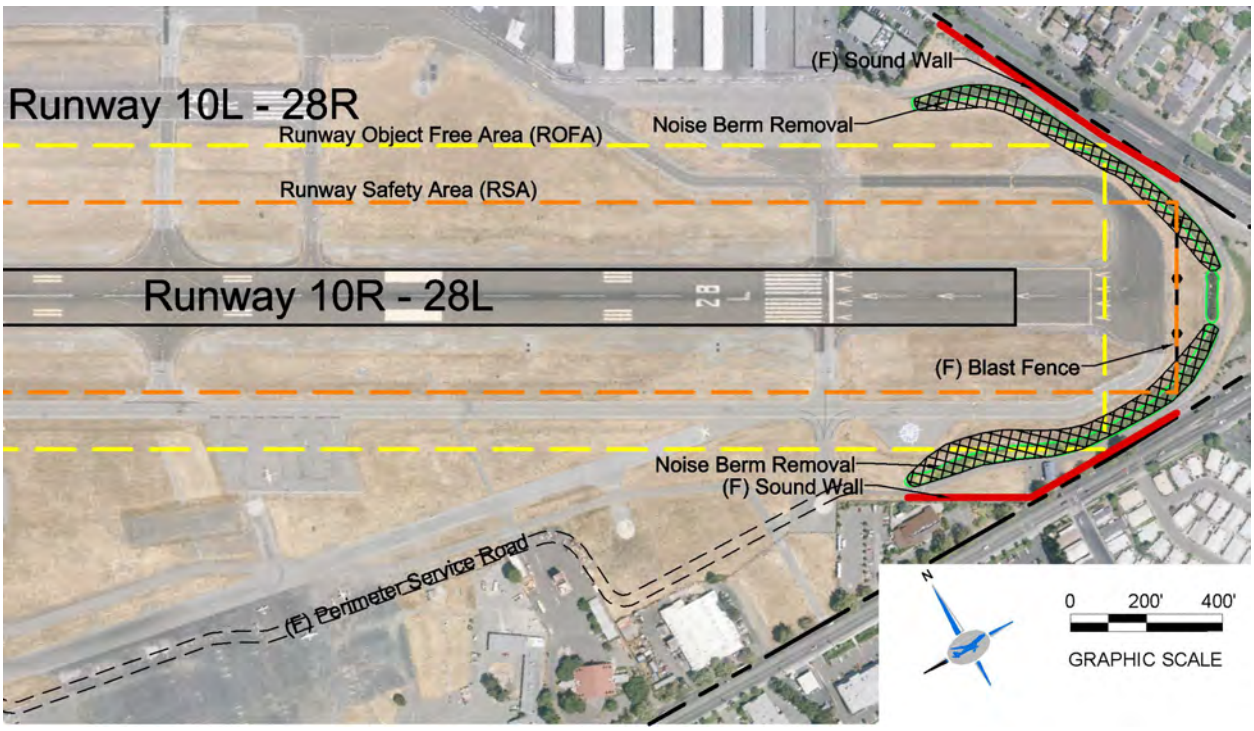


Figure 6-28
East Perimeter Service Road

The perimeter service road becomes a zipper lane through the south side development. The alignment of this zipper lane is depicted on Figure 6-28. Alignment of this lane accommodates proposed hangar developments by the FBO.

Golf Course Access and Parking

The Skywest Golf Course Access Road (a private road) and parking are within the existing and proposed runway protection zones (RPZs). Once the airside development improvements are constructed, the Golf Course Access Road and parking lot will be outside of the ROFA and RSA. However, automobile parking is discouraged from within the central portion of the RPZ. The central portion of the RPZ is defined as being the same width as the ROFA and extends the entire length of the RPZ. It may be possible to continue using the central portion as vehicle parking as a deviation from FAA design standards. However, if necessary, consideration may be given to relocate the golf course parking lot adjacent to Sulphur Creek and to permanently close the Golf Course Access Road. Access to the golf course can be provided via Corsair Boulevard and golf course parking can be provided on the abandoned runway pavement adjacent to Sulphur Creek. A pedestrian/golf cart bridge is required to provide direct access to the golf course club house. A bridge can be constructed adjacent to, or over, existing utilities that traverse the creek. Figure 6-29 depicts the alternate golf course parking lot and access road.

Should the Golf Course Access Road remain, its use must be limited to current uses. The Golf Course Access Road must not be expanded physically or in levels of service, and must not become a main thoroughfare in its present alignment. Should a main arterial road be constructed, it must remain clear of all airport safety zones and approach surfaces.

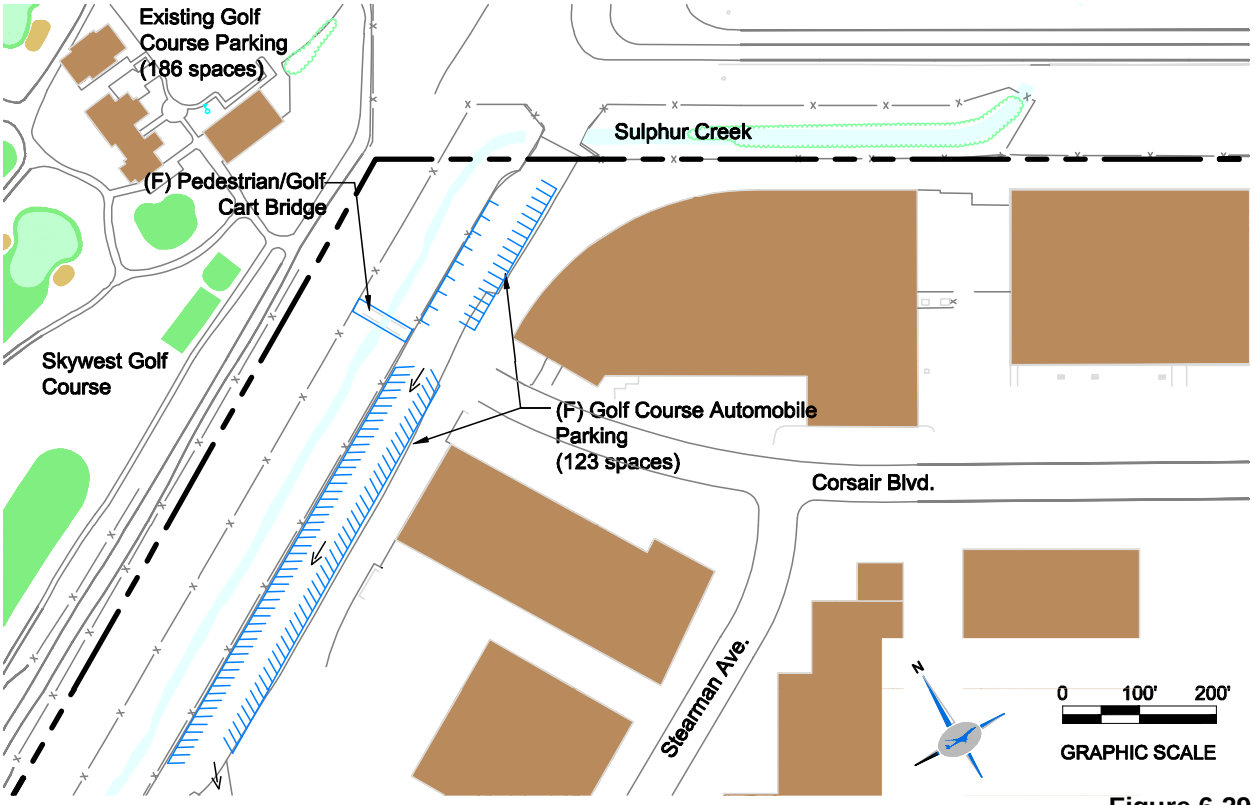


Figure 6-29
Golf Course Parking

West A Street Extension

The City's General Plan proposed to extend West A Street from the Target shopping center to Corsair Boulevard. This project was intended to alleviate congestion at the intersection of Hesperian Boulevard and West Winton Avenue. The West A Street extension was shown on the previous master plan and ALP, and the final design of the West A Street extension was running parallel to this ALP Update. Two alternatives were devised to extend West A Street: 1) constructing a tunnel under Runway 10R-28L, including associated safety areas and 2) relocating the road on the northern side of the Skywest Golf Course, adjacent to the San Lorenzo neighborhood.

While the installation of EMAS effectively limits the RSA and ROFA to the extent of the EMAS bed length, it is very undesirable to locate main roads within the RPZ. RPZs should be kept free and clear of all obstacles. Vehicle traffic on the road, including large truck traffic, would represent significant objects within the RPZ. Hesperian Boulevard and West Winton Avenue traverse the eastern RPZ, but are existing conditions that existed prior to the current RPZ criteria definitions.

As of this writing, the West A Street extension project has been terminated, and determined to be infeasible due to restrictions under the current FAA design standards. It is important to note that the golf course property was released from aeronautical use in 1966. The Instrument of Release states that uses of the property which might interfere with the landing and taking off of aircraft from the airport, or otherwise constitute an airport hazard will not be allowed on this parcel of land. Construction of a major arterial roadway near the runway end, through the runway protection zone, would constitute an airport hazard.

Should West A Street be extended at some point in the future, the alignment of the street should allow for the development of a runway extension, as depicted in Alternative 10 of the Airside Alternatives. The road alignment should remain clear of all runway and taxiway object free areas. While this runway extension is not feasible or warranted within this planning study, protecting for the eventual runway

extension is prudent planning, and at the very minimum provides an additional level of safety by reducing the risks of an aircraft/vehicle collision.

Preferred Landside Development Concept

Figure 6-30 depicts the preferred landside development concept. This concept depicts development of the former CANG site by Hayward Airport Development Group, LLC (including an extension of Taxiway C), a two story general aviation terminal, and the perimeter service road. It is assumed that the golf course parking lot and access road can remain as deviations from FAA design standards. The figure also depicts those planned FBO developments described in Chapter 3, namely Ascend Development, Bud Field Aviation, Airport Property Partners, Walter Imbrulia's Development, and American Aircraft Sales. The figure depicts shade hangars along the southern edge of the airport, adjacent to the industrial park. These were previously referred to as the Corsair Hangars. Lastly, the Hayward Hangars development is also reflected on the figure.

BASIS OF THE AIRPORT LAYOUT PLAN

The Refined Recommended Airside Alternative and the Preferred Landside Development Concept as described above serve as the basis of the Airport Layout Plan. This represents the City's plan to meet FAA design standards for Airport Reference Code C-II and D-II aircraft that currently use the airport. This also represents future landside development anticipated at the airport.

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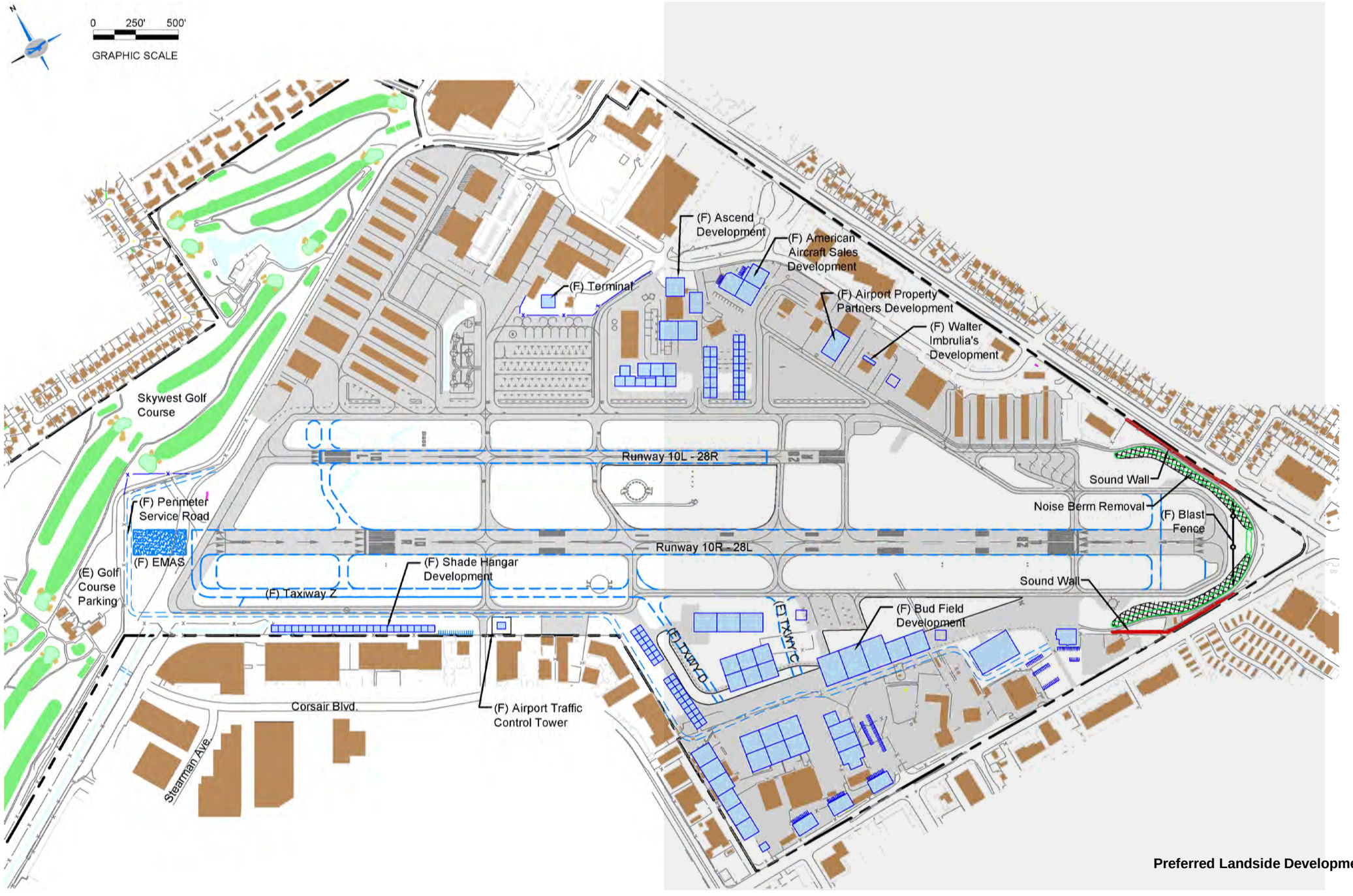


Figure 6-30
Preferred Landside Development Concept

Chapter 7
Airport Plans

Chapter 7– Airport Plans

INTRODUCTION

This chapter, Airport Plans, is intended to detail the 20-year development program for Hayward Executive Airport. The design of the airport system, as described herein, is based upon the facility requirements discussed in Chapter 5 and the recommended alternative development concept presented in Chapter 6. This airport development program is intended to integrate existing facilities and improvements needed over the next ten years within the framework of an implementation schedule.

This chapter is comprised of a text discussion and accompanying graphics, some of which are reductions of large-scale plans prepared during the course of this study, which graphically depict the recommended development plan for Hayward Executive Airport. The overall development plan for the airport is depicted on the Airport Layout Plan (ALP). The ALP is a graphic presentation of existing and ultimate airport facilities and is a key document that serves as a reference of aviation requirements, as well as land use and financial planning. In order to receive federal funding assistance, proposed projects must be consistent with the ALP, and thus the ALP must be revised and periodically updated.

Many development recommendations contained in this report, and indicated on the airport plans, are based on projected traffic levels and attainment of these levels. It cannot be overemphasized that where development is recommended based upon demand or traffic levels (such as hangars), it is ***actual***, not forecast, demand that dictates the timing of construction. However, for planning purposes, a suggested schedule must be provided, and this schedule is based upon the forecasts of aviation traffic presented in Chapter 4.

It is also important to point out the schedule of improvements proposed in this plan is contingent upon the availability of Federal, State, and local (City and Airport Enterprise) funds, and investment from the private sector. While improvements are scheduled for specific years in this report, it must be remembered the programming of the Airport Improvement Program by the FAA will determine the timing of many projects. Development projects at Hayward Executive Airport must be reconciled with development priorities of other airports in the region. Therefore, implementation of projects will then depend on the availability of funds and FAA programming, as well as attainment of activity levels. Chapter 8 addresses financial aspects of the plan, including FAA funding, and presents a funding plan to implement improvements shown on the ALP.

In addition to the ALP, nine other drawings are included in the set of plans prepared as part of this airport layout plan. These are a Cover Sheet, the Data Sheet, the Building Area Layout, Airport Airspace Drawing, Inner Portion Approach Surface Drawings, the Departure Surface Plan, the On-Airport Land Use Plan, the Exhibit “A” – Property Map, and the Environmental Resources and Constraints Map.

AIRPORT LAYOUT PLAN

The Airport Layout Plan (ALP) and associated Data Sheet, Figures 7-1 and 7-2, delineate the overall development plan for Hayward Executive Airport as recommended in this Airport Layout Plan Update. This section discusses, in phases, the projects shown on the ALP. Project phasing is not depicted on the ALP drawing, which gives the City additional flexibility with the FAA to program projects as needed to satisfy demand, rather than in a set sequence. However, phasing of the developments is used to develop

the financial projections described in Chapter 8. The development phases used within this study are as follows: the short-term or Phase 1 (1-5 years); and the long-term or Phase 2 (6-10 years). Projects shown on the ALP, and phasing discussed herein, vary from the recommended plan presented in Chapter 6 due to further discussions with the City and funding considerations discussed in the next chapter.

As a graphic overview of the recommended airport development, the ALP is supported by the other plans discussed in this section. The Airport Layout Plan conforms to guidelines set forth by the FAA for the preparation of this plan. The ALP is the principal plan depicting the recommended improvements and changes to the airport configuration, and support areas. The recommended development program shown on the ALP is summarized below on a phase-by-phase basis.

Phase 1 Development (2010 – 2015)

Phase 1 (Table 7-1) development at Hayward Executive Airport encompasses the short-term period (2010-2015) of the overall plan. The improvements discussed below are considered to be of the highest priority in the total development plan, but are coordinated with the remainder of the plan and are supported by findings reached during previous portions of the study.

Table 7-1
RECOMMENDED PHASE 1 DEVELOPMENT

Project	Timing
Relocate Sulphur Creek into Box Culvert	2011
Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas	2011
Extend Taxiway C	2011
Bud Field Aviation - Phase 1	2011
American Aircraft Sales – Hangar A	2011/2012
Install Airport Safe Drains	2012
Construct Terminal Building and Parking	2012
Obstruction Removal Runway 10R-28L	2012
Taxiway Z Realignment; Corsair Ramp	2012
Walter Imbrulia's Development	2012
Airport Property Partners Development	2012-2013
Construct Sound Walls and Blast Fence	2013
Taxiways C and E Pavement Rehabilitate	2013
CANG Reuse Phases 2 and 3	2013
Shorten Runway 28R	2013
Airfield Electrical Renovation and Improvements	2014
Translate Runway, Install EMAS, and Reroute Roads and Fencing	2014
Recertify Instrument Approaches	2014
Install PAPI and New REIL on Runway 28L	2015
Relocate Airport Perimeter Road	2015
Pavement Rehabilitation - Tie-Down Ramp	2015
Wildlife Management Plan	2015

Source: AECOM

Relocate Sulphur Creek into Box Culvert (2011)

Once the environmental studies are complete, design and construction of the Sulphur Creek improvements can begin. Sulphur Creek was identified as not meeting FAA design standards in the latest RSAT (Runway Safety Action Team) review. The open creek represents a hazard to aircraft operating on Runway 10L-28R. This project places approximately 440 linear feet of Sulphur Creek into a box culvert. Implementation of this project will put the airport in compliance with the final open item from the RSAT review and will enhance safety of the airport. This project will also reduce

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°39'32.88"N
(ARP) COORDINATES (NAD 83)	LONGITUDE	122°07'18.30"W	122°07'20.32"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
			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
14	AIR NATIONAL GUARD
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	37°39'31.99"N
	LONGITUDE	122°07'04.63"W	122°07'09.80"W
	ELEVATION[1]	37.1'	35.5'

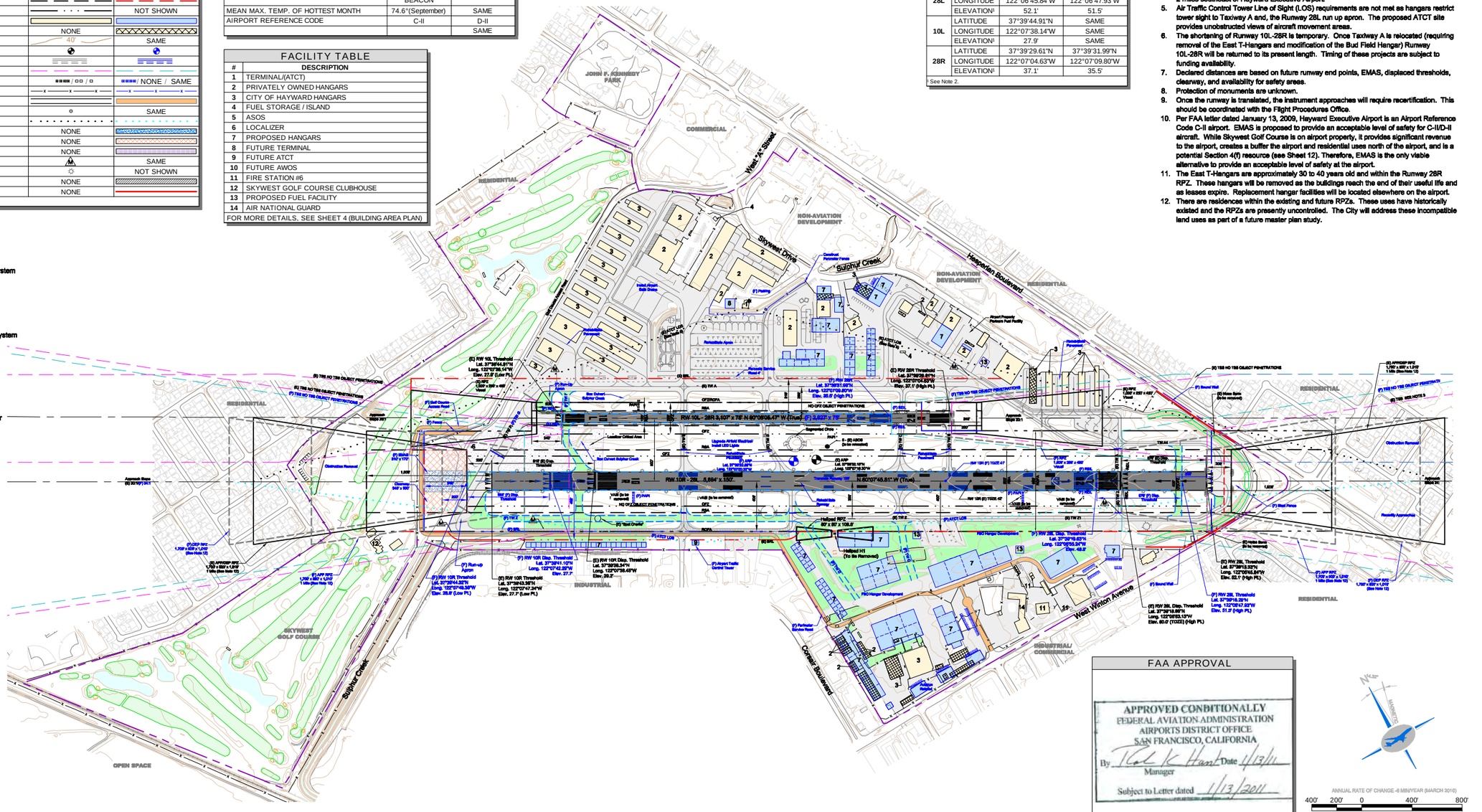
[1] See Note 2.

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. The shortening of Runway 10L-28R is temporary. Once Taxiway A is relocated (requiring removal of the East T-Hangars and modification of the Bud Field Hangar) Runway 10L-28R will be returned to its present length. Timing of these projects are subject to funding availability.
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 airport, 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



FAA APPROVAL

APPROVED CONDITIONALLY
FEDERAL AVIATION ADMINISTRATION
AIRPORTS DISTRICT OFFICE
SAN FRANCISCO, CALIFORNIA
By _____ Date 1/13/11
Manager
Subject to Letter dated 1/13/2011

ANNUAL RATE OF CHANGE -9 MINYEAR (MARCH 2010)
400' 200' 0 400' 800'
GRAPHIC SCALE

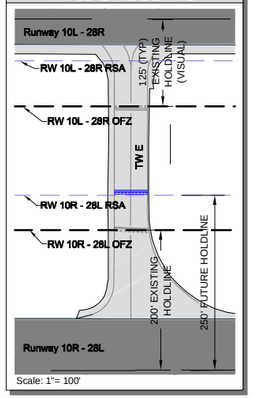
Figure 7-1
Airport Layout Plan

RUNWAY DATA

DESCRIPTION			RUNWAY 10R - 28L EXISTING	RUNWAY 10R - 28L FUTURE	RUNWAY 10L - 28R EXISTING	RUNWAY 10L - 28R FUTURE
AIRPORT REFERENCE CODE			C-II	D-II	B-I, SMALL	SAME
EFFECTIVE GRADIENT (IN %)			0.43	0.44	0.29	SAME
MAXIMUM GRADIENT (IN %)			0.84	SAME	0.46	SAME
WIND COVERAGE % (16 KNOTS)			99.85	SAME	99.85	SAME
APPROACH VISIBILITY MINIMUMS			VISUAL/1 MILE	1 MILE	VISUAL	SAME
DESIGN AIRCRAFT	MAKE AND MODEL		CHALLENGER 601	GULFSTREAM IV	BEECH BARON 58	SAME
	WINGSPAN (FEET)		64.33	77.83	37.8	SAME
	UNDERCARRIAGE WIDTH		11.98	15.72	11.02	SAME
	APPROACH SPEED (KNOTS)		125	149	101	SAME
	MAX. TAKEOFF WEIGHT (LBS)		44,600	74,600	6,200	SAME
RUNWAY MARKING			NON-PRECISION	SAME	NON-PRECISION	SAME
APPROACH CATEGORY (FAR PART 77)		RUNWAY 10	VISUAL	NON-PRECISION	VISUAL	SAME
		RUNWAY 28	NON-PRECISION	SAME	VISUAL	SAME
RUNWAY ℄ TO PARALLEL TAXIWAY ℄			300'-400'	300'	240'	SAME
TAXIWAY ℄ TO FIXED OR MOVABLE OBJECT			65.5'	SAME	65.5'	SAME
TAXIWAY OBJECT FREE AREA WIDTH			131'	SAME	131'	SAME
TAXIWAY SAFETY AREA WIDTH			79'	SAME	79'	SAME
TAXIWAY WINGTIP CLEARANCE			26'	SAME	20'	SAME
RUNWAY ELEVATIONS (NAVD 88) (See Note 2)	TOUCHDOWN ZONE (TDZ)		50'/42'	50'/40'	NONE	SAME
	HIGH POINT		52.1'	51.5'	37.1'	35.5'
	LOW POINT		27.7'	26.6'	27.9'	SAME
	END POINT (RUNWAY 10/28)		27.7'/52.1'	50.0'/26.6'	27.9'/37.1'	SAME/35.5'
LINE OF SIGHT REQUIREMENT MET			YES	SAME	YES	SAME
RUNWAY LENGTH			5,694'	SAME	3,107'	2,627'
RUNWAY WIDTH			150'	SAME	75'	SAME
RUNWAY/TAXIWAY PAVEMENT MATERIAL			ASPHALT	SAME	ASPHALT	SAME
APPROACH SLOPE			20:1/34:1	34:1	20:1	SAME
PAVEMENT STRENGTH (S/D/DT) (000 LBS)			30/75/95	SAME	13/0/0	SAME
RUNWAY LIGHTING			MIRL	SAME	MIRL	SAME
NAVIGATIONAL AIDS			Beacon/GPS/Localizer	SAME	Beacon/GPS	SAME
VISUAL AIDS		RUNWAY 10	VASI/REIL	PAPI/REIL	PAPI	PAPI/REIL
		RUNWAY 28	VASI/REIL	PAPI/REIL	PAPI	PAPI/REIL
RUNWAY SAFETY AREA		LENGTH[1]	1,000'	SAME	240'	SAME
		WIDTH	500'	SAME	120'	SAME
RUNWAY OBJECT FREE AREA		LENGTH[1]	1,000'	SAME	240'	SAME
		WIDTH	800'	SAME	250'	SAME
OBSTACLE FREE ZONE		LENGTH[1]	200'	SAME	200'	SAME
		WIDTH	400'	SAME	250'	SAME
RUNWAY CENTERLINE TO HOLD LINE			200'	250'	125'	SAME

[1]Length from runway end. Full RSA, OFZ, ROFA to be provided through the application of declared distances.

HOLD LINE DETAIL



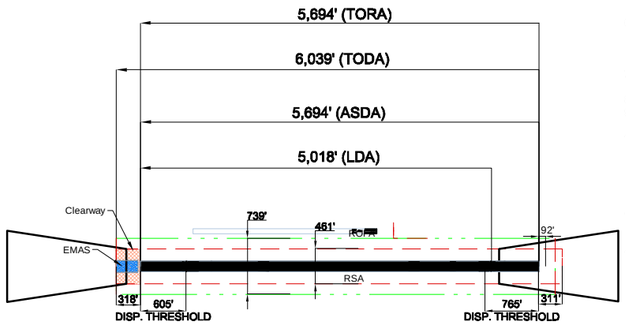
Scale: 1"= 100'

TAXIWAY DETAILS

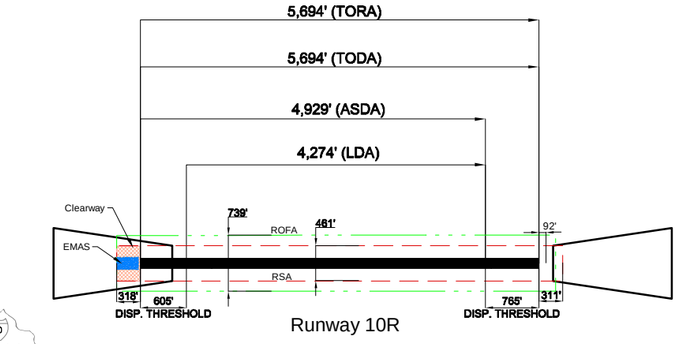
DESIGNATOR EXISTING	DESIGNATOR FUTURE	WIDTH
TAXIWAY A	TAXIWAY A	75'
TAXIWAY A1	TAXIWAY A1	35'
TAXIWAY B	TAXIWAY B	35'
TAXIWAY C	TAXIWAY C	50'
TAXIWAY D	TAXIWAY D	50'
TAXIWAY E	TAXIWAY E	50'
-	TAXIWAY F	50'
TAXIWAY F	TAXIWAY G	125'
TAXIWAY Z	TAXIWAY Z	50'
TAXIWAY Z1	TAXIWAY Z1	50'

DECLARED DISTANCES

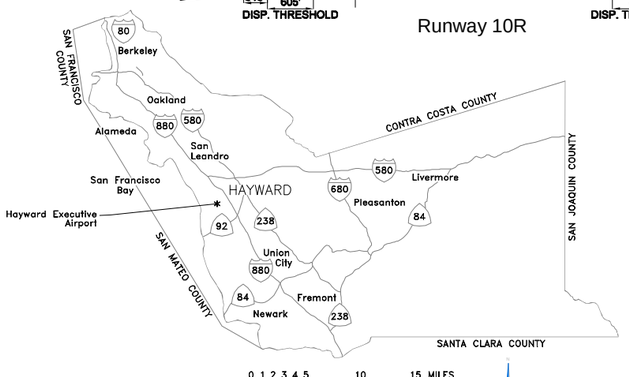
	RUNWAY 10R	RUNWAY 28L
TAKEOFF RUN AVAILABLE (TORA)	5,694'	5,694'
TAKEOFF DISTANCE AVAILABLE (TODA)	5,694'	6,039'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	4,929'	5,694'
LANDING DISTANCE AVAILABLE (LDA)	4,274'	5,018'
See Note 7.		



Runway 28L



Runway 10R



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EMAS	Engineered Materials Arresting System
(F)	Future
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RPZ	Runway Protection Zone
RSA	Runway Safety Area
RW	Runway
TDZE	Touchdown Zone Elevation
TOFA	Taxiway Object Free Area
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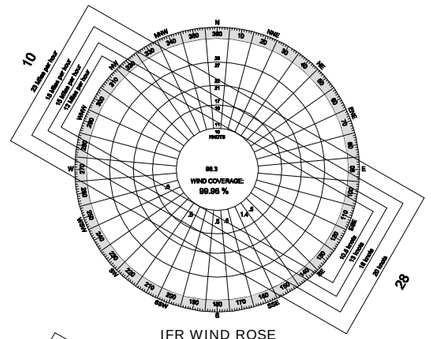
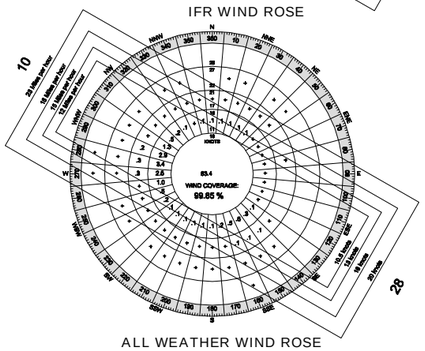


IFR WIND ROSE



ALL WEATHER WIND ROSE

WIND COVERAGE

RUNWAY	CROSSWIND COVERAGE ALL WEATHER 10.5 Kts.	13 Kts.	16 Kts.	20 Kts.	IFR 10.5 Kts.	13 Kts.	16 Kts.	20 Kts.
10	73.65%	74.37%	74.69%	74.75%	63.56%	63.87%	64.01%	64.03%
28	38.34%	38.82%	39.13%	39.19%	73.86%	74.40%	74.66%	74.68%
10-28	98.02%	99.22%	99.85%	99.96%	98.71%	99.56%	99.96%	100.00%

Source: National Climatic Data Center Asheville, NC. Based on 78,450 observations (1999 - 2008) taken at Hayward, CA.

Figure 7-2
Airport Layout Plan
Data Sheet

the presence of wildlife attractants on airport property. Included in this project is infield grading and drainage improvements.

Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas (2011)

This project rehabilitates and relocates the zipper lane along Taxiway A. The zipper lane will be relocated 4 feet northward to provide full taxiway object free area along Taxiway A. The East and West T-hangar area pavements will also be rehabilitated as part of this project.

Extend Taxiway C (2011)

Taxiway C currently terminates at Taxiway Z. This project extends Taxiway C into the south side development area. The taxiway will be extended approximately 500 feet and will serve the former CANG site.

Bud Field Aviation – Phase 1 (2011)

During 2011, Bud Field Aviation will construct Phase 1 of their proposed development. Phase 1 includes a reception area and a 39,300-square foot hangar. Once Phase 1 is completed, existing aircraft located in Bud Field Aviation's existing hangar will be relocated to the southern hangar. The northern hangar will serve small aircraft that do not encroach upon the taxiway object free area for Taxiway A and will not penetrate the approach surface to Runway 28R. It is proposed that the existing hangar be converted into a museum.

American Aircraft Sales – Hangar A (2011/2012)

American Aircraft Sales will construct a 11,990-square foot hangar and a 1,600-square foot office on their lease hold. Once the new facilities are constructed the existing 9,400-square foot building will be demolished.

Install Airport Safe Drains (2012)

This project also installs Safe Drain® inlets on all airfield drains. These drains use patented technology to prevent fuel, oil, and other contaminants from entering the storm drain system.

Construct Terminal Building and Parking (2012)

This project constructs a 12,000-square foot, two story airport administration and general aviation terminal building. This building is proposed west of the current airport administration/airport traffic control tower. Additional vehicle parking will be provided in this area and pedestrian access for pilots will be provided through a secure bridge over Sulphur Creek. Automobile parking adjacent to Ascend Development will be expanded. This area could accommodate approximately 25 automobile parking spaces.

Obstruction Removal Runway 10R-28L (2012)

This project trims or removes trees on airport property within the Skywest Golf Course to clear the threshold siting and approach surfaces to Runway 10R and 10L. Approximately 27 trees will need to be trimmed or removed, including trees that need to be removed to relocate the perimeter fence and construct the airport service road.

Taxiway Z Realignment; Corsair Ramp (2012)

This project relocates a portion of Taxiway Z to a 300-foot runway centerline-to-taxiway centerline separation. Taxiway Z will be relocated from Taxiways D to F (approximately 2,550 linear feet). Included in this project is the Corsair Ramp, which constructs approximately 110,800 square feet of

apron area on the west side of the airport between Sulphur Creek and Taxiway E. Medium intensity taxiway LED lights are included in this project, along with widening of Taxiway Z1, near the end of Runway 28L. This project crosses an open segment of Sulphur Creek and a bridge/culvert is required.

Walter Imbrulia's Development (2012)

The ground lease, presently belonging to decedent, Walter Imbrulia, will be redeveloped at lease termination in a manner consistent with existing Airport and City policy. At present, a lease proposal from International Aircraft sales is under consideration, with two separate proposals for either removing and replacement of the existing hangar structure with a new expanded hangar and combined office building, or possibly extending and reskinning the existing hangar, expanding the hangar by approximately 2,000 square feet towards Skywest Drive. "Reskinning" of the hangar will replace the existing sheet metal around the perimeter of the building. The existing structural steel will remain in place. It is noted that the hangar has no insulation. There is also consideration to rehabilitate existing paved surfaces within the leasehold.

Airport Property Partners Development (2012-2013)

The Airport Property Partners development is east and south of the terminal along Skywest Drive. Airport Property Partners will be constructing a 16,000-square foot hangar extension to the existing main hangar. In addition, a second fuel facility will be added to the existing Airport Property Partners development.

Construct Sound Walls and Blast Fence (2013)

This project constructs sound walls along West Winton Avenue and Hesperian Boulevard. This project also removes portions of the existing noise berm east of Runway 28L. Portions of the noise berm that must be removed include those that lie within the runway and taxiway object free areas. Portions of the noise berm outside of the object free areas can remain. Actual areas of noise berm removal will be identified during the engineering phase of this project, and will be at the City's discretion.

The engineered sound walls will supplement the remaining portions of the noise berm. The sound wall along West Winton will be approximately 768 feet long. The second sound wall will be built along Hesperian Boulevard and will span approximately 745 feet in length. These engineered sound walls will include baffles to dampen the sound. The walls will be approximately 12 feet tall and will serve as the airport perimeter fence. Consideration may be given to planting ivy along the walls and to continue the walls to the intersection of West Winton Avenue and Hesperian Boulevard.

Noise berm removal should occur after the sound wall is constructed. A blast fence will be installed approximately 450 feet from the future Runway 28L threshold. The blast fence will be approximately 10 feet tall and will be approximately 500 feet long. This blast fence prevents dirt and debris and jet blast from affecting the intersection of West Winton Avenue/Hesperian Boulevard and the airport perimeter service road.

Taxiways C and E Pavement Rehabilitation (2013)

Taxiways C and E, from the primary runway to Taxiway A will be rehabilitated. These taxiways will require a complete dig out and strengthening to support frequent use of business jet aircraft. Taxiways C and E are approximately 640 feet long each.

CANG Reuse Phases 2 and 3 (2013)

Phases 2 and 3 of the CANG reuse will be constructed in 2013. These phases consist of approximately 124,400 square feet of hangar space. These will primarily be larger box hangars

capable of supporting one medium sized business jet or multiple smaller aircraft. It is proposed that one 75-foot by 75-foot (5,625 square feet), three 80-foot by 135-foot (10,800 square feet), and six 120-foot by 110-foot (14,400 square feet) hangars are constructed. This project is funded through private investment.

Shorten Runway 28R (2013)

In order to remove aircraft taxiing on Taxiway A as an obstruction to Runway 28R, the runway will be shortened 480 feet to an overall length of 2,627. This project shortens the runway by relocating the threshold markings, REILS, PAPI, and adjusting runway lights. Existing full strength runway pavement will remain in place and no new taxiways are added. Aircraft requiring longer runway lengths will be rerouted to Runway 28L. As part of a subsequent master plan, straightening of Taxiway A and returning Runway 10L-28R to its current length should be analyzed.

Airfield Electrical Renovation and Improvements (2014)

Airfield electrical renovations include updating wiring throughout the airfield. This project also upgrades taxiway lights for Taxiways A, B, C, D, and E to LED lights. New runway lights are also installed (LED if certified by 2014). The airfield electrical vault will also be renovated and improved as necessary.

Translate Runway, Install EMAS, and Reroute Roads and Fencing (2014)

This project translates Runway 10R-28L 196 feet to the northwest. This includes relocating runway lights and VASIs at both runway ends. Engineered Material Arresting System (EMAS) will be installed on Runway 28L (beyond the physical end of Runway 10R). The EMAS bed will be 310 feet long and 170 feet wide. After trees in the golf course are removed, a 655-foot displaced threshold is required on Runway 10R end. A 676-foot displaced threshold on the Runway 28L end.

EMAS is crushable concrete designed to slow down/stop aircraft over-running the runway and reducing and/or preventing any serious damage to the aircraft and injury to its passengers. EMAS is used in lieu of full safety area. Installation of EMAS requires declared distances. To further enhance the safety of business jet operations, a 345-foot long by 500 feet wide clearway is proposed. Clearway affects the amount take off distance available and is included in declared distance calculations. Declared distances applied to Runway 10R-28L are as follows:

	Runway 10R	**Runway 28L**
Take off run available (TORA)	5,694 feet	5,694 feet
Take off distance available (TODA)	5,694 feet	6,039 feet
Accelerate stop distance available (ASDA)	4,929 feet	5,694 feet
Landing distance available (LDA)	4,274 feet	5,018 feet

New entrance taxiways will be constructed to allow aircraft to taxi to the runway thresholds on both Runways 10R and 28L. For Runway 10R, a new entrance taxiway will be constructed on the south side only. New entrance taxiways for Runway 28L will be constructed on both sides of the runway. Runway hold lines will be relocated to 250 feet from the Runway 10R-28L centerline. Existing airfield pavements will remain in place.

The Golf Course Access Road will be relocated to move the road outside of the runway object free area. The airport perimeter fence will be relocated to secure the runway object free area. This project requires relocation of the 17th green and modification of hole 18's fairway and tee of the Skywest Golf Course.

Recertify Instrument Approaches (2014)

With the shift in the runway thresholds, obstacle clearance, and relocated displaced thresholds, the instrument approach procedures for Runways 10R and 28L require recertification. This includes the recertification for approaches RNAV (GPS) Y Runway 28L, RNAV (GPS) Z Runway 28L, LOC/DME Runway 28L, VOR/DME or GPS-B, and VOR or GPS-A.

Install PAPI Runway 10R-28L and New REIL on Runway 28L (2015)

Runway 10R-28L currently has a VASI installed. This project removes the VASIs and installs PAPIs. Included in this project is the replacement of Runway 28L's REILs. If funding is available, this project can be included in the runway translation project (2014). During the runway translation project the existing VASI and REILs will be relocated to correspond with the new runway threshold.

Relocate Airport Perimeter Road (2015)

The airport perimeter road will be relocated behind the Bud Field Aviation project on the south side of the airport. This project constructs approximately 7,200 feet of 24-foot wide service road. In places where the road traverses existing apron pavements, a zipper lane will be striped.

Pavement Rehabilitation – Tie-Down Ramp (2015)

The tie-down ramp adjacent to the airport administration building will be rehabilitated. This project consists of approximately 270,900 square feet of apron area. The existing pavement will be rehabilitated per engineers' recommendations.

Wildlife Management Plan (2015)

This project prepares a Wildlife Management Plan for Hayward Executive Airport. This includes a detailed analysis of habitat accounts, target species, wildlife management goals, and local wildlife influences. In addition, recommendations of managing the wildlife so as to reduce impacts on flight plans will be made, including providing disincentives for birds to land near or on airside areas.

Phase 2 Development (2016 – 2020)

Development for Phase 2 (Table 7-2), or the medium-term development phase, encompasses the final five-year period (2016-2020).

Table 7-2
RECOMMENDED PHASE 2 DEVELOPMENT

Project	Timing
CANG Reuse Phases 4 and 5	2016
Install REIL Runway 10L-28R	2016
Runway Crown Correction (Runway 10R-28L)	2016
Corsair Hangar Construction	2017
Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D	2018
New Airport Traffic Control Tower (ATCT) Construction	2018
American Aircraft Sales – Hangar B	2018
Construct Runway Exit	2019
American Aircraft Sales – Hangar C	2020

Source: AECOM

CANG Reuse Phases 4 and 5 (2016)

Phases 4 and 5 of the CANG reuse will be constructed in 2016. These phases consist of approximately 66,000 square feet of hangar space. These will primarily be conventional hangars capable of supporting medium sized business jets or multiple smaller aircraft. It is proposed that three 100-foot by 100-foot (10,000 square feet) and three 100-foot by 120-foot (12,000 square feet) are constructed. This project is funded through private investment.

Install REIL Runway 10L – 28R (2016)

REILs will be installed at the runway thresholds for Runway 10L – 28R. This runway presently does not have REIL.

Runway Crown Correction (Runway 10R-28L) (2016)

The present runway crown is too steep for ARC C-II and D-II aircraft. Currently traverse slopes vary from 1.0 to 1.5 percent. The maximum slope recommended by the FAA is 1.0 percent. This project corrects this deviation.

Corsair Hangar Construction (2017)

This project involves the construction of 24 individual hangars along the western airport property between Taxiway E and Sulphur Creek. Hangars will either be small box hangars (40 feet by 40 feet) or shade hangars. Approximately 31 automobile parking spaces are included in this project.

Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D (2018)

Taxiway B will be rehabilitated; existing taxiway pavement and base will be removed and new material installed. Taxiway D will also be rehabilitated and will be extended into the CANG reuse area. This project includes approximately 1,450 linear feet of taxiway rehabilitation and 750 linear feet of new taxiway.

New Airport Traffic Control Tower (ATCT) Construction (2018)

A new Airport Traffic Control Tower (ATCT) is proposed on the southwestern side of the airport directly adjacent to the airport property fence, Corsair development, and the new airport perimeter service road. This new site will permit views of the entire airfield, incoming aircraft to Hayward and San Francisco, and departures from Hayward. From this site, the controllers will primarily have their backs to the sun. Depending upon development of adjacent projects, it may be necessary to extend utilities (water, sewer, electrical, and communication) from Corsair Drive to the new ATCT site. Commissioning of a new ATCT is at the discretion of the FAA and requires special siting studies.

American Aircraft Sales – Hangar B (2018)

Phase 2 of American Aircraft Sales' development is projected to be completed n later than 2018 (actual timing will depend on marked demand). This phase constructs Hangar B – an 11,990-square foot hangar.

Construct Runway Exit (2019)

This project constructs a new exit taxiway for Runway 28L. This exit will increase operational abilities of the primary runway. The new taxiway will be designated as "F", and the existing Taxiway F will be renamed as "G."

American Aircraft Sales – Hangar C (2020)

The final phase of American Aircraft Sales' development is anticipated to occur no later than 2020 (actual timing will depend on market demand). The final phase constructs an 11,780-square foot hangar.

BUILDING AREA PLAN

Figure 7-3 shows the Building Area Plan for Hayward Executive Airport. This drawing illustrates the proposed landside improvements in greater detail. Development occurs both on the north and south side of the airport. Developments on the north include private developments and the construction of a new terminal building. Development on the south side of the airport includes private development, a new ground access road, and new taxiways serving based aircraft facilities. The building layouts depicted convey the general development concept and show how future requirements can be accommodated at the airport. The ultimate siting of these facilities, including the number and sizes of hangars, is subject to further design investigations and tenant needs, and therefore, could vary from what is shown on the Building Area Plan.

Principal features of the landside development are:

- Development of a new general aviation terminal facility and associated vehicle parking.
- Infill of hangar development on the north side of the airport.
- Development of the south side of the airport for corporate aviation facilities.
- Rerouting of the ground access/vehicular traffic road.

The Building Area Plan shows the proposed building restriction line (BRL). The BRL on the north side of the airport has been retained and protects for a 25-foot tall structure. The BRL for the south side of the airport is 400 feet from the Runway 10R-28L centerline and protects for runway safety areas and the taxiway object free area (TOFA). Proposed development of the airport should also take into consideration the ATCT line of site and FAR Part 77 surfaces.

AIRPORT AIRSPACE DRAWING

The Airport Airspace Drawing, Figure 7-4, depicts the Part 77 imaginary surfaces on and around Hayward Executive Airport. The dimensions and criteria employed in determining the Part 77 surfaces are those contained in Federal Aviation Regulations (FAR), Part 77, Objects Affecting Navigable Airspace (Section 77.25). A simplified isometric view of these surfaces is found in Figure 7-5. These surfaces are defined for the purpose of identifying natural (terrain or trees) or man-made objects that could affect air navigation at an airport.

FAR Part 77.25 Criteria

The dimensions of the Part 77.25 imaginary surfaces depend on the size of aircraft using the airport and the type of instrument approach procedures. The FAR Part 77 criteria applied were as follows:

- Runway 10L and 28R – "Utility" runway with visual approach.
- Runway 10R and 28L – "Other than Utility" runway with non-precision instrument approach with visibility greater than or equal to 1 mile.

The descriptions of the surfaces and their dimensions for Hayward Executive Airport, along with a description of how to determine the height of the surface at any point follows:

Horizontal Surface

The horizontal surface is a horizontal plane 150 feet above the established airport elevation. The airport elevation, measured at the highest point along the runway, is 52 feet above mean sea

LEGEND		
DESCRIPTION	EXISTING	FUTURE
AIRPORT BOUNDARY		SAME
AIRFIELD PAVEMENT		
BUILDING RESTRICTION LINE (BRL)		SAME
BUILDINGS		
BUILDINGS TO BE REMOVED	NONE	
HOLD POSITION MARKINGS		
AIRPORT PERIMETER FENCE		
ROAD		
ATCT LINE OF SIGHT		
EMAS	NONE	
PAVEMENT TO BE DEMOLISHED	NONE	
AVIGATION EASEMENT	NONE	
SOUND WALL	NONE	

FUTURE BUILDING TABLE		
#	DESCRIPTION	TOP ELEVATION
A	TERMINAL/ADMINISTRATION BUILDING	71' *
B	BOX HANGARS	67' *
C	CONVENTIONAL HANGARS	70' *
D	CONVENTIONAL HANGAR	71' *
E	CONVENTIONAL HANGAR	72' *
F	BOX HANGARS	49' *
G	BOX HANGARS	51' *
H	FUEL STORAGE FACILITY	60' *
I	CONVENTIONAL HANGAR	73' *
J	JET FUEL STORAGE FACILITY	59' *
K	BOX/SHADE HANGARS	39' *
L	AIRPORT TRAFFIC CONTROL TOWER	71' *
M	BOX HANGARS	33' *
N	BOX HANGARS	34' *
O	CONVENTIONAL HANGARS	66' *
P	CONVENTIONAL HANGARS	67' *
Q	CONVENTIONAL HANGARS	72' *
R	CONVENTIONAL HANGAR	79' *
S	BOX HANGAR	62' *
T	CONVENTIONAL HANGARS	69' *
U	CONVENTIONAL HANGARS	66' *
V	CONVENTIONAL HANGARS	65' *
W	SELF SERVE AVGAS ISLAND	48' *
X	CONVENTIONAL HANGARS	76' *
Y	CONVENTIONAL HANGAR EXPANSION	52.8'

* Estimated

BUILDING TABLE		
#	DESCRIPTION	TOP ELEVATION
1	TENANT MAINTENANCE FACILITY	50.6'
2	AIRCRAFT WASH PAD	30.0'
3	EXECUTIVE HANGAR #1	54.2'
4	EXECUTIVE HANGAR #2	54.7'
5	WEST T HANGAR (F)	49.1'
6	WEST T HANGAR (G)	49.6'
7	WEST T HANGAR (H)	50.7'
8	WEST T HANGAR (I)	51.9'
9	WEST T HANGAR (J)	51.9'
10	WEST T HANGAR (K)	52.1'
11	WEST T HANGAR (L)	52.9'
12	WEST T HANGAR (M)/AIRPORT MAINTENANCE SHOP	53.2'
13	WEST T HANGAR (N)	46.8'
14	WEST T HANGAR (O)	47.2'
15	WEST T HANGAR (P)	47.7'
16	WEST T HANGAR (Q)	49.8'
17	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	51.9'
18	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	59.7'
19	PRIVATE CONVENTIONAL HANGARS	74.9'
20	PRIVATE CONVENTIONAL HANGARS	64.8'
21	PRIVATE CONVENTIONAL HANGARS	74.2'
22	PRIVATE CONVENTIONAL HANGARS	74.7'
23	AIRPORT TRAFFIC CONTROL TOWER/ADMINISTRATION	70.6'
24	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	53.4'
25	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	51.3'
26	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	51.0'
27	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	56.8'
28	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	50.0'
29	FUEL ISLAND	47.7'
30	HANGAR	50.6'
31	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	59.2'
32	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	58.0'
33	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	52.8'
34	AIRCRAFT MAINTENANCE/ STORAGE HANGAR	61.1'
35	CONVENTIONAL HANGAR	70.3'
36	EAST T-HANGAR (A)	58.4'
37	EAST T-HANGAR (B)	59.6'
38	EAST T-HANGAR (C)	60.9'
39	EAST T-HANGAR (D)	62.1'
40	EAST T-HANGAR (E)	57.6'
41	PUMP STATION	60.8'
42	RESTAURANT	67.9'
43	WAREHOUSE	56.9'
44	CITY OF HAYWARD FIRE DEPARTMENT	55.0'
45	CITY OF HAYWARD FIRE DEPARTMENT	52.3'
46	CITY OF HAYWARD FIRE DEPARTMENT	53.9'
47	CITY OF HAYWARD FIRE DEPARTMENT	55.6'
48	CITY OF HAYWARD FIRE DEPARTMENT	88.4'/56.3'
49	CITY OF HAYWARD FIRE DEPARTMENT	56.4'
50	CALIFORNIA AIR NATIONAL GUARD	54.5'
51	CALIFORNIA AIR NATIONAL GUARD (FORMER)	45.6'
52	CALIFORNIA AIR NATIONAL GUARD (FORMER)	45.7'
53	CALIFORNIA AIR NATIONAL GUARD (FORMER)	45.4'
54	CALIFORNIA AIR NATIONAL GUARD (FORMER)	44.8'
55	CALIFORNIA AIR NATIONAL GUARD (FORMER)	62.1'
56	CALIFORNIA AIR NATIONAL GUARD (FORMER)	41.7'
57	CALIFORNIA AIR NATIONAL GUARD (FORMER)	46.6'
58	CALIFORNIA AIR NATIONAL GUARD (FORMER)	43.8'
59	CALIFORNIA AIR NATIONAL GUARD (FORMER)	44.5'
60	CALIFORNIA AIR NATIONAL GUARD (FORMER)	47.5'
61	CALIFORNIA AIR NATIONAL GUARD (FORMER)	40.9'
62	CALIFORNIA AIR NATIONAL GUARD (FORMER)	44.3'
63	CALIFORNIA AIR NATIONAL GUARD (FORMER)	44.5'
64	CALIFORNIA AIR NATIONAL GUARD (FORMER)	44.5'/44.3'/44.0'

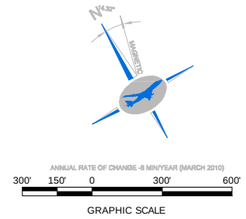


Figure 7-3
Building Area Plan

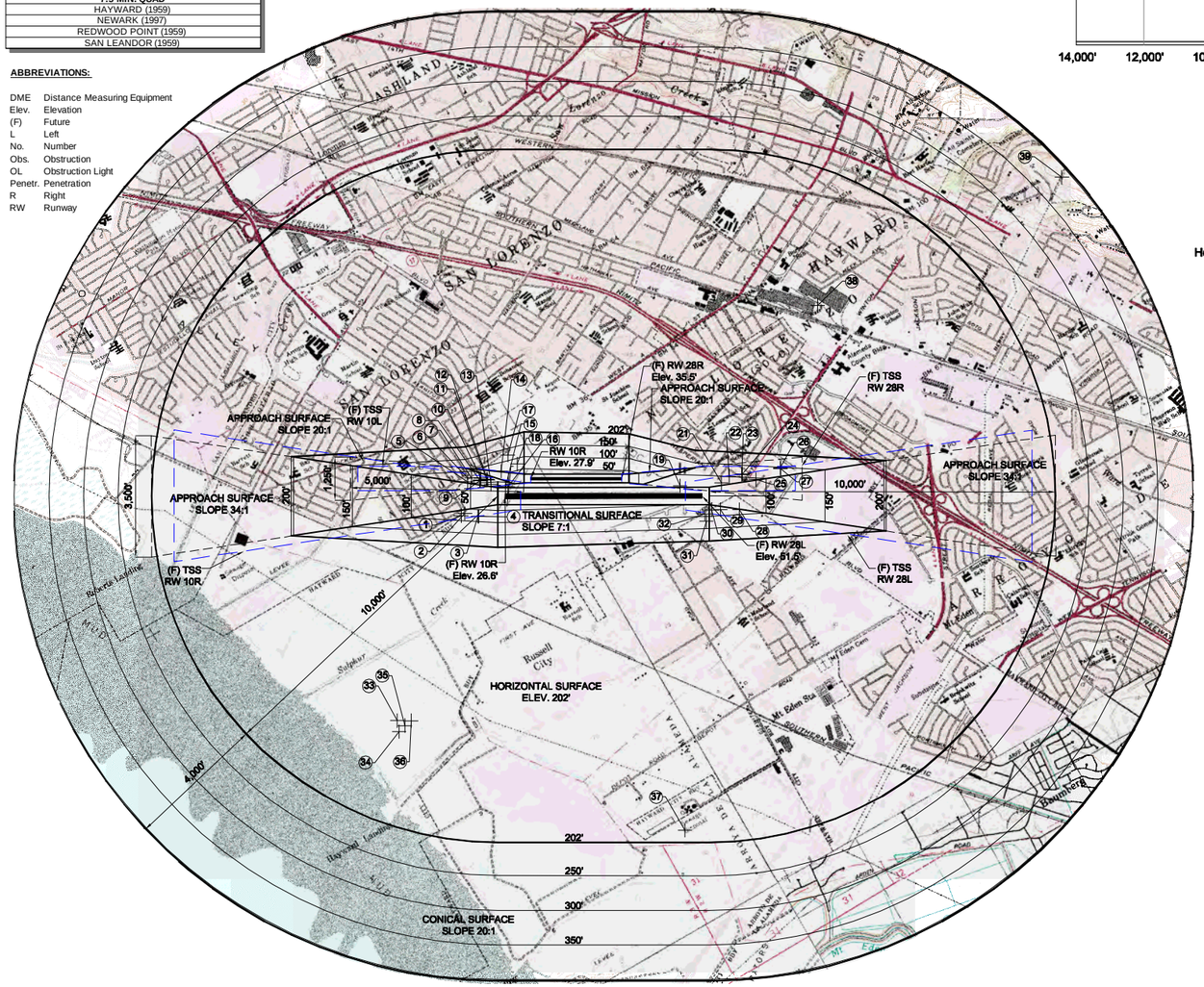
SURFACE ELEVATION	
SURFACE	**ELEV.**
END OF RUNWAY 10L	27.9'
END OF RUNWAY 28R	35.5'
END OF RUNWAY 10R	26.6'
END OF RUNWAY 28L	51.5'
HORIZONTAL SURFACE	202'
CONICAL SURFACE (UPPER LIMIT)	402'
APPROACH SURFACE (10L)-UPPER LIMIT	278'
APPROACH SURFACE (28R)-UPPER LIMIT	285'
APPROACH SURFACE (10R)-UPPER LIMIT	321'
APPROACH SURFACE (28L)-UPPER LIMIT	346'

NOTES:
1. All elevations are in feet above mean sea level (MSL).
2. A composite ground profile is created by using the highest point at any given distance from the runway within the approach and threshold siting surface.
3. Ten feet were added to service and access road, fifteen feet to non-interstate road, and twenty-three feet to railroad track elevations.
4. A clearance of 29.9 feet was added to taxiways, representing Airplane Design Group II aircraft.

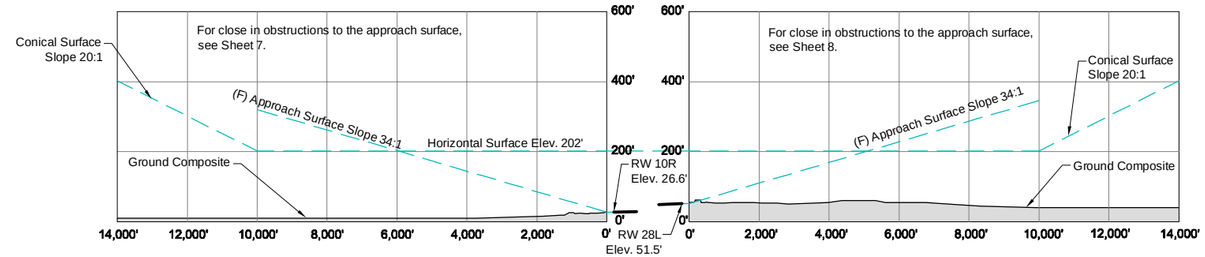
USGS MAPS USED FOR BASE
7.5 MIN. QUAD
HAYWARD (1959)
NEWARK (1997)
REDWOOD POINT (1959)
SAN LEANDOR (1959)

ABBREVIATIONS:

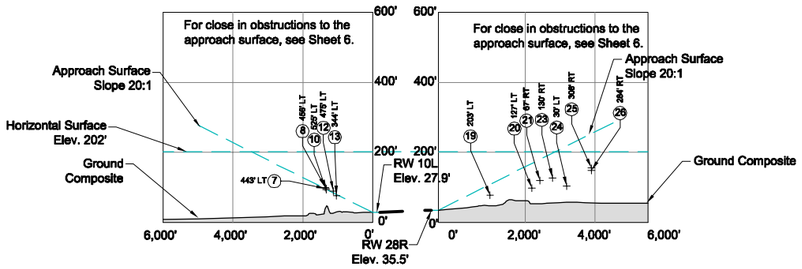
DME	Distance Measuring Equipment
Elev.	Elevation
(F)	Future
L	Left
No.	Number
Obs.	Obstruction
OL	Obstruction Light
Penetr.	Penetration
R	Right
RW	Runway



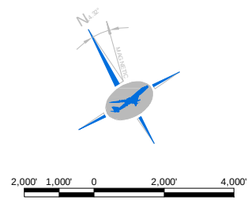
Vertical Scale: 1" = 200'
Horizontal Scale 1" = 2,000'



RUNWAY 10R-28L



RUNWAY 10L-28L



THRESHOLD SITING SURFACE PENETRATIONS				
OBS. No.	**DESCRIPTION**	**RW**	**PENETR.**	**PROPOSED ACTION**
7	TREE	10R	3'	TRIM/REMOVE
8	TREE	10R	14'	TRIM/REMOVE
10	TREE	10R	9'	TRIM/REMOVE
12	TREE	10R	15'	TRIM/REMOVE
13	TREE	10R	7'	TRIM/REMOVE
21	TREE	28L	8'	TRIM/REMOVE
22	TREE	28L	2'	TRIM/REMOVE
28	TREE	28L	4'	TRIM/REMOVE
29	TREE	28L	12'	TRIM/REMOVE
For close in obstructions to the threshold siting surfaces, see Sheets 6-8.				

PART 77 OBSTRUCTION IDENTIFICATION TABLE					
OBS. No.	DESCRIPTION	ELEV.	PENETR.	SURFACE	PROPOSED ACTION
1	TREE	88'	8'	TRANSITIONAL	TRIM/REMOVE
2	TREE	83'	13'	TRANSITIONAL	TRIM/REMOVE
3	TREE	107'	28'	TRANSITIONAL	TRIM/REMOVE
4	TREE	108'	30'	TRANSITIONAL	TRIM/REMOVE
5	TREE	94'	36'	TRANSITIONAL	TRIM/REMOVE
6	TREE	91'	19'	TRANSITIONAL	TRIM/REMOVE
7	TREE	91'	32'	TRANSITIONAL	TRIM/REMOVE
8	TREE	100'	40'	TRANSITIONAL	TRIM/REMOVE
9	TREE	97'	37'	TRANSITIONAL	TRIM/REMOVE
10	TREE	94'	24'	TRANSITIONAL	TRIM/REMOVE
11	TREE	78'	16'	TRANSITIONAL	TRIM/REMOVE
12	TREE	90'	29'	TRANSITIONAL	TRIM/REMOVE
13	TREE	77'	35'	TRANSITIONAL	TRIM/REMOVE
14	TREE	75'	10'	TRANSITIONAL	TRIM/REMOVE
15	OL ON DME	47'	17'	TRANSITIONAL	TO REMAIN
16	LOCALIZER	35'	4'	TRANSITIONAL	TO REMAIN
17	TREE	125'	2'	TRANSITIONAL	TRIM/REMOVE
18	TREE	81'	19'	TRANSITIONAL	TRIM/REMOVE
19	TAXIWAY A	77'	24'	TRANSITIONAL	SEE NOTE 4
20	TREE	107'	18'	TRANSITIONAL	TRIM/REMOVE
21	TREE	98'	25'	TRANSITIONAL	TRIM/REMOVE
22	TREE	120'	17'	TRANSITIONAL	TRIM/REMOVE
23	TREE	132'	19'	TRANSITIONAL	TRIM/REMOVE
24	TREE	127'	13'	TRANSITIONAL	TRIM/REMOVE
25	TREE	103'	9'	TRANSITIONAL	TRIM/REMOVE
26	TREE	155'	7'	TRANSITIONAL	TRIM/REMOVE
27	ANT ON BUILDING	149'	5'	TRANSITIONAL	PROVIDE OL
28	TREE	109'	29'	TRANSITIONAL	TRIM/REMOVE
29	TREE	103'	29'	TRANSITIONAL	TRIM/REMOVE
30	TREE	99'	25'	TRANSITIONAL	TRIM/REMOVE
31	TREE	122'	3'	TRANSITIONAL	TRIM/REMOVE
32	TREE	100'	11'	TRANSITIONAL	TRIM/REMOVE
33	TOWER	226'	25'	HORIZONTAL	PROVIDE OL
34	TOWER	215'	14'	HORIZONTAL	PROVIDE OL
35	TOWER	215'	14'	HORIZONTAL	PROVIDE OL
36	TOWER	215'	14'	HORIZONTAL	PROVIDE OL
37	TOWER	234'	33'	HORIZONTAL	PROVIDE OL
38	TANK	219'	18'	HORIZONTAL	PROVIDE OL
39	TOWER	537'	149'	CONICAL	PROVIDE OL
For close in obstructions to the approach surfaces, see Sheets 6-8.					

Source of data for object elevations and locations: USGS maps Hayward (1959), Newark (1997), Redwood Point (1959), and San Leandro (1959) and San Francisco Sectional Aeronautical Charts (August 27, 2009); Topographic Survey (August 2008); Digital Obstacle File (2009), NGS UDDF file HWD_06D.LPV (2002), NGS Aeronautical Survey Program: Obstruction Chart 5015 Hayward CA.dgn.

Figure 7-4
Airport Airspace Drawing

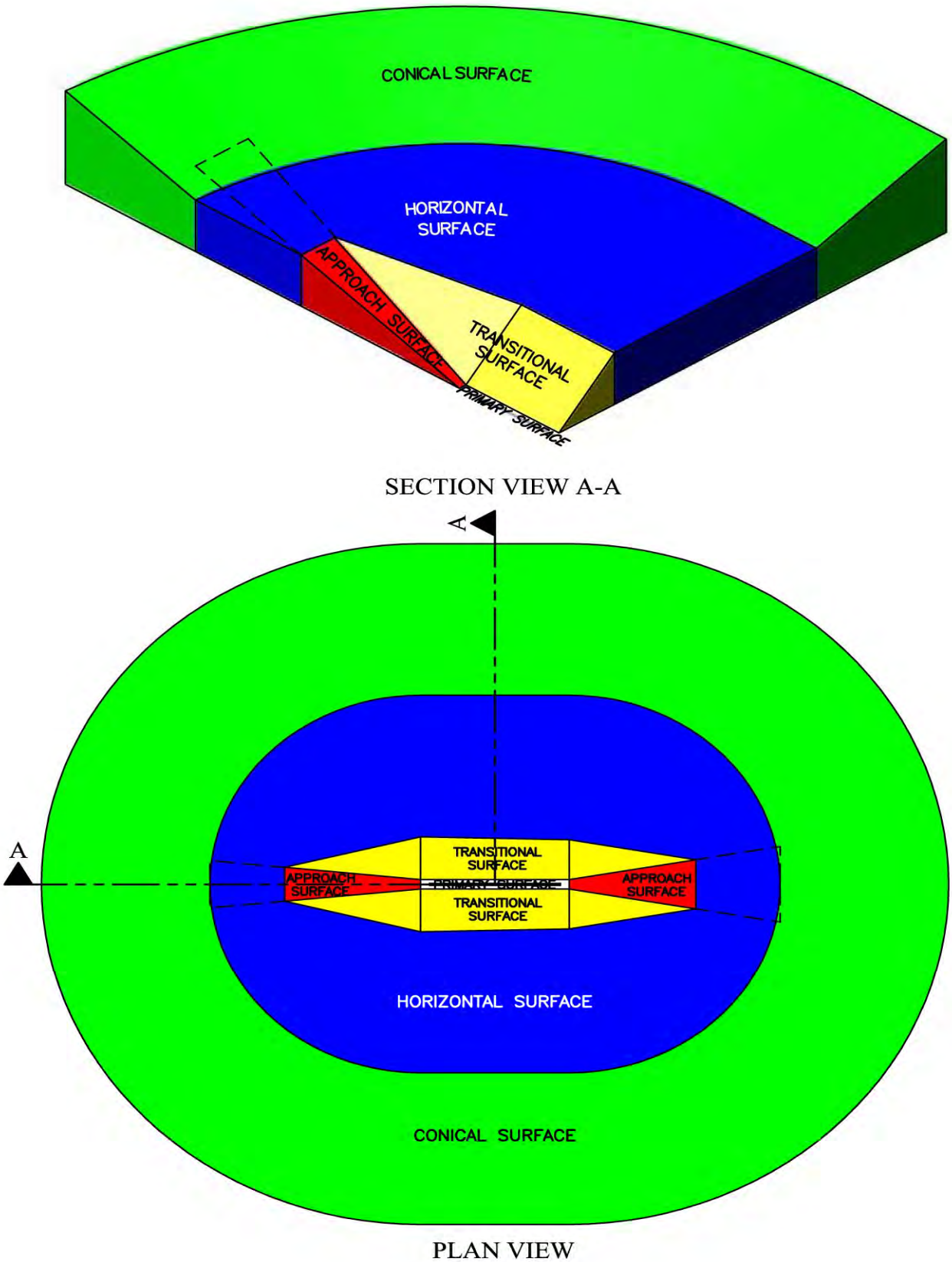


Figure 7-5
Isometric View of FAR Part 77 Surfaces

level (MSL). This point occurs at the future Runway 28L threshold. Therefore, the elevation of the horizontal surface at Hayward Executive Airport is approximately 202 feet MSL.

The perimeter of the horizontal surface is delineated by arcs with radius 10,000 feet from the center of the ends of the primary surface of each end of Runway 10R-28L, and arcs of 5,000 feet for Runway 10L-28R. A 10,000 foot arc is used since the runway is not a utility runway and a non-precision approach exists for Runways 10R and 28L. Adjacent arcs are connected by lines that are tangent to these arcs. In this case, the 5,000 foot arcs are encompassed by the tangents connecting the two 10,000 foot arcs and therefore the 5,000 foot arcs are disregarded. All points on the horizontal surface have an elevation of approximately 202 feet MSL.

Conical Surface

The conical surface extends outward and upward from the edge of the horizontal surface at a slope of 20:1, for a horizontal distance of 4,000 feet. The elevation of the conical surface at its outermost edge is approximately 402 feet MSL.

The elevation of any point on the conical surface is found by starting at the intersection of the horizontal surface and conical surfaces (where the elevation is approximately 202 feet MSL) and increasing one foot in elevation for every 20 feet measured laterally from the intersection.

Primary Surface

The primary surface is defined as being longitudinally centered on the runway, with a width dependent on the type of runway, and extending 200 feet beyond each end of the runway. The width of the primary surface for an utility runway with a visual approach is 250 feet (applied to Runway 10L-28R) and for an other than utility runway with a non-precision instrument approach is 500 feet (applied to Runway 10R-28L). The elevation of any point on the primary surface is the same as the closest point on the runway centerline.

Approach Surfaces

The slope and configuration of a runway approach surface varies as a function of the type of aircraft served and availability of instrument approach procedures. Approach surfaces terminate at the primary surface, where their width is equal to the width of the primary surface. The approach surface for Runways 10L and 28R is 1,250 feet wide at its beginning point, 5,200 feet from the runway end. The approach surface for Runways 10R and 28L is 3,500 feet at its beginning point, 10,200 feet from the runway end.

The elevation of any point on the approach surface is found by starting at the intersection of the approach and primary surfaces. From the intersection, the approach surfaces increase one foot in elevation for every 34 feet measured laterally from the intersection of Runways 10R and 28L (where the elevation is approximately 26.6 feet MSL for Runway 10R and 51.5 feet MSL for Runway 28L) . Runway 10L (27.9 feet MSL elevation) and 28R (35.5 feet MSL elevation) approach surfaces increase one foot in elevation for every 20 feet measured laterally from the intersection. Once the approach surfaces elevation reach the horizontal surface elevation (202 feet MSL), or another surface with a more critical height, the surface with the lowest height is controlling. The approach surfaces for Runways 10L and 28R intersect the transitional surface of Runway 10R-28L approximately 281 feet and 414 feet from the primary surface, respectively.

The approach surfaces for Runways 10R and 28L intersect the horizontal surface approximately 4,196 feet and 5,117 feet, respectively. The approach surfaces for Runway 10L-28R are largely disregarded as they are less critical than transitional and approach surfaces associated with Runway 10R-28L.

Transitional Surfaces

The transitional surfaces extend outward and upward at right angles to the runway centerline (and the extended runway centerline) at a slope of 7:1 from the edges of the primary and approach surfaces.

The elevation of any point on a transitional surface is found by starting at the intersection of the transitional surface with the approach or primary surface and increasing one foot in elevation for every 7 feet measured laterally from the intersection. Once the transitional surface reaches the horizontal surface elevation (202 feet MSL), the horizontal surface is controlling.

Penetrations to FAR Part 77 Surfaces at Hayward Executive Airport

The airport imaginary surfaces shown on Figure 7-4 are superimposed on United States Geological Survey (USGS) topographic maps. Data sources referenced to determine obstacle location and potential obstructions were the USGS maps, San Francisco aeronautical chart, topographic data obtained August 2009 for this Airport Layout Plan Update study, National Geodetic Survey (NGS) UDDF file HWD_06D.LPV (2002), NGS Aeronautical Survey Program: Obstruction Chart 5015 Hayward CA.dgn, as well as the FAA's Digital Obstacle File. Inner Approach obstructions are shown in Figures 7-6 through 7-8. The following obstructions were identified.

Penetrations to the Horizontal and Conical Surfaces

There is one penetration to the conical surface and there are six penetrations to the horizontal surface. All penetrations to the horizontal and conical surfaces are towers except for one tank. The proposed action is to provide obstruction lights on the six towers and the tank.

Penetrations to Transitional Surfaces

- Approximately 27 trees surrounding the airport penetrate the transitional surface up to approximately 40 feet. It is recommended that these trees be trimmed or removed.

- The obstruction light on the distance measuring equipment (DME) off of the Runway 10R threshold penetrates the transitional surface by approximately 17 feet. This obstruction will remain.

- The localizer antenna off of the Runway 10R threshold penetrates the surface by approximately 4 feet. The localizer antenna will remain.

- The noise berms left and right of the runway centerline off Runway 28L penetrate the transitional surface 2 and 6 feet. The noise berms will be removed.

Penetrations to the Primary Surface

- Numerous navigational aids, such as the windsock, tetrahedron, VASIs, and PAPIs penetrate the primary surface. These objects are required for air navigation and will remain.

- Taxiways F and C penetrate the existing and future primary surfaces of Runways 10R and 28R, respectively. Taxiway F penetration will be eliminated with the translation of Runway 10R. Whereas Taxiway C will become a penetration to the Runway 28R primary surface once the runway is shortened.

Penetrations to Runway 10L Approach Surface (see Figure 7-6)

- Two trees located within the approach surface are penetrations. These penetrations vary from 1 to 7 feet. Both of these trees are located within the RPZ on the Skywest Golf Course and should be trimmed or removed.

- Taxiway F penetrates the approach surface by approximately 27 feet at its highest location and is proposed to remain in place. Taxiway F is located within the RPZ and is therefore depicted on Figure 7-6.

Penetrations to Runway 28R Approach Surface (see Figure 7-6)

- The existing Runway 28R approach surface is penetrated by one of the East T-Hangars by approximately 1-foot. This hangar will be removed.

- Airplane Design Group II aircraft traversing Taxiway A penetrates the Runway 28R approach surface by approximately 22 feet. It is recommended that Runway 28R be shortened by 480 feet.

- After the runway shortening, Taxiway B will penetrate the approach surface by approximately 19 feet. This taxiway will remain in.

Penetrations to Runway 10R Approach Surface (see Figure 7-7)

- Nine trees penetrate the Runway 10R approach surface between 10 and 57 feet. It is recommended these trees be trimmed or removed. All trees are located within Skywest Golf Course.

- Two roads, the Golf Course Access Road and the airport perimeter service road, penetrate the approach surface by 1 and 3 feet, respectively. These roads will remain.

Penetrations to Runway 28L Approach Surface (see Figure 7-8)

- The windsock penetrates the Runway 28L approach surface by approximately 8 feet. The windsock will be relocated with the runway translation.

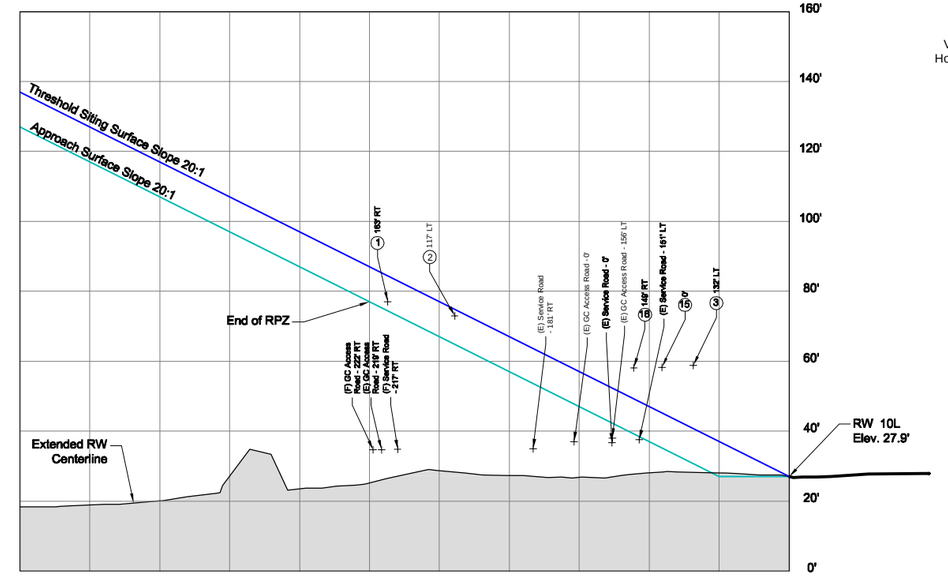
- The Runway 28L approach surface is penetrated by the blast fence by approximately 4 feet. The blast fence will remain.

- Six trees penetrate the approach surface of Runway 28L between 2 and 31 feet. These trees are proposed to be trimmed or removed.

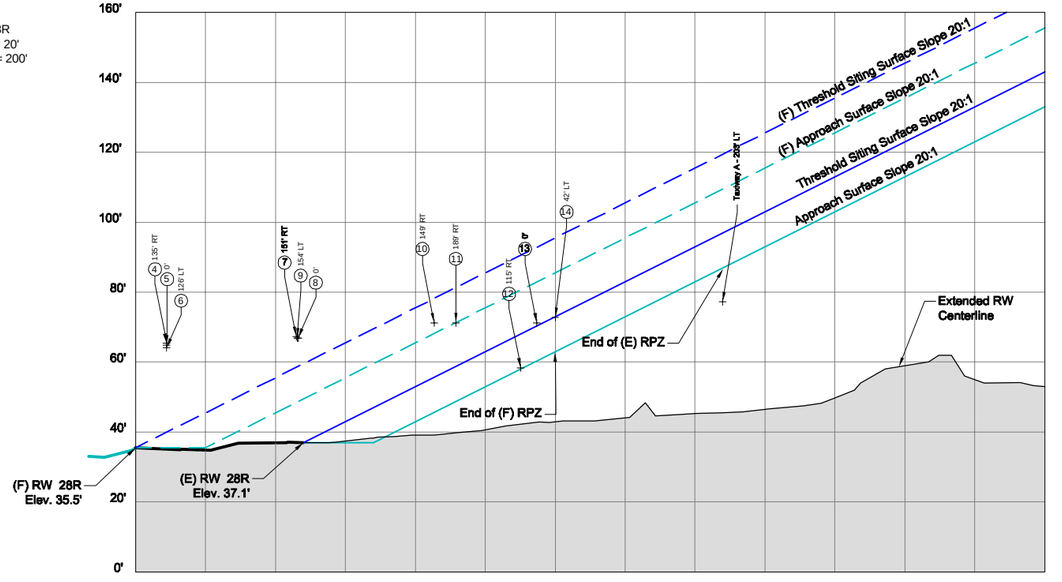
- Two light poles are within the approach surface and penetrate between 4 and 16 feet. Light poles should be lowered and/or obstruction lights provided.

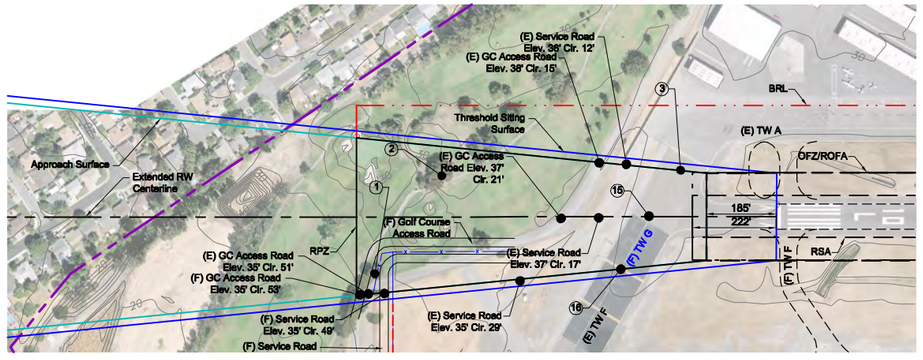
- The noise berms left and right of the extended runway centerline penetrate the Runway 28L approach surface up to 6 feet. These noise berms are to be removed after the sound wall is constructed.

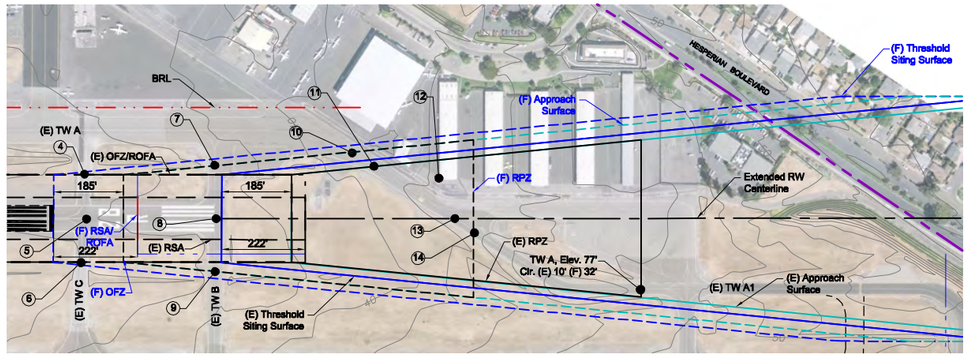
- West Winton Avenue and Hesperian Boulevard are within the Runway 28L approach surface and penetrate 3 and 6 feet, respectively.



RUNWAY 10L-28R
Vertical Scale: 1" = 20'
Horizontal Scale 1" = 200'







RUNWAY 10L

PART 77 OBSTRUCTION IDENTIFICATION TABLE - RW 10L

OBS. No.	DESCRIPTION	ELEVATION	PENETRATION	PROPOSED ACTION
1	TREE	77'	2'	TRIM/REMOVE
2	TREE	73'	7'	TRIM/REMOVE
3	TAXIWAY F	59'	27'	TO REMAIN
15	TAXIWAY F	58'	12'	TO REMAIN
16	TAXIWAY F	58'	8'	TO REMAIN

THRESHOLD SITING SURFACE PENETRATIONS - RW 10L

OBS. No.	DESCRIPTION	ELEV.	PENETR.	PROPOSED ACTION
3	TAXIWAY F	59'	17'	TO REMAIN

RUNWAY 28R

THRESHOLD SITING SURFACE PENETRATIONS - RW 28R

OBS. No.	DESCRIPTION	ELEV.	(E) PENETR.	(F) PENETR.	PROPOSED ACTION
4	TAXIWAY C	65'	NA	25'	TO REMAIN
5	TAXIWAY C	65'	NA	25'	TO REMAIN
6	TAXIWAY C	64'	NA	24'	TO REMAIN
7	TAXIWAY B	67'	NA	9'	TO REMAIN
8	TAXIWAY B	67'	NA	8'	TO REMAIN
9	TAXIWAY B	67'	NA	8'	TO REMAIN
11	TAXIWAY A	71'	12'	-10'	TO REMAIN
13	TAXIWAY A	71'	1'	-22'	TO REMAIN

PART 77 OBSTRUCTION IDENTIFICATION TABLE - RW 28R

OBS. No.	DESCRIPTION	ELEV.	(E) PENETR.	(F) PENETR.	PROPOSED ACTION
4	TAXIWAY C	65'	NA	30'	TO REMAIN
5	TAXIWAY C	65'	NA	29'	TO REMAIN
6	TAXIWAY C	64'	NA	29'	TO REMAIN
7	TAXIWAY B	67'	NA	19'	TO REMAIN
8	TAXIWAY B	67'	NA	18'	TO REMAIN
9	TAXIWAY B	67'	NA	18'	TO REMAIN
10	TAXIWAY A	71'	NA	3	TO REMAIN
11	TAXIWAY A	71'	22'	-1'	TO REMAIN
12	HANGAR	58'	1'	-22'	REMOVE
13	TAXIWAY A	71'	22'	-1'	TO REMAIN
14	TAXIWAY A	71'	10'	-13'	TO REMAIN

NOTES:
1. All elevations are in feet above mean sea level (MSL).
2. Ten feet were added to Access and Service Roads, fifteen feet to road elevations, and twenty-three feet to railroad track elevations. Clearance of 29.9 feet was added to taxiways, representing Airplane Design Group II aircraft.
3. For objects beyond the RPZs, see Sheet 5.

ABBREVIATIONS

BRL	Building Restriction Line
Clr.	Clear
(E)	Existing
Elev.	Elevation
(F)	Future
GC	Golf Course
LT	Left
NA	Not Applicable
OFZ	Obstacle Free Zone
OL	Obstruction Light / Penetration
Penetr.	Penetration
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RT	Right
RW	Runway
TSS	Threshold Siting Surface
TW	Taxiway

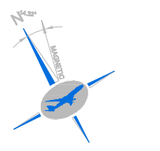
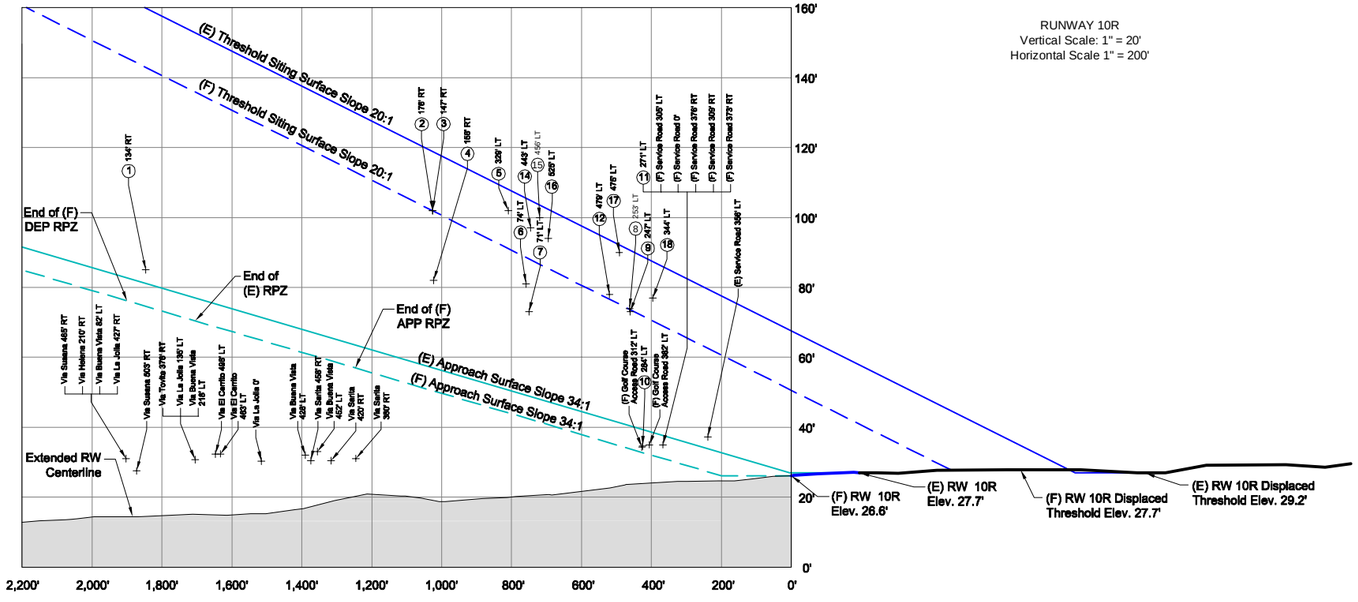


Figure 7-6
Inner Portion of the Approach Surface Plan - Runway 10L-28R



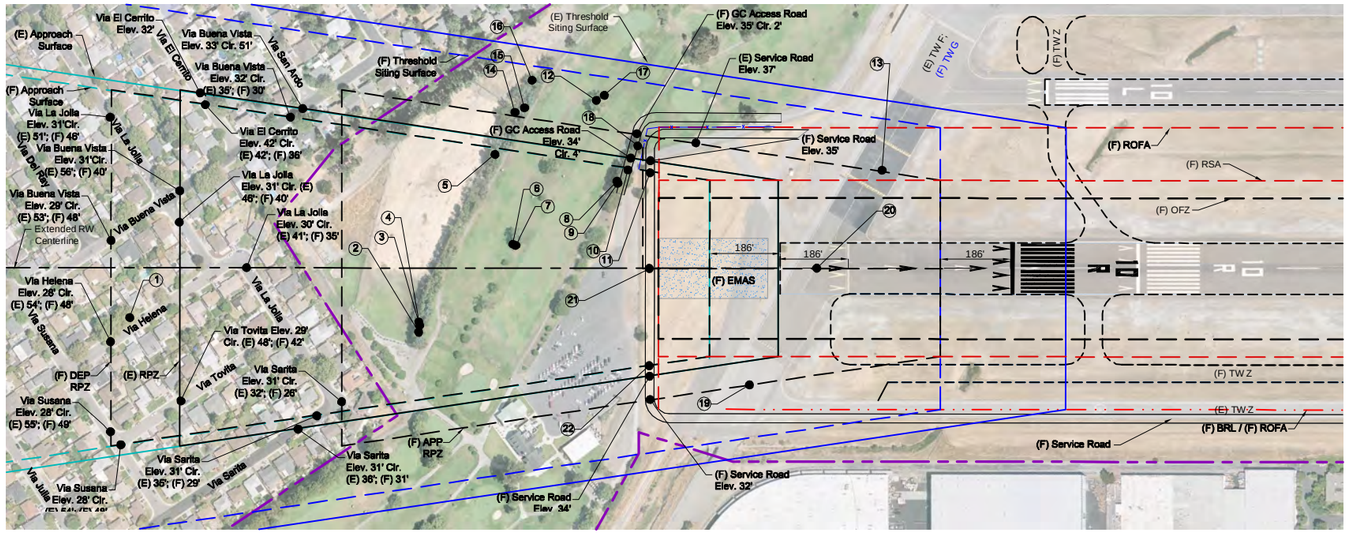
RUNWAY 10R
Vertical Scale: 1" = 20'
Horizontal Scale 1" = 200'

PART 77 OBSTRUCTION IDENTIFICATION TABLE

OBS. No.	DESCRIPTION	ELEV.	(E) PENETR.	(F) PENETR.	PROPOSED ACTION
1	TREE	85'	4'	10'	TRIM/REMOVE
2	TREE	102'	45'	51'	TRIM/REMOVE
3	TREE	102'	45'	51'	TRIM/REMOVE
4	TREE	82'	25'	31'	TRIM/REMOVE
5	TREE	102'	52'	57'	TRIM/REMOVE
6	TREE	81'	32'	38'	TRIM/REMOVE
7	TREE	73'	24'	30'	TRIM/REMOVE
8	TREE	74'	34'	40'	TRIM/REMOVE
9	TREE	73'	33'	39'	TRIM/REMOVE
10	GC ACCESS ROAD	35'	-4'	2'	TO REMAIN
11	SERVICE ROAD	35'	-3'	3'	TO REMAIN
20	TAXIWAY F	57'	30'	NA	RELOCATE RUNWAY
21	SERVICE ROAD	34'	-3'	2'	TO REMAIN
22	SERVICE ROAD	33'	-4'	1'	TO REMAIN

THRESHOLD SITING SURFACE PENETRATIONS

OBS. No.	DESCRIPTION	ELEV.	(E) PENETR.	(F) PENETR.	PROPOSED ACTION
2	TREE	102'	-19'	1'	TRIM/REMOVE
3	TREE	102'	-19'	1'	TRIM/REMOVE
5	TREE	102'	-8'	11'	TRIM/REMOVE
8	TREE	73'	-19'	1'	TRIM/REMOVE
9	TREE	73'	-16'	3'	TRIM/REMOVE
12	TREE	78'	-17'	2'	TRIM/REMOVE
13	TAXIWAY F	58'	5'	25'	TO REMAIN
14	TREE	91'	-16'	3'	TRIM/REMOVE
15	TREE	100'	-6'	14'	TRIM/REMOVE
16	TREE	94'	-11'	9'	TRIM/REMOVE
17	TREE	90'	-4'	15'	TRIM/REMOVE
18	TREE	77'	-13'	7'	TRIM/REMOVE
19	TAXIWAY F	56'	-18'	1'	TO REMAIN



ABBREVIATIONS

APP	Approach
BRL	Building Restriction Line
DEP	Departure
(E)	Existing
Elev.	Elevation
(F)	Future
GC	Golf Course
LT	Left
OFZ	Obstacle Free Zone
OL	Obstruction Light / Penetration
Penetr.	Penetration
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RT	Right
RW	Runway
TSS	Threshold Siting Surface
TW	Taxiway

NOTES:
1. All elevations are in feet above mean sea level (MSL).
2. Ten feet were added to Access and Service Roads, fifteen feet to road elevations, and twenty-three feet to railroad track elevations. Clearance of 29.9 feet was added to taxiways, representing Airplane Design Group II aircraft.
3. Negative penetrations in the Obstruction Identification Table represent distance clear to specified surface.

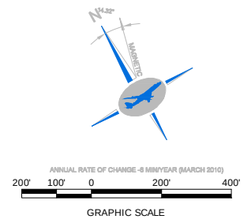
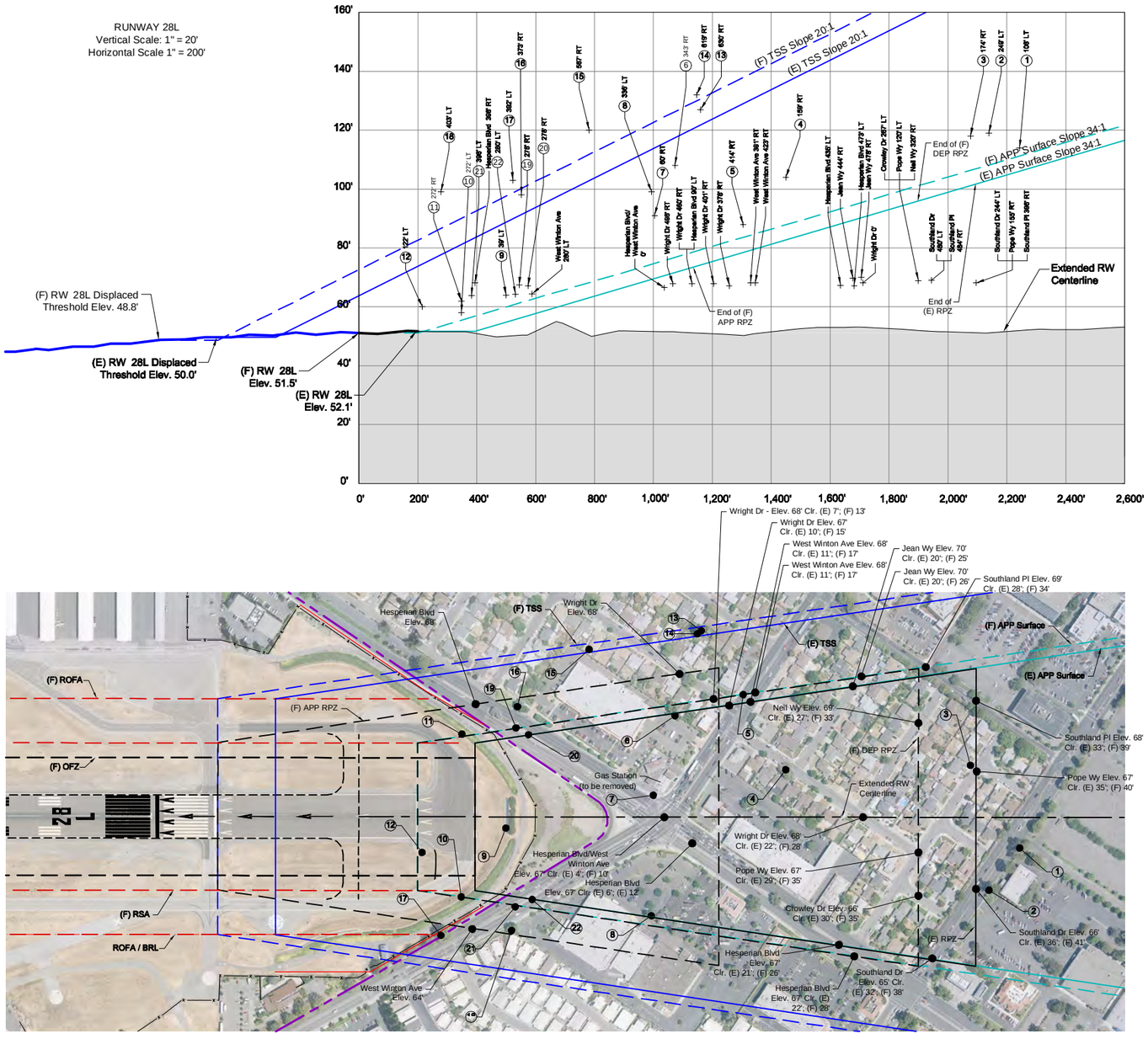


Figure 7-7
Inner Portion of the Approach Surface Plan - Runway 10R



PART 77 OBSTRUCTION IDENTIFICATION TABLE

OBS. No.	DESCRIPTION	ELEV.	(E) PENETR.	(F) PENETR.	PROPOSED ACTION
1	TREE	114'	8'	2'	TRIM/REMOVE
2	TREE	119'	16'	11'	TRIM/REMOVE
3	TREE	118'	17'	11'	TRIM/REMOVE
4	TREE	104'	22'	16'	TRIM/REMOVE
5	LIGHT POLE	88'	N/A	4'	LOWER/PROVIDE OL
6	TREE	108'	37'	31'	TRIM/REMOVE
7	LIGHT POLE	91'	22'	16'	LOWER/PROVIDE OL
8	TREE	99'	30'	24'	TRIM/REMOVE
9	BLAST FENCE	64'	9'	4'	TO REMAIN
10	NOISE BERM LT	58'	N/A	2'	REMOVE
11	NOISE BERM RT	62'	N/A	6'	REMOVE
12	WINDSOCK	60'	N/A	8'	TO BE RELOCATED
19	HESPERIAN BLVD	67'	12'	6'	TO BE RELOCATED
20	HESPERIAN BLVD	67'	10'	5'	TO BE RELOCATED
21	WEST WINTON AVE	64'	9'	3'	TO BE RELOCATED
22	WEST WINTON AVE	64'	7'	2'	TO BE RELOCATED

THRESHOLD SITING SURFACE PENETRATIONS

OBS. No.	DESCRIPTION	ELEV.	RW	(E) PENETR.	(F) PENETR.	PROPOSED ACTION
13	TREE	127'	28L	5'	-4'	TRIM/REMOVE
14	TREE	132'	28L	10'	2'	TRIM/REMOVE
15	TREE	120'	28L	17'	8'	TRIM/REMOVE
16	TREE	98'	28L	6'	-2'	TRIM/REMOVE
17	TREE	103'	28L	13'	4'	TRIM/REMOVE
18	TREE	99'	28L	21'	12'	TRIM/REMOVE

ABBREVIATIONS

APP	Approach
Ave	Avenue
Blvd	Boulevard
BRL	Building Restriction Line
DEP	Departure
Dr	Drive
(E)	Existing
Elev.	Elevation
(F)	Future
LT	Left
OFZ	Obstacle Free Zone
OL	Obstruction Light / Penetration
Penetr.	Penetration
Pl	Place
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RT	Right
RW	Runway
TSS	Threshold Siting Surface
TW	Taxiway
Wy	Way

NOTES:
1. All elevations are in feet above mean sea level (MSL).
2. Ten feet were added to Access and Service Roads, fifteen feet to road elevations, and twenty-three feet to railroad track elevations. Clearance of 29.9 feet was added to taxiways, representing Airplane Design Group II aircraft.

Figure 7-8
Inner Portion of the Approach Surface Plan - Runway 28L

Penetrations to Threshold Siting Surfaces

Threshold Siting Surfaces are imaginary inclined planes extending outward and upward from the ends of the runways that are used to establish the location of runway thresholds. At Hayward, the future Runways 10R and 28L have thresholds that are displaced 655 feet and 676 feet, respectively. The threshold siting surfaces are located with respect to these displaced thresholds. Physical locations of the landing thresholds are recommended to be relocated in this Airport Layout Plan Update as Runway 10R-28L is translated 196 feet to the west, and therefore, the future threshold siting surfaces are in a different location than on the previous ALP.

Threshold siting standards are applied for the following runway uses:

- Runways 10R and 28L approach end of runways expected to support instrument straight in night operations serving greater than approach category B aircraft.

- Runways 10L and 28R approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more (visual runways only, day/night).

Fifteen trees penetrate the threshold siting surface applied to Runway 10R. The penetrations range from 1 to 15 feet. Four trees penetrate the Runway 28L threshold siting surface. Penetrations range from 2 to 12 feet. All trees penetrating the threshold siting surface are proposed to be trimmed or removed.

The threshold siting surface applied to Runway 10L has one obstruction. Taxiway F penetrates the surface by approximately 17 feet. Taxiway F is to remain and ground controllers hold aircraft when Runway 10L-28R is in use. The threshold siting surface applied to Runway 28R is penetrated 12 feet by Taxiway A. Taxiway A will no longer be a penetration once Runway 28R is shortened by 480 feet. After the shortening of Runway 28R, the future threshold siting surface will be penetrated 9 and 25 feet by Taxiways B and C, respectively. These taxiways will remain and will be under the ground controller's purview.

INNER PORTION APPROACH SURFACE DRAWING

The Inner Portion Approach Surface Drawings are depicted on Figures 7-6 through 7-8. These sheets are otherwise known as the Runway Protection Zone, or RPZ plans. Also depicted on these figures are the land uses within the RPZs. The RPZs for Runways 10L and 28R have an inner width of 250 feet, an outer width of 450 feet, are 1,000 feet long, and encompass 8.035 acres. The RPZs for Runways 10R and 28L have an inner width of 500 feet, an outer width of 1,010 feet, are 1,700 feet long, and encompass 29.465 acres.

Several roads traverse the RPZs including West Winton Avenue and Hesperian Boulevard (Runway 28L end) and local residential roads (Runway 10R end). Residences and commercial areas are located within the RPZs. These land uses have existed within the RPZ for many years and are assumed to remain. The gas station located within the Runway 28L RPZ should be removed or relocated.

Figure 7-6 shows four trees within the Runway 10L RPZ, which are proposed to be trimmed or removed. Taxiway F traverses the RPZ and is proposed to remain in place. In addition, Taxiway A and the East T-Hangar buildings are within the existing Runway 28R RPZ. It is recommended that the East T-Hangars be removed at the end of their useful life. To remove the Taxiway A penetration to the approach surface it is recommended that Runway 28R be shortened 480 feet. A subsequent master plan will address a potential realignment of Taxiway A. Shortening Runway 28R will subsequently move Taxiway B inside the RPZ and it will penetrate the approach surface. Since Taxiway B is a controlled taxiway with limited crossing traffic, it can remain.

Obstructions within the Runway 10R RPZ are noted on Figure 7-7. These include nine trees (penetrations ranging from 10 to 57 feet) and two roads (penetrations ranging from 2 to 3 feet). Trees are to be trimmed or removed, and the roads will remain.

Runway 28L RPZ obstructions are noted in Figure 7-8. There are six trees penetrating from 2 to 31 feet within the RPZ, which are to be trimmed or removed. Two light poles (penetrating 4 and 16 feet) are proposed to be lowered or obstruction lights provided. The blast fence, penetrating 4 feet, is to remain in place. The two noise berms penetrating 2 and 6 feet will be removed. The windsock, which penetrates by approximately 8 feet, will be relocated with the runway translation.

DEPARTURE SURFACE PLAN

The Departure Surface Drawing for Runway 28L is depicted on Figure 7-9. The departure surface has an inner width of 1,000 feet, an outer width of 6,466 feet, and is 10,200 feet long. It starts at the end of the proposed clearway and extends outward and upward at a slope of 40:1. The clearway starts at the Runway 10R end and extends out 345 feet at a slope of 80:1. Within the departures surface there are 25 obstructions. There are 23 trees penetrating from 17 to 67 feet, which are proposed to be trimmed or removed. The Golf Course access road penetrates by approximately 2 feet and will remain in place and terrain penetrates by approximately 6 feet and is proposed to be removed.

ON-AIRPORT LAND USE PLAN

The Land Use Plan (Figure 7-10) illustrates proposed land use designations at Hayward Executive Airport. The following land uses are categorized:

- **Aircraft Operating Area (AOA)**: The AOA encompasses 169.6 acres including the runways, taxiways, and associated object free areas. The building restriction line defines the north and south boundaries of the AOA.

- **General Aviation Terminal Complex**: The general aviation terminal building and associated parking cover 0.5 acres.

- **Non-Aviation Related Revenue Support**: Five large areas along Hesperian Boulevard and West Winton Avenue are used as warehouse storage space, restaurants, and commercial uses. These areas provide revenue to the airport through ground leases and percentages of sales receipts. This area encompasses approximately 48.5 acres.

- **Recreational**: The Skywest Golf Course and John F. Kennedy Park are considered on-airport recreational uses and include 141.8 acres.

- **Aviation Related Revenue Support**: Two areas along West Winton Avenue covering a combined 4.2 acres are designated aviation related revenue support. Examples of aviation related uses include, but are not limited to, aircraft rentals, parts, and sales.

- **General Aviation Revenue Support**: This area, encompassing 89.8 acres, covers most of the northern side of the airport and a small strip along Corsair Boulevard. It encompasses all general aviation facilities (hangars, tie-downs, fuel, etc.) and associated taxilanes on the Airport.

- **Ground Access/Vehicular Traffic**: All public roads on the airport, as well as public parking lots are included within these 11.2 acres. This includes Skywest Drive, West "A" Street, vehicle parking areas, a small road providing access to the Bud Field Development, and future parking for the Corsair hangars.

- **Corporate Aviation**: The 40.5 acres of corporate aviation are located on the south side of the airport. This area is intended for business jets and corporate aircraft users and will be comprised of based aircraft facilities and support facilities for these aircraft.

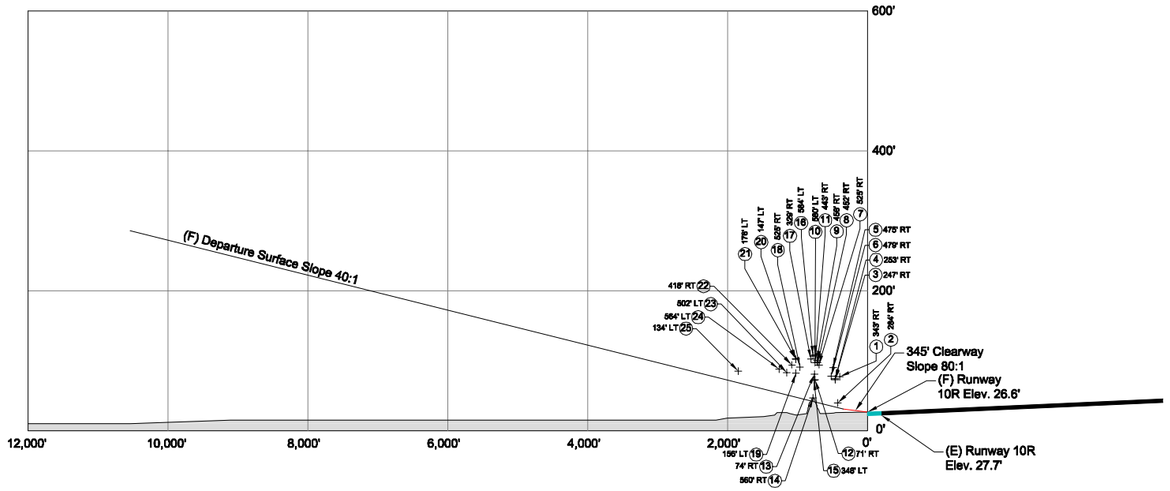
EXHIBIT "A" – PROPERTY MAP

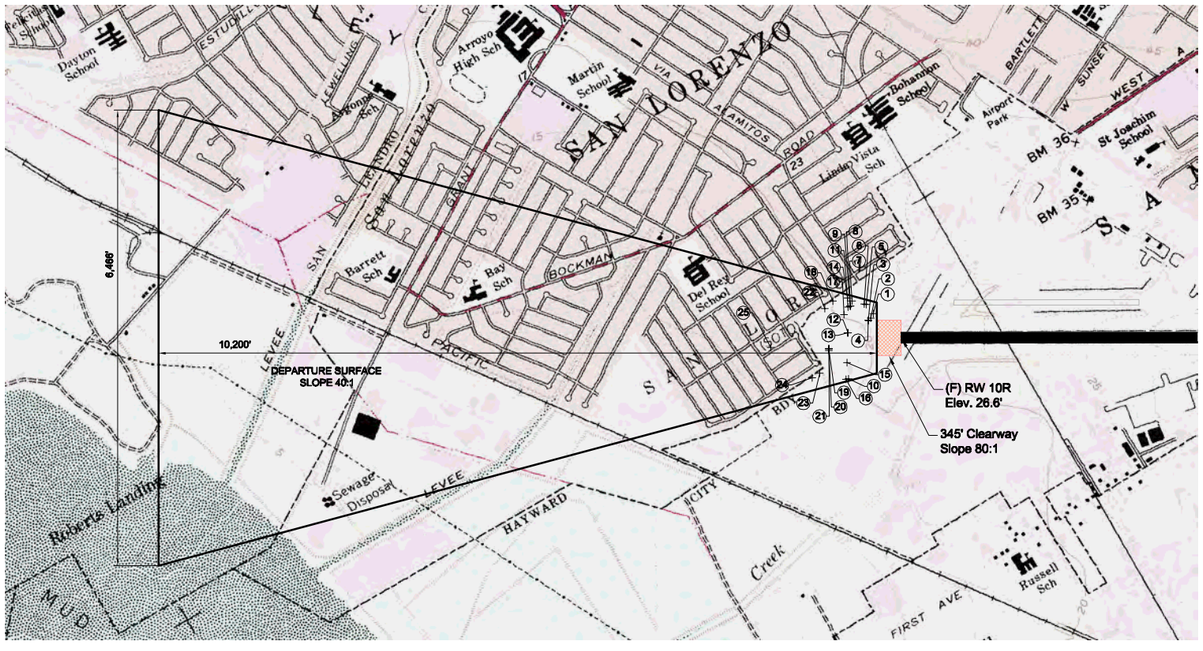
The Exhibit "A" – Property Map depicts the various tracts of land within the airport boundary and indicates the parcel numbers and acreage of each tract. The City does not have any existing avigation easements. As previously noted, most of the future departure runway protection zones are not under airport control.

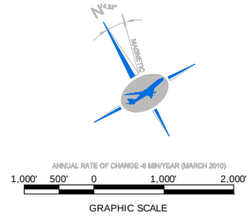
NOTES:
1. All elevations are in feet above mean sea level (MSL).
2. A composite ground profile is created by using the highest point at any given distance from the runway within the departure surface.
3. Ten feet were added to access and service roads, fifteen feet to non-interstate road, and twenty-three feet to railroad track elevations.

ABBREVIATIONS:

Elev. Elevation
GC Golf Course
L Left
Penetr. Penetration
R Right
RW Runway







DEPARTURE SURFACE IDENTIFICATION TABLE

OBS. No.	DESCRIPTION	ELEV.	PENETR.	SURFACE	PROPOSED ACTION
1	TREE	77'	45'	DEPARTURE	TRIM/REMOVE
2	GC ACCESS ROAD	40'	2'	DEPARTURE	TO REMAIN
3	TREE	73'	39'	DEPARTURE	TRIM/REMOVE
4	TREE	74'	40'	DEPARTURE	TRIM/REMOVE
5	TREE	90'	55'	DEPARTURE	TRIM/REMOVE
6	TREE	78'	43'	DEPARTURE	TRIM/REMOVE
7	TREE	94'	54'	DEPARTURE	TRIM/REMOVE
8	TREE	97'	57'	DEPARTURE	TRIM/REMOVE
9	TREE	100'	60'	DEPARTURE	TRIM/REMOVE
10	TREE	108'	67'	DEPARTURE	TRIM/REMOVE
11	TREE	97'	56'	DEPARTURE	TRIM/REMOVE
12	TREE	73'	32'	DEPARTURE	TRIM/REMOVE
13	TREE	81'	40'	DEPARTURE	TRIM/REMOVE
14	TERRAIN	47'	6'	DEPARTURE	REMOVE
15	TREE	72'	31'	DEPARTURE	TRIM/REMOVE
16	TREE	107'	65'	DEPARTURE	TRIM/REMOVE
17	TREE	102'	59'	DEPARTURE	TRIM/REMOVE
18	TREE	91'	45'	DEPARTURE	TRIM/REMOVE
19	TREE	102'	54'	DEPARTURE	TRIM/REMOVE
20	TREE	82'	34'	DEPARTURE	TRIM/REMOVE
21	TREE	102'	54'	DEPARTURE	TRIM/REMOVE
22	TREE	94'	45'	DEPARTURE	TRIM/REMOVE
23	TREE	83'	32'	DEPARTURE	TRIM/REMOVE
24	TREE	88'	34'	DEPARTURE	TRIM/REMOVE
25	TREE	85'	17'	DEPARTURE	TRIM/REMOVE

Source of data for object elevations and locations: USGS maps Hayward (1959), Newark (1997, Redwood Point (1959), and San Leandro (1959) and San Francisco Sectional Aeronautical Charts (August 27, 2009); Topographic Survey (August 2008); Digital Obstacle File (2009), NGS UDDF file HWD_06D.LPV (2002) , NGS Aeronautical Survey Program: Obstruction Chart 5015 Hayward CA.dgn.

Figure 7-9
Departure Surface Plan - Runway 28L

AIRPORT LAND DATA	
LAND USE	ACRES
AIRCRAFT OPERATING AREA (AOA)	169.6
GENERAL AVIATION TERMINAL COMPLEX	0.5
NON-AVIATION RELATED REVENUE SUPPORT	43.9
RECREATIONAL	141.8
AVIATION RELATED REVENUE SUPPORT	3.9
GENERAL AVIATION REVENUE SUPPORT	89.8
GROUND ACCESS/VEHICULAR CIRCULATION	13.0
CORPORATE AVIATION	44.8

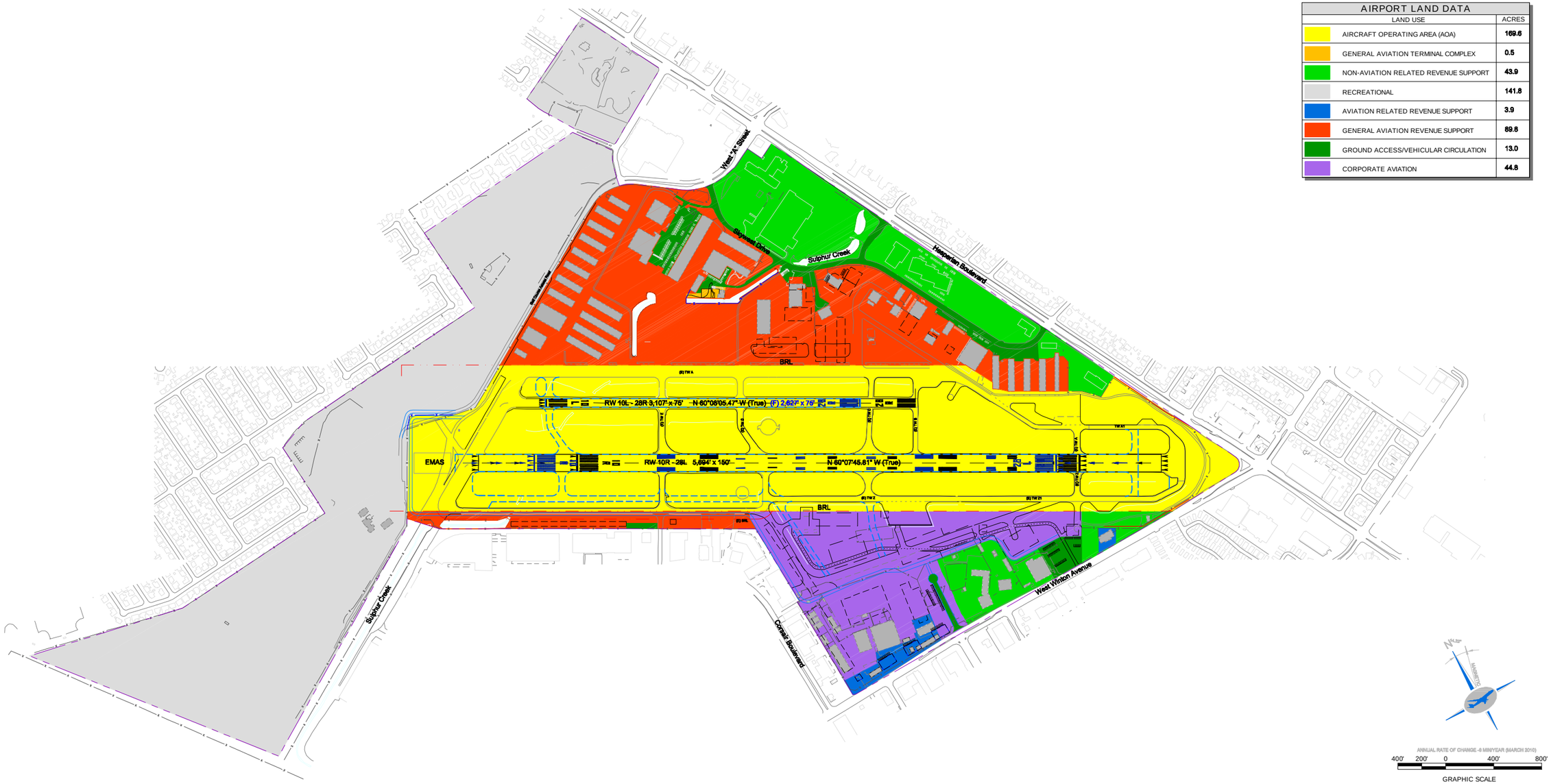


Figure 7-10
Future On-Airport
Land Use Plan

No fee or avigation easement acquisitions are included within this Airport Layout Plan Update. Residences are contained within the existing and future RPZs. Mitigation of these incompatible land uses are beyond the scope of this study and will be analyzed through a future master plan study. The Exhibit "A" – Property Map is illustrated on Figure 7-11.

The primary intent of the Exhibit "A" property map is to identify all land which is designated airport property and to provide an inventory of all parcels which make-up the airport.

The Exhibit "A" – Property Map also shows different areas on the airport, which have been released from the Quitclaim Deed. Three areas along Hesperian Boulevard (including John F. Kennedy Park) were completely released from the Quitclaim Deed. An additional three areas, the largest of which is Skywest Golf Course, have a limited release from the Quitclaim Deed. A 16-acre parcel along Hesperian Boulevard and West "A" Street was completely released from airport property in November 2005.

ENVIRONMENTAL RESOURCES AND CONSTRAINTS MAP

Figure 7-12 depicts the Environmental Resources and Constraints Map. This map shows known environmental resources and constraints within the airport property. As seen in the figure, known environmental constraints are the 100-year flood plain associated with Sulphur Creek and potential Section 4(f) uses (Skywest Golf Course and John F. Kennedy Park). Environmental resources and constraints associated with the former CANG leasehold are unknown at the time of this writing.

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NOTES:

1. 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.

PROPERTY TABLE						
#	TYPE OF INTEREST	BOOK/PAGE	PARCEL	ACREAGE	DATE OF RECORDING	COMMENTS
1	FEE	432/134	3	6.3*	4/16/1947	
2	FEE	432/134	2	8.5*	4/16/1947	
3	FEE	432/104	1-1	14.5*	4/16/1947	
4	FEE	432/134	1-5	217.1*	4/16/1947	
5	FEE	432/124	1-4	188.5*	4/16/1947	
6	FEE	432/124	2	26.9*	4/16/1947	
7	FEE	432/106	3	0.5*	4/16/1947	
8	FEE	432/108	6	0.8*	4/16/1947	
9	FEE	432/108	7	1.8*	4/16/1947	
10	FEE	432/108	8	1.8*	4/16/1947	
11	FEE	432/108	9	2.7*	4/16/1947	
12	FEE	432/108	16	1.8*	4/16/1947	
13	FEE	432/108	17	12.0*	4/16/1947	
14	FEE	432/108	19	3.0*	4/16/1947	
15	FEE	432/108	18	3.8*	4/16/1947	
16	FEE	432/104	3	2.2*	4/16/1947	
17	FEE	432/104	2	8.7*	4/16/1947	

* ACREAGE IS CALCULATED

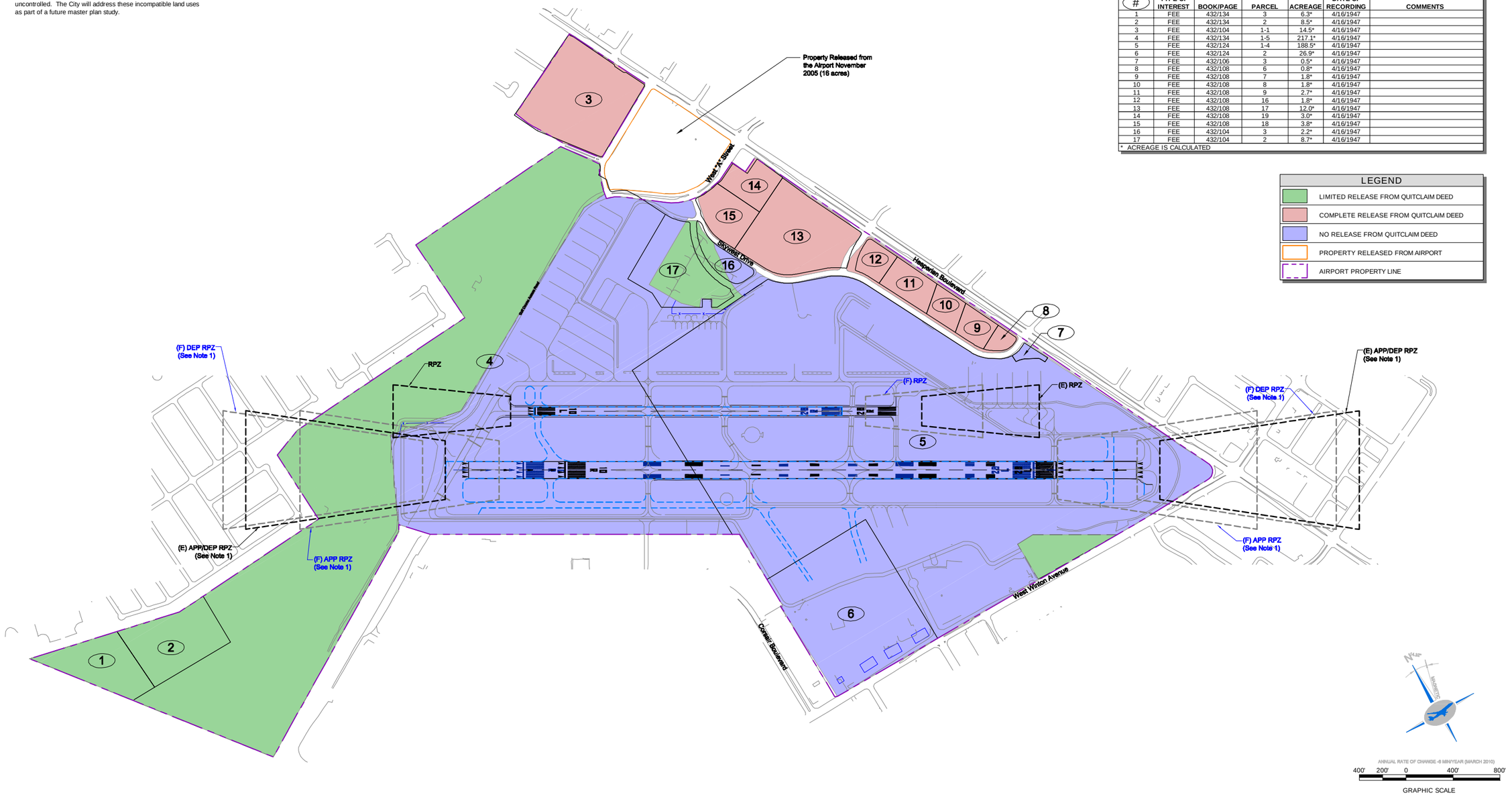


Figure 7-11
Exhibit "A" -
Property Map

NOTES:

1. Environmental resources and constraints associated with the former California Air National Guard (CANG) leasehold are unknown.

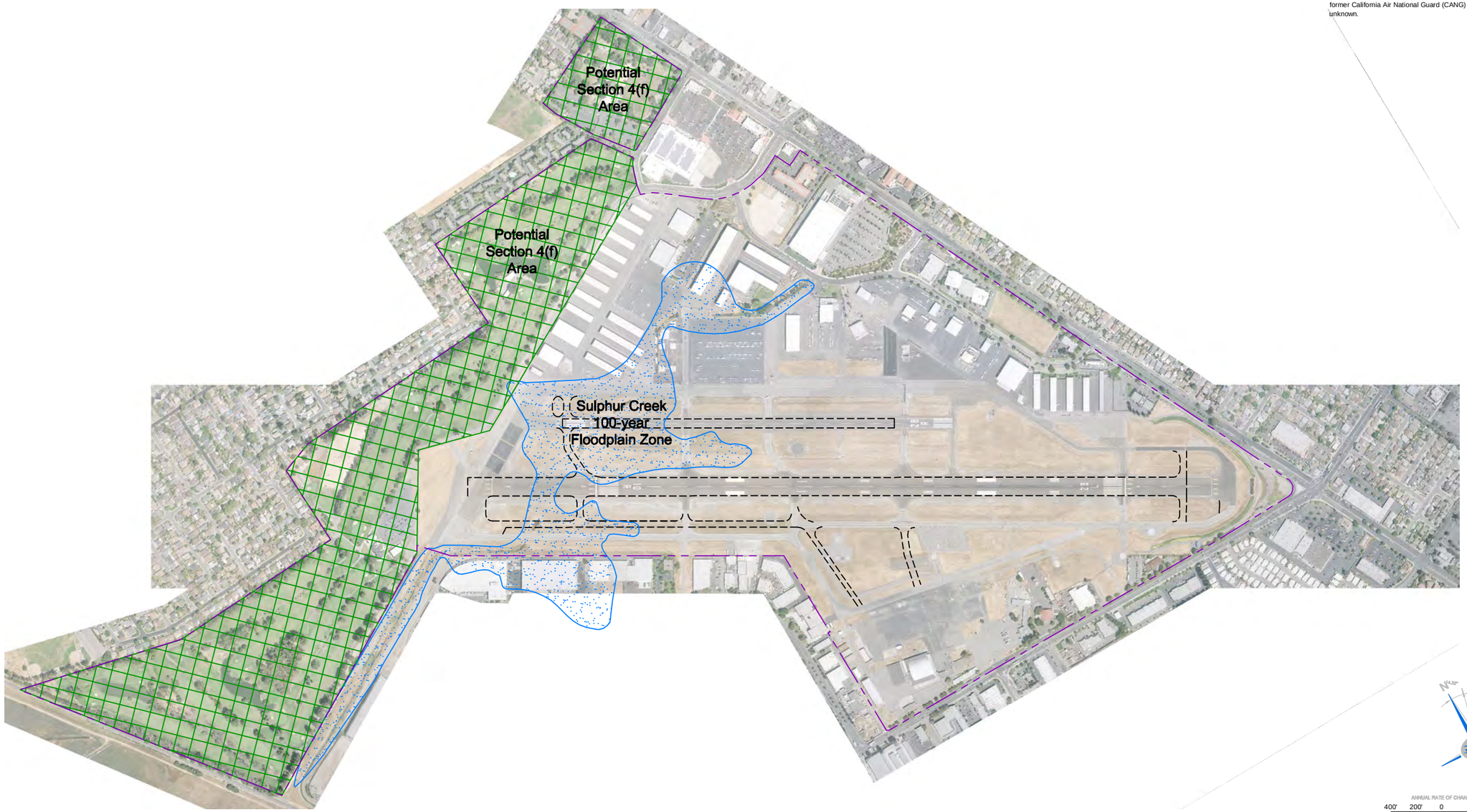
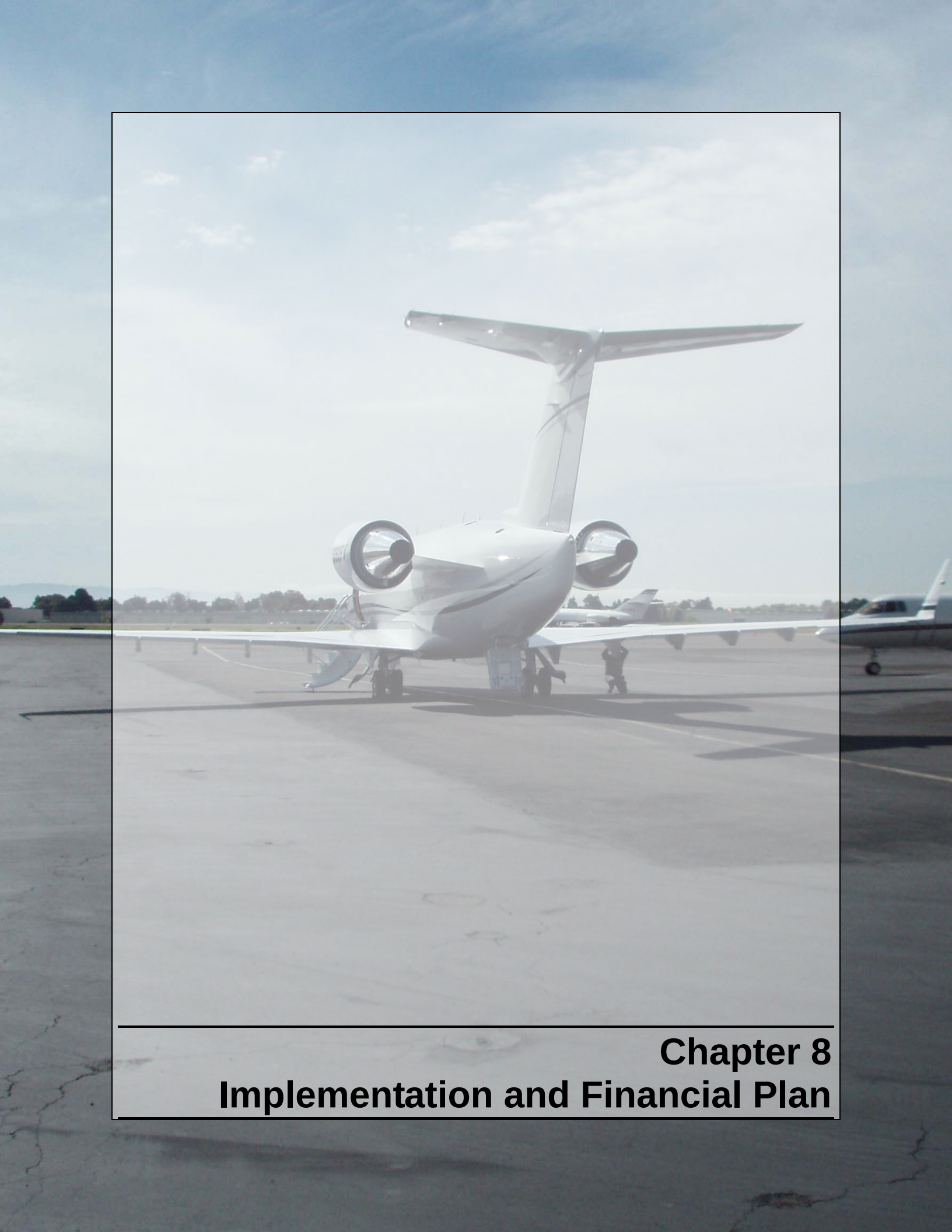


Figure 7-12
Environmental Resources and Constraints Map



Chapter 8
Implementation and Financial Plan

Chapter 8 – Implementation and Financial Plan

INTRODUCTION

This chapter presents financial information related to the recommended improvements of the Hayward Executive Airport Layout Plan Update, as discussed in previous chapters of this report. It identifies the sequencing of costs and the financial obligations to be assumed by Federal, State, and local government. The financial data consists of two basic elements – the capital improvement costs associated with recommended development and the staging of development and improvement costs. As previously noted, Phase 1 is from 2010 to 2015 and Phase 2 from 2016 to 2020. The estimated costs for this study are stated in constant 2009 dollars.

CAPITAL COST ESTIMATES AND PHASING

A summary of the costs of capital improvements is presented in Table 8-1 and the schedule of capital improvements is included Table 8-2. Table 8-2 describes in detail the proposed investment in construction and expansion activities as described in Chapter 7 of this study. For each of the development phases it presents the estimated development costs and the projected timing. These costs were developed based on recent construction costs at similar airports, contacting suppliers, and construction experience including recent projects developed by the City. Project costs include estimated architectural and engineering design fees, mobilization, and contingency allowances. Mobilization and contingency allowances are 30 percent and architectural/engineering allowances are 20 percent of project cost. For detailed cost information, reference Appendix G.

Table 8-1
SUMMARY OF CAPITAL COSTS
(2009 Dollars)

Timing	Public Investment	Private Investment	Total Investment
Phase 1	$36,864,807	$26,324,195	$63,189,002
Phase 2	$12,992,410	$12,289,500	$25,281,910
Total Plan	**$49,857,217**	**$38,613,695**	**$88,470,912**

Source: AECOM analysis.

As can be seen in Table 8-2, Phase 1 improvements total $63.2 million and focus on translating the runway, developing the south side of the airport for corporate aviation users, and meeting Airport Reference Code D-II requirements. In addition, Phase 1 includes taxiway improvements and construction of an additional taxiway. Phase 2 improvements total $25.3 million and continues development of the south side of the airport and includes a new Airport Traffic Control Tower (ATCT). Figures 8-1 and 8-2 identify recommended improvement projects in each of the two development phases. The figures depict the location of each project along with the source of funding. Included on the graphics are tables identifying who will lead or fund the project, and a project schedule. City costs can be funded through the Airport Enterprise Fund, City funds, or borrowing.

Table 8-2
SCHEDULE OF IMPROVMENTS
(2009 Dollars)

	Project	Cost	Timing
	Phase 1 (2010 - 2015)		
1	Relocate Sulphur Creek into Box Culvert	$ 3,200,000	2011
2	Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas	$ 325,000	2011
3	Extend Taxiway C	$ 1,900,000	2011
4	Bud Field Aviation - Phase 1	$ 8,792,410	2011
5	American Aircraft Sales - Hangar A	$ 1,274,375	2011/2012
6	Install Airport Safe Drains	$ 149,600	2012
7	Construct Terminal Building and Parking	$ 2,655,000	2012
8	Obstruction Removal Runway 10R-28L	$ 53,500	2012
9	Taxiway Z Realignment; Corsair Ramp	$ 4,675,700	2012
10	Walter Imbrulia's Development	$ 1,398,000	2012
11	Airport Property Partners Development	$ 1,450,000	2012-2013
12	Construct Sound Walls and Blast Fence	$ 1,746,367	2013
13	Taxiways C and E Pavement Rehabilitation	$ 1,688,450	2013
14	CANG Reuse Phases 2 and 3	$10,970,000	2013
15	Shorten Runway 28R	$ 490,000	2013
16	Airfield Electrical Renovation and Improvements	$ 3,563,000	2014
17	Translate Runway, Install EMAS, and Reroute Roads and Fencing	$13,393,730	2014
18	Recertify Instrument Approaches	$ 500,000	2014
19	Install PAPI and New REIL on Runway 28L	$ 210,000	2015
20	Relocate Airport Perimeter Road	$ 1,078,821	2015
21	Pavement Rehabilitation - Tie-Down Ramp	$ 3,575,050	2015
22	Wildlife Management Plan	$ 100,000	2015
	Phase 1 Total	**$63,189,002**	
	Phase 2 (2016 - 2020)		
23	CANG Reuse Phases 4 and 5	$ 6,188,000	2016
24	Install REIL Runway 10L-28R	$ 345,000	2016
25	Runway Crown Correction (Runway 10R-28L)	$ 3,848,000	2016
26	Corsair Hangar Construction	$ 3,944,000	2017
27	Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D	$ 1,562,610	2018
28	New Airport Traffic Control Tower (ATCT) Construction	$ 6,057,500	2018
29	American Aircraft Sales - Hangar B	$ 1,087,500	2018
30	Construct Runway Exit	$ 1,179,300	2019
31	American Aircraft Sales - Hangar C	$ 1,070,000	2020
	Phase 2 Total	**$25,281,910**	
	Total All Phases	**$88,470,912**	

Source: AECOM analysis.

It is important to remember that the real determinant of the specific timing of these improvements is based on attainment of actual demand/traffic levels and available funds. Therefore, the schedule presented does not commit the sponsor to provide such development until traffic levels reach those projected in this study and funding is available. The costs projected for each phase are divided into public and private sector portions. The public investment items outlined qualify for Federal AIP (Airport Improvement Program) and California Aid to Airports Program (CAAP) funding. All public investment construction is to be financed by the public sector. Various funding sources are described in the section below.

FUNDING SOURCES

Funding sources available to finance the capital improvement program (CIP) include: the FAA's Airport Improvement Program (AIP), private capital, Airport Enterprise Fund, and City funds.

PHASE 1 (2010 - 2015)

FUNDING SOURCES KEY

- 1.X FAA and Local Funds
- 1.X FAA, State, and Local Funds
- 1.X Local Funds
- 1.X Private Party Funds
- 1.X FAA, State, Local, and Private Party Funds

LEGEND

- Future Buildings
- Future Roads/Automobile Parking
- Future Airfield Pavement

	Project	City Cost	Project Cost	Timing
	Phase 1 (2010 - 2015)			
1.1	Relocate Sulphur Creek into Box Culvert	$ 320,000	$ 3,200,000	2011
1.2	Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas	$ 325,000	$ 325,000	2011
1.3	Extend Taxiway C	$ -	$ 1,900,000	2011
1.4	Bud Field Aviation - Phase 1	$ -	$ 8,792,410	2011
1.5	American Aircraft Sales - Hangar A	$ -	$ 1,274,375	2011/2012
1.6	Install Airport Safe Drains	$ 149,600	$ 149,600	2012
1.7	Construct Terminal Building and Parking	$ 1,021,500	$ 2,655,000	2012
1.8	Obstruction Removal Runway 10R-28L	$ 5,350	$ 53,500	2012
1.9	Taxiway Z Realignment; Corsair Ramp	$ 467,570	$ 4,675,700	2012
1.10	Walter Imbrulia's Development	$ -	$ 1,398,000	2012
1.11	Airport Property Partners Development	$ -	$ 1,450,000	2012-2013
1.12	Construct Sound Walls and Blast Fence	$ 791,302	$ 1,746,367	2013
1.13	Taxiways C and E Pavement Rehabilitation	$ 138,845	$ 1,688,450	2013
1.14	CANG Reuse Phases 2 and 3	$ -	$ 10,970,000	2013
1.15	Shorten Runway 28R	$ 24,500	$ 490,000	2013
1.16	Airfield Electrical Renovation and Improvements	$ 326,300	$ 3,563,000	2014
1.17	Translate Runway, Install EMAS, and Reroute Roads and Fencing	$ 3,429,373	$ 13,393,730	2014
1.18	Recertify Instrument Approaches	$ 25,000	$ 500,000	2014
1.19	Install PAPI and New REIL on Runway 28L	$ 10,500	$ 210,000	2015
1.20	Relocate Airport Perimeter Road	$ 26,496	$ 1,078,821	2015
1.21	Pavement Rehabilitation - Tie-Down Ramp	$ 327,505	$ 3,575,050	2015
1.22	Wildlife Management Plan	$ 10,000	$ 100,000	2015
	Phase 1 Total	**$ 7,398,840**	**$ 63,189,002**	

Figure 8-1
Phase 1 Improvements

PHASE 2 (2016 - 2020)

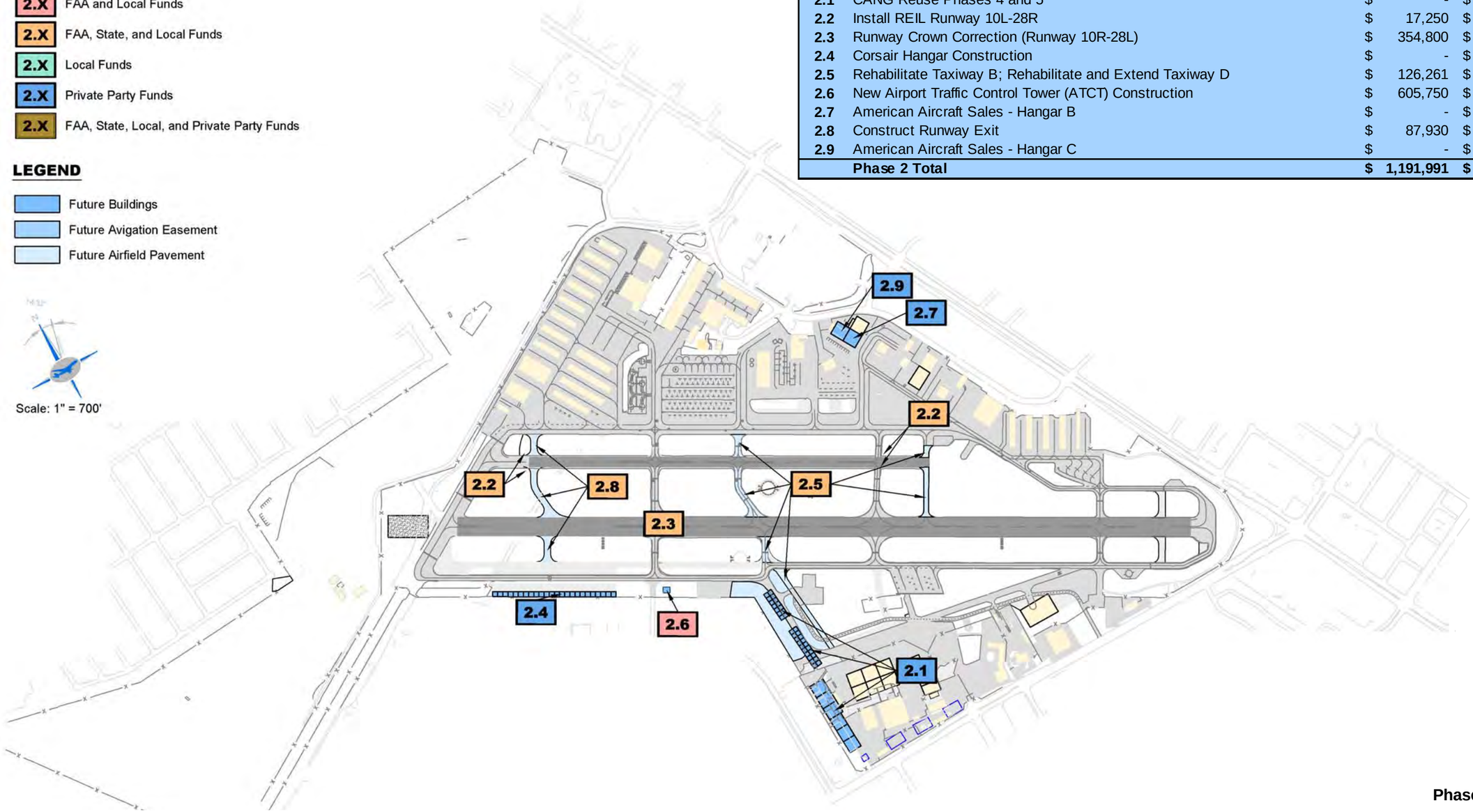
FUNDING SOURCES KEY

- 2.X FAA and Local Funds
- 2.X FAA, State, and Local Funds
- 2.X Local Funds
- 2.X Private Party Funds
- 2.X FAA, State, Local, and Private Party Funds

LEGEND

- Future Buildings
- Future Avigation Easement
- Future Airfield Pavement

Scale: 1" = 700'



	Project	City Cost	Project Cost	Timing
	Phase 2 (2016 - 2020)			
2.1	CANG Reuse Phases 4 and 5	$ -	$ 6,188,000	2016
2.2	Install REIL Runway 10L-28R	$ 17,250	$ 345,000	2016
2.3	Runway Crown Correction (Runway 10R-28L)	$ 354,800	$ 3,848,000	2016
2.4	Corsair Hangar Construction	$ -	$ 3,944,000	2017
2.5	Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D	$ 126,261	$ 1,562,610	2018
2.6	New Airport Traffic Control Tower (ATCT) Construction	$ 605,750	$ 6,057,500	2018
2.7	American Aircraft Sales - Hangar B	$ -	$ 1,087,500	2018
2.8	Construct Runway Exit	$ 87,930	$ 1,179,300	2019
2.9	American Aircraft Sales - Hangar C	$ -	$ 1,070,000	2020
	Phase 2 Total	**$ 1,191,991**	**$ 25,281,910**	

Figure 8-2
Phase 2 Improvements

FAA Airport Improvement Program (AIP)

On the federal level, the FAA's Aid to Airports Program provides funding for planning, construction, or rehabilitation at any public airport. The current grant program, known as the AIP, was established by the Airport and Airway Improvement Act of 1982 and amended most recently by the Vision 100 – Century of Aviation Reauthorization Act of 2003. The AIP provides funding from the Airport and Airway Trust Fund for airport development, airport planning, noise compatibility planning and to carry out noise compatibility programs.

The Trust Fund provides the revenues used to fund AIP projects. The Trust Fund concept guarantees a stable funding source whereby users pay for the services they receive. Taxes or user fees are collected from the various segments of the aviation community and placed in the Trust Fund.

The Airport and Airway Improvement Act of 1982, as amended, authorized the use of monies from the Airport and Airway Trust Fund to make grants under the Airport Improvement Program through fiscal year 2007, which ended on September 30, 2007. Since then, a series of short-term extensions authorized and provided AIP funding through September 30, 2009. Congress is in the process of reauthorizing FAA funding as reauthorization is necessary for funding after September 30, 2009.

Under the Act, the authorization for funds not obligated in a fiscal year carries forward to future fiscal years unless the Congress takes specific action to limit such amounts. During the annual appropriations process, Congress may also limit the funding for grants to an amount that differs from the above authorization.

Projects eligible for AIP funding consist of: capital outlays for land acquisition; site preparation; construction, alteration, and repair of runways, taxiways, aircraft parking aprons, and roads within airport boundaries (except for access to areas providing revenue, such as parking lots and aviation industrial areas); construction and installation of lighting, some utilities, navigational aids, and aviation-related weather reporting equipment and safety equipment; security equipment required of the sponsor by the Secretary of Transportation; limited terminal development at commercial service airports; and equipment to measure runway surface tension. Grants may not be made for the construction of automobile parking facilities, buildings not related to the safety of persons in the airport, landscaping or art work, or routine maintenance and repair. Technical advisory services are also provided.

The Airport Improvement Program provides a maximum federal share of 90 percent for all eligible projects at Hayward Executive Airport. The recently expired reauthorization temporarily increased the maximum share to 95 percent through 2009. It is unknown if this share increase will be carried forward in future reauthorization bills and for purposes of this analysis it is assumed that the share will remain at 90 percent. Because of the large number of projects competing for AIP funds, not all eligible projects can be funded.

California Aid to Airports Program (CAAP)

The CAAP has an acquisition and development grant (A&D) program available to commercial service airports. Acquisition and development grants provide discretionary funds for airport projects included in the adopted State Capital Improvement Program (CIP). The CIP is an element of the California Aviation System Plan (CASP).

Acquisition and development grants can be used to fund any capital improvements on an airport and for aviation purposes with runway maintenance projects receiving the highest priority for funding. Additionally, funds can be used for servicing general obligation or revenue bonds issued to finance airport capital improvements. Funds cannot be used for operations or general maintenance. Grants range from $10,000 to $500,000.

On July 28, 2009 the State of California passed a budget that suspended state grant funding programs for fiscal years 2009 and 2010. There is speculation that this suspension may remain in affect after 2010. Therefore, for planning purposes, it is assumed that this program will resume by 2013.

The California Transportation Commission annually established a local matching requirement which ranges from 10 to 50 percent of the non-Federal funded portion of the project cost. Since 1977/78, recipients have provided a minimum match of 10 percent of eligible project costs for acquisition and development projects.

In addition to A&D grants, the CAAP provides financial assistance in the form of low interest loans, repayable over a period not to exceed 25 years. Two types of loans are available: Revenue Generating Loans and Matching Funds Loans. The interest rate for these loans is based on the most recent issue of State of California bonds sold prior to approval of the loan.

Funds from Revenue Generating Loans may be used for any projects not eligible for funding under other programs and which are designed to improve airport self-sufficiency. Loans of this type cannot be used for 'land banks,' automobile access roads, automobile parking facilities, and facilities to accommodate airlines. The loan amounts are based upon an analysis of each individual application and subject to availability of funds. Matching fund loans may be used for securing Federal AIP grants and the loan amount equals the sponsor's share of project costs required to match a federal grant. Requests for matching fund loans are given highest priority.

For the purpose of this study, it is assumed that each eligible project will receive between $10,000 and $30,000. This represents historical minimum grant assistance for the state ($10,000). Maximum funding levels of $30,000 reflect historical funding levels and demands for funds for AIP matching.

Private Capital

Private funding is often available for certain airport improvements, including FBO site development, aviation industrial site development, and aircraft hangar construction.

Airport Revenues and City Funds

Finally, some capital improvements maybe funded through airport and/or City funds. The airport generates revenue through leases, fuel sales, and hangar fees, and currently maintains a positive cash flow.

PROJECT COST SHARES

Project cost shares were allocated among various sources under the following assumptions and criteria: 1) all FAA AIP eligible projects will be funded at their maximum eligible level (generally 90 percent of project costs); 2) after 2013, eligible projects are also funded with state CAAP funds; and 3) the balance of project costs were assigned to local responsibility. At the local level, project cost shares were further allocated among two funding sources: private capital and City/airport contributions.

Summary of Funding Program

The schedule of Airport Layout Plan Update improvement costs (in constant 2009 dollars) by phase and source under these assumptions and criteria are summarized in Table 8-3. In summary, of the $88.5 million, in constant 2009 dollars, Airport Layout Plan Update capital improvement program is anticipated to be funded by FAA AIP grants ($41.0 million – 46.3 percent of the total); state ($314,000 – less than 1 percent of the total); City/airport enterprise funds ($8.6 million – 9.7 percent of the total); and private investment ($38.6 million – 43.6 percent of the total). Detailed allocations of project costs by funding source are shown in Table 8-4.

Phase 1 costs account for approximately 71 percent of the total program, and includes translating the runway to enhance safety of the airport. This project represents approximately 15 percent of the total program costs ($13.4 million). This project provides facilities for airport reference code C-II/D-II aircraft currently using the airport. Private investments largely represent increased based aircraft facilities. Projects will increase safety and allow increased revenues to help create a financially sustainable airport.

Table 8-3
SUMMARY OF CAPITAL IMPROVEMENT PLAN FUNDING
BY PHASE AND SOURCE
(thousands of 2009 Dollars)

Phase	FAA	State	Local	Private	Total	% Total
1 (2010 - 2015)	$ 29,259	$ 207	$ 7,399	$ 26,324	$ 63,189	71.4%
2 (2016 - 2020)	$ 11,693	$ 107	$ 1,192	$ 12,290	$ 25,282	28.6%
Total	$ 40,952	$ 314	$ 8,591	$ 38,614	$ 88,471	100.0%
% Total	46.3%	0.4%	9.7%	43.6%	100.0%	

Source: AECOM analysis.

Phase 2 costs include CANG Reuse Phases 4 and 5, runway crown correction, Corsair hangar construction, and construction of a new Airport Traffic Control Tower (ATCT). The new ATCT construction project costs approximately $6.1 million and represents approximately 24 percent of Phase 2 costs. The runway crown correction planned for 2016 will cost approximately $3.8 million which represents approximately 15 percent of Phase 2 costs.

Pro Forma Financial Analysis of Airport Layout Plan Update Capital Improvement Program

A detailed pro forma financial analysis was completed to evaluate the ability of Hayward Airport to fund the proposed ALP Update Capital Improvement Program (CIP). The analysis incorporates the proposed distribution of CIP costs between Federal, State, and local sources presented above (Table 8-4). It further presents anticipated airport operating and non-operating revenues and costs over the ALP Update period to identify if sufficient net revenues are available to fund the CIP projects.

Significant input was received from airport staff, which provided a four year history of airport financial performance (Table 8-5) and the critical assumptions on future airport operating and non-operating revenues.

Table 8-5 shows that the airport has been self sufficient since 2006. The airport also carries a positive cash balance from recent land sales. Table 8-5 illustrates that airport annual revenues exceed annual expenditures, allowing the airport to continue to be self sufficient. Presented in Table 8-6 are the projected rates and charges for Hayward Executive Airport through the planning period.

It is assumed the annual hangar rent increases will continue increase by 4 percent every other year. Rent increases occur in odd calendar years and reflected in even numbered City fiscal years.

The approach taken in the analysis is to maximize the use of non-local funds (AIP grants in aid and State funds) and local private funds. The remaining local public funding is accomplished through expenditures from the Airport Enterprise Fund. Table 8-7 details the City's cost per year to fund the CIP, as well as FAA's, the State's, and private fund investments.

The analysis assumes that the airport continues to controls operating expenditures.

Table 8-4
SCHEDULE OF AIRPORT LAYOUT PLAN UPDATED IMPROVEMENTS AND ESTIMATED COSTS BY FUNDING SOURCE
(2009 Dollars)

Year	Project	FAA	State	Local	Private	Total
2011	Relocate Sulphur Creek into Box Culvert	$ 2,880,000	$ -	$ 320,000	$ -	$ 3,200,000
2011	Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas	$ -	$ -	$ 325,000	$ -	$ 325,000
2011	Extend Taxiway C	$ -	$ -	$ -	$ 1,900,000	$ 1,900,000
2011	Bud Field Aviation - Phase 1	$ -	$ -	$ -	$ 8,792,410	$ 8,792,410
2011/2012	American Aircraft Sales - Hangar A	$ -	$ -	$ -	$ 1,274,375	$ 1,274,375
2012	Install Airport Safe Drains	$ -	$ -	$ 149,600	$ -	$ 149,600
2012	Construct Terminal Building and Parking	$ 1,633,500	$ -	$ 1,021,500	$ -	$ 2,655,000
2012	Obstruction Removal Runway 10R-28L	$ 48,150	$ -	$ 5,350	$ -	$ 53,500
2012	Taxiway Z Realignment; Corsair Ramp	$ 4,208,130	$ -	$ 467,570	$ -	$ 4,675,700
2012	Walter Imbrulia's Development	$ -	$ -	$ -	$ 1,398,000	$ 1,398,000
2012-2013	Airport Property Partners Development	$ -	$ -	$ -	$ 1,450,000	$ 1,450,000
2013	Construct Sound Walls and Blast Fence	$ 955,065	$ -	$ 791,302	$ -	$ 1,746,367
2013	Taxiways C and E Pavement Rehabilitation	$ 1,519,605	$ 30,000	$ 138,845	$ -	$ 1,688,450
2013	CANG Reuse Phases 2 and 3	$ -	$ -	$ -	$ 10,970,000	$ 10,970,000
2013	Shorten Runway 28R	$ 441,000	$ 24,500	$ 24,500	$ -	$ 490,000
2014	Airfield Electrical Renovation and Improvements	$ 3,206,700	$ 30,000	$ 326,300	$ -	$ 3,563,000
2014	Translate Runway, Install EMAS, and Reroute Roads and Fencing	$ 9,934,357	$ 30,000	$ 3,429,373	$ -	$ 13,393,730
2014	Recertify Instrument Approaches	$ 450,000	$ 25,000	$ 25,000	$ -	$ 500,000
2015	Install PAPI and New REIL on Runway 28L	$ 189,000	$ 10,500	$ 10,500		$ 210,000
2015	Relocate Airport Perimeter Road	$ 485,919	$ 26,996	$ 26,496	$ 539,410	$ 1,078,821
2015	Pavement Rehabilitation - Tie-Down Ramp	$ 3,217,545	$ 30,000	$ 327,505	$ -	$ 3,575,050
2015	Wildlife Management Plan	$ 90,000	-	$ 10,000	-	$ 100,000
2016	CANG Reuse Phases 4 and 5	$ -	$ -	$ -	$ 6,188,000	$ 6,188,000
2016	Install REIL Runway 10L-28R	$ 310,500	$ 17,250	$ 17,250	$ -	$ 345,000
2016	Runway Crown Correction (Runway 10R-28L)	$ 3,463,200	$ 30,000	$ 354,800	$ -	$ 3,848,000
2017	Corsair Hangar Construction	$ -	$ -	$ -	$ 3,944,000	$ 3,944,000
2018	Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D	$ 1,406,349	$ 30,000	$ 126,261	$ -	$ 1,562,610
2018	New Airport Traffic Control Tower (ATCT) Construction	$ 5,451,750	$ -	$ 605,750	$ -	$ 6,057,500
2018	American Aircraft Sales - Hangar B	$ -	$ -	$ -	$ 1,087,500	$ 1,087,500
2019	Construct Runway Exit	$ 1,061,370	$ 30,000	$ 87,930	$ -	$ 1,179,300
2020	American Aircraft Sales - Hangar C	$ -	$ -	$ -	$ 1,070,000	$ 1,070,000
	Total All Phases	**$40,952,140**	**$ 314,246**	**$ 8,590,831**	**$38,613,695**	**$88,470,912**

Source: AECOM analysis.

Table 8-5
FINANCIAL HISTORY, HAYWARD EXECUTIVE AIRPORT

	FY 2006 (Actual)	FY 2007 (Actual)	FY 2008 (Actual)	FY 2009 (Estimate)	FY 2010 (Adopted)
Revenues					
Property Tax	424,298	714,070	-	-	-
Interset and Rents	165,393	304,811	582,542	267,064	205,523
Land Rent	1,040,685	1,114,167	1,272,039	1,409,509	1,400,579
Hangar Rent	857,111	865,383	907,321	944,437	977,727
Fees and Service Charges	6,134	5,158	5,330	4,795	5,400
Other Revenue	353,894	346,393	374,186	471,171	352,000
Total Revenue	**2,847,515**	**3,349,982**	**3,141,418**	**3,096,976**	**2,941,229**
Expenditures					
Salary and Benefits	908,880	832,902	859,322	925,601	1,048,303
Chartes (to)/from other programs	69,508	76,081	91,737	68,980	110,251
Net Salary and Benefits	978,388	908,983	951,059	994,581	1,158,554
Maintenance and Utilities	161,288	172,872	199,222	163,000	192,583
Supplies and Services	378,585	385,876	317,033	340,000	370,373
Service Fees	7,089	60,061	72,153	169,000	192,129
Captial	-	1,257	-	139,503	-
Net Operating Expense	546,962	620,066	588,408	811,503	755,085
Total Expenditures	**1,525,350**	**1,529,049**	**1,539,467**	**1,806,084**	**1,913,639**

Source: Airport records; AECOM analysis.

Based on this analysis, the proposed 10 year CIP can be funded through the Airport Enterprise Fund without additional funds from the City General Fund (Table 8-8), with important findings as follows:

- With the exception of 2012 and 2014, airport revenues – including interest payment transfers from the Real Estate Fund – are greater than expenditures. In 2012 the new terminal will be constructed and in 2014 the runway translation project is programmed.

- It is noted that if rental rate increases and occupancy rates are less than forecasted in this analysis, airport expenditures will be more than revenues.

- This analysis assumes the airport controls operating costs and achieves regular rental increases.

Table 8-6
PROJECT RATES AND CHARGES - HAYWARD EXECUTIVE AIRPORT

Facitlity	Quantity	Rate 2008	Rate 2009	Projected Rate 2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Hangars														
Small A T-Hangar 765 SF	10	$ 214	$ 220	$ 229	$ 229	$ 238	$ 238	$ 248	$ 248	$ 258	$ 258	$ 268	$ 268	$ 279
Standard T-Hangar 1000SF	170	$ 300	$ 309	$ 321	$ 321	$ 334	$ 334	$ 347	$ 347	$ 361	$ 361	$ 375	$ 375	$ 390
Large T-Hangar 1270 SF	12	$ 412	$ 424	$ 441	$ 441	$ 459	$ 459	$ 477	$ 477	$ 496	$ 496	$ 516	$ 516	$ 537
Executive Hangar 2500 SF	1	$ 750	$ 772	$ 803	$ 803	$ 835	$ 835	$ 868	$ 868	$ 903	$ 903	$ 939	$ 939	$ 977
Executive Hangar 3600 SF	14	$ 1,080	$ 1,111	$ 1,155	$ 1,155	$ 1,201	$ 1,201	$ 1,249	$ 1,249	$ 1,299	$ 1,299	$ 1,351	$ 1,351	$ 1,405
Hangar Storage Room														
Small - Man Door 195 SF	1	$ 63	$ 65	$ 68	$ 68	$ 71	$ 71	$ 74	$ 74	$ 77	$ 77	$ 80	$ 80	$ 83
Medium - Man Door 265 SF	3	$ 80	$ 82	$ 85	$ 85	$ 88	$ 88	$ 92	$ 92	$ 96	$ 96	$ 100	$ 100	$ 104
Large - Man Door 530 SF	16	$ 154	$ 158	$ 164	$ 164	$ 171	$ 171	$ 178	$ 178	$ 185	$ 185	$ 192	$ 192	$ 200
Large - Man Door/Sliding Door 530 SF	6	$ 154	$ 158	$ 164	$ 164	$ 171	$ 171	$ 178	$ 178	$ 185	$ 185	$ 192	$ 192	$ 200
Extra Large - Man Door/Sliding Door 645 SF	2	$ 196	$ 202	$ 210	$ 210	$ 218	$ 218	$ 227	$ 227	$ 236	$ 236	$ 245	$ 245	$ 255
Tie-Downs (Monthly)														
Single Engine - 3,500 lb. less than 40 ft.		$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60
Twin Engine - 12,500 lb. less than 50 ft.		$ 75	$ 75	$ 75	$ 75	$ 75	$ 75	$ 75	$ 75	$ 75	$ 75	$ 75	$ 75	$ 75
12,501 - 25,000 lb more than 50 ft.		$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108
25,501 - 75,000 lb.		$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161
Excess of 75,000 lbs.		$ 216	$ 216	$ 216	$ 216	$ 216	$ 216	$ 216	$ 216	$ 216	$ 216	$ 216	$ 216	$ 216
Rate of Increase		-	-	4%	0%	4%	0%	4%	0%	4%	0%	4%	0%	4%

Source: Airport staff; AECOM.

Table 8-7
AIRPORT CAPITAL PROJECTS FUNDING

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Captial Project Expense	$ 15,491,785	$ 10,381,800	$ 14,894,817	$ 17,456,730	$ 4,963,871	$ 10,381,000	$ 3,944,000	$ 8,707,610	$ 1,179,300	$ 1,070,000
Less Private Investment in Capital Projects	$ 11,966,785	$ 2,848,000	$ 10,970,000	$ -	$ 539,410	$ 6,188,000	$ 3,944,000	$ 1,087,500	$ -	$ 1,070,000
Net Public Investment in Capital Projects	$ 3,525,000	$ 7,533,800	$ 3,924,817	$ 17,456,730	$ 4,424,460	$ 4,193,000	$ -	$ 7,620,110	$ 1,179,300	$ -
FAA Grants	$ 2,880,000	$ 5,889,780	$ 2,915,670	$ 13,591,057	$ 3,982,464	$ 3,773,700	$ -	$ 6,858,099	$ 1,061,370	$ -
State Grants	$ -	$ -	$ 54,500	$ 85,000	$ 67,496	$ 47,250	$ -	$ 30,000	$ 30,000	$ -
City Share	$ 645,000	$ 1,644,020	$ 954,647	$ 3,780,673	$ 374,501	$ 372,050	$ -	$ 732,011	$ 87,930	$ -

Source: AECOM.

Table 8-8
TEN YEAR PROJECTION, HAYWARD EXECUTIVE AIRPORT
(IN CURRENT (INFLATED) DOLLARS)

	Phase 1					Phase 2				
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Revenues										
Property Tax	$ 550,000	$ 550,000	$ 550,000	$ 550,000	$ 550,000	$ 550,000	$ 550,000	$ 550,000	$ 550,000	$ 550,000
Interset and Rents	$ 197,034	$ 225,144	$ 228,219	$ 230,490	$ 233,611	$ 236,557	$ 239,599	$ 242,346	$ 244,769	$ 247,217
Land Rent	$ 1,392,168	$ 1,406,090	$ 1,420,150	$ 1,434,352	$ 1,448,695	$ 1,463,182	$ 1,477,814	$ 1,492,592	$ 1,507,518	$ 1,522,593
Hangar Rent	$ 944,996	$ 982,796	$ 982,796	$ 1,022,108	$ 1,022,108	$ 1,062,992	$ 1,062,992	$ 1,105,512	$ 1,105,512	$ 1,149,732
Fees and Service Charges	$ 5,400	$ 5,400	$ 5,400	$ 5,400	$ 5,400	$ 5,400	$ 5,400	$ 5,600	$ 5,600	$ 5,600
Other Revenue	$ 352,500	$ 352,500	$ 352,500	$ 352,500	$ 352,500	$ 352,500	$ 352,500	$ 352,500	$ 352,500	$ 352,500
Interest Transfer from Real Estate Fund	$ 210,000	$ 280,000	$ 280,000	$ 280,000	$ 280,000	$ 280,000	$ 280,000	$ 280,000	$ 280,000	$ 280,000
Total Revenue	**$ 3,652,098**	**$ 3,801,929**	**$ 3,819,065**	**$ 3,874,849**	**$ 3,892,314**	**$ 3,950,631**	**$ 3,968,305**	**$ 4,028,550**	**$ 4,045,899**	**$ 4,107,642**
Expenditures										
Salary and Benefits	$ 1,102,611	$ 1,146,716	$ 1,192,584	$ 1,240,288	$ 1,289,899	$ 1,341,495	$ 1,395,155	$ 1,450,961	$ 1,508,999	$ 1,569,359
Charges (to)/from other programs	$ 111,176	$ 114,511	$ 117,947	$ 121,485	$ 125,130	$ 128,883	$ 132,750	$ 136,732	$ 140,834	$ 145,059
Net Salary and Benefits	$ 1,213,787	$ 1,261,227	$ 1,310,531	$ 1,361,773	$ 1,415,029	$ 1,470,378	$ 1,527,905	$ 1,587,693	$ 1,649,834	$ 1,714,419
Maintenance and Utilities	$ 266,348	$ 274,338	$ 282,568	$ 291,045	$ 299,777	$ 308,770	$ 318,033	$ 327,574	$ 337,401	$ 347,523
Supplies and Services	$ 530,579	$ 560,577	$ 578,986	$ 601,320	$ 622,868	$ 643,395	$ 678,021	$ 700,488	$723,714	$747,725
Service Fees	$ 203,618	$ 206,718	$ 202,718	$ 202,718	$ 199,518	$ 200,187	$ 200,512	$ 200,481	$ 200,981	$ 201,481
Captial	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Operating Expense	$ 1,000,544	$ 1,041,633	$ 1,064,272	$ 1,095,083	$ 1,122,162	$ 1,152,352	$ 1,196,566	$ 1,228,543	$ 1,262,096	$ 1,296,729
Captial Improvement Projects (City Share)	$ 645,000	$ 1,644,020	$ 954,647	$ 3,780,673	$ 374,501	$ 372,050	$ -	$ 732,011	$ 87,930	$ -
Total Expenditures	**$ 2,859,332**	**$ 3,946,880**	**$ 3,329,449**	**$ 6,237,529**	**$ 2,911,691**	**$ 2,994,781**	**$ 2,724,471**	**$ 3,548,247**	**$ 2,999,860**	**$ 3,011,148**

Source: Airport staff; AECOM.

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Chapter 9
Environmental Overview

Chapter 9 – *Environmental Overview*

INTRODUCTION

The City of Hayward (City) prepared this environmental overview to describe known environmental resources that could be affected by proposed projects shown on the revised airport layout plan (ALP). An environmental overview has two objectives:

1. To describe the existing environmental conditions at an airport and its surrounding community, and

2. To identify environmentally sensitive areas that may require special management, conservation, and/or preservation during the planning, design, or construction phases of any proposed airport development project.

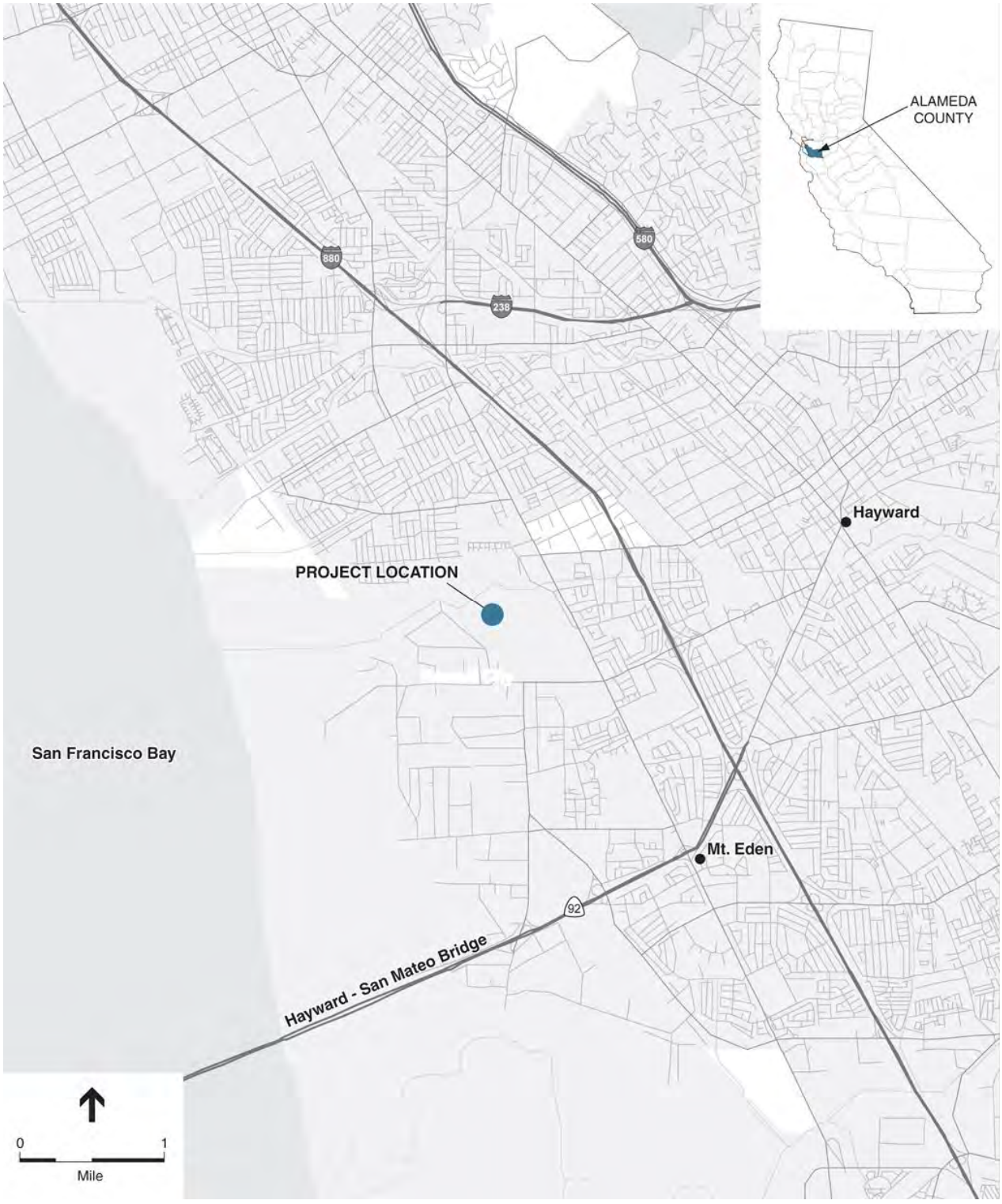
Guidance for preparing this overview is provided at the federal-government level. FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, updates the FAA agency-wide policies and procedures for compliance with the National Environmental Policy Act (NEPA) and implements regulations issued by the Council on Environmental Quality (40 CFR parts 1500-1508). FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, provides additional guidance. Additional guidance is provided in FAA's *Environmental Desk Reference for Airport Actions* (2007).

The purpose of this environmental overview is to summarize and identify the environmental effects that may require further evaluation during the preparation of future environmental analysis. Previous environmental documentation was reviewed and various planning documents were consulted in order to identify potential impacts related to the proposed project. Table 9-1 summarizes potential environmental constraints associated with proposed Phase 1 and 2 projects.

AIRPORT SETTING

Hayward Executive Airport is located in City of Hayward; approximately 15 miles southeast of San Francisco and 72 southwest of Sacramento (see Figure 9-1). Land uses in the vicinity of Hayward include industrial, commercial, residential, and open space. Industrial land uses predominate west and southwest of the airport. To the northwest is residential San Lorenzo, which is a part of the Alameda County's (County) Eden Planning Area. Commercial 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 Public Golf Course and John F. Kennedy Memorial Park 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



Source: DeLorme Street Atlas USA, 2001; and ESA, 2008.

Figure 9-1
Airport Location

Table 9-1
POTENTIAL ENVIRONMENTAL CONSTRAINTS RELATED TO PROPOSED PHASE 1 AND 2 PROJECTS

	Phase 1 Development (2011 - 2015)																						Phase 2 Development (2016 - 2020)								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22*	1	2	3	4	5	6	7	8	9
Land Impact Catatories																															
Farmland																															
Compatible Land Use														✓	✓								✓								
Fish, Wildlife, Plants	✓							✓				✓						✓									✓				
Endangered Species and Plants	✓																														
Energy Supply and Natural Resources																															
Geology and Seismicity																															
Water Impact Catetgories																															
Water Quality	✓					✓	✓	✓	✓			✓	✓	✓			✓			✓	✓		✓		✓	✓	✓	✓		✓	
Wetlands	✓																														
Floodplains	✓							✓	✓		✓																				
Wild and Scenic Rivers																															
Coastal Resources	✓																														
Atmospheric Impact Categories																															
Air Quality			✓		✓				✓		✓			✓	✓		✓			✓			✓			✓	✓		✓		✓
Noise			✓						✓		✓	✓		✓	✓		✓			✓			✓			✓	✓				
Community Impacts																															
Historic, Architectural, Archaeological, and Cultural Resources	✓		✓				✓							✓									✓								
Department of Transportation 4(f)																	✓														
Social Impacts																															
Transportation		✓			✓						✓			✓						✓			✓						✓		✓
Environmental Justice																	✓														
Children's Environmental Health and Safety Risks																	✓														
Induced Socioeconomic Impacts																															
Employment, Population, Housing							✓																				✓				
Utilities		✓					✓				✓									✓						✓		✓			
Other																															
Hazardous Materials, Pollution Prevention, and Solid Waste			✓	✓			✓		✓		✓			✓			✓						✓				✓	✓		✓	
Construction Impacts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Light Emissions							✓														✓					✓		✓			

Phase 1 Projects
1. Relocate Sulphur Creek into Box Culvert
2. Rehabilitate Zipper Lane, East T-Hangar and West T-Hangar Areas
3. Extend Taxiway C
4. Bud Field Aviation - Phase 1
5. American Aircraft Sales - Hangar A
6. Install Airport Safe Drains
7. Construct Terminal Building and Parking
8. Obstruction Removal Runway 10R-28L
9. Taxiway Z Realignment; Corsair Ramp
10. Walter Imbrulia's Development
11. Airport Property Partners Development
12. Construct Sound Walls and Blast Fence
13. Taxiways C and E Pavement Rehabilitation
14. CANG Reuse Phases 2 and 3
15. Shorten Runway 28R
16. Airfield Electrical Renovation and Improvements
17. Translate Runway, Install EMAS, and Reroute Roads and Fencing
18. Recertify Instrument Approaches
19. Install PAPI and New REIL on Runway 28L
20. Relocate Airport Perimeter Road
21. Pavement Rehabilitation - Tie-Down Ramp
22. Wildlife Management Plan*

Phase 2 Projects
1. CANG Reuse Phases 4 and 5
2. Install REIL Runway 10L-28R
3. Runway Crown Correction (Runway 10R-28L)
4. Corsair Hangar Construction
5. Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D
6. New Airport Traffic Control Tower (ATCT) Construction
7. American Aircraft Sales - Hangar B
8. Construct Runway Exit
9. American Aircraft Sales - Hangar C

* Because the details of the Wildlife Management Plan are unknown, potential impacts cannot be determined at this time.

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. Highway 880 (Nimitz Freeway) and Highway 238 provide vehicular access to Hayward, with airport access from Skywest Drive. The airport elevation is 52 feet above sea level (Airnav, 2008).

LAND IMPACT CATEGORIES

Farmland

Under the Farmland Protection Policy Act (FPPA), the Department of Agriculture (USDA) is authorized to identify the effects of federal actions on the conversion of farmland to non-agriculture use. There are no existing agricultural operations at Hayward nor have there been any such operations for many years.

Compatible Land Use

The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise and safety impacts. FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions* refer to the significance threshold for noise to determine whether a land use compatibility impact is significant. Examples of activities that can alter aviation-related noise and safety impacts and affect land uses subjected to those impacts include airport development actions to accommodate fleet mix changes or the number of aircraft operations, air traffic changes, or new approaches made possible by new navigational aids.

Evaluating the compatibility of land uses around the airport requires a review of existing and proposed land uses as identified in local general and specific plans, as well as individual development projects, but also considering what activities are occurring at the airport and how they might affect land uses subjected to those activities. Generally, low-density land uses, such as light industrial and distribution uses are considered compatible uses in the vicinity of an airport. Higher density uses such as housing developments, or low-mobility/high noise-sensitivity uses such as schools, hospitals, churches, or nursing homes, are considered "incompatible" near an airport.

Airport Facilities

Hayward consists of 527 acres located in the northwest portion of the City of Hayward. Airside facilities include two runways and seven taxiways. Airside facilities at Hayward also include airfield lighting, identification lighting, runway and taxiway lighting, visual approach lighting, runway end identification lighting, pavement markings, two helipads, and navigational aids.

Existing landside facilities at Hayward include an airport 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. Landside facilities at Hayward include approximately 131,400 square yards of aircraft parking apron, 219 city-owned enclosed T-hangars, 12 conventional hangars, approximately 224 parking spaces, fuel storage facilities totaling 84,000 gallons, an aircraft wash facility, a tenant maintenance shelter, and administrative offices. A full range of aviation services are available at Hayward, including aircraft rental, flight training, aircraft fueling, and aviation supplies.

Surrounding Land Uses

City of Hayward

Land uses in the vicinity of Hayward Executive Airport include industrial, commercial, and residential uses (see Figure 9-2). In the City, industrial uses predominate west of the airport. Commercial uses are located east and south of Hayward along West A Street, Hesperian Boulevard, and Southland Drive. The Longwood-Winton Grove residential neighborhood is

adjacent to the east side of the airport, and the Mt. Eden and Southgate residential neighborhoods are located south of Hayward. Policies and land use guidelines for these neighborhoods are contained within specific area plans within the City's *General Plan* (City of Hayward, 1990; City of Hayward, 1994; City of Hayward, 1996; City of Hayward, 2002).

As shown in Figure 9-3, the predominant zoning in the vicinity of the airport is residential. In the City of Hayward, the single-family residential (RS) zoning district is primarily used for low-density residential or small state-licensed child care facilities. Additional City zoning districts in the airport vicinity include an industrial district (I) to the west, a neighborhood commercial district (CN) to the southeast, and an agriculture district (A) to the south.

Noise-sensitive land uses in portions of the City near Hayward include residences, schools, and parks that can be found in the Longwood-Winton Grove, Mt. Eden, and Southgate neighborhoods. The Longwood-Winton Grove neighborhood includes the Longwood School and Park and St. Joachim's School. The Mt. Eden neighborhood includes Chabot College and Greenwood Park, and the Southgate neighborhood includes Gansberger Park.

Alameda County

The unincorporated community of San Lorenzo is located north of Hayward. This urban community is part of the County's Eden Planning Unit and zoned single-family residence (R-1). The *Central Metropolitan, Eden, and Washington Planning Units General Plan* was adopted in January 1981. 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.

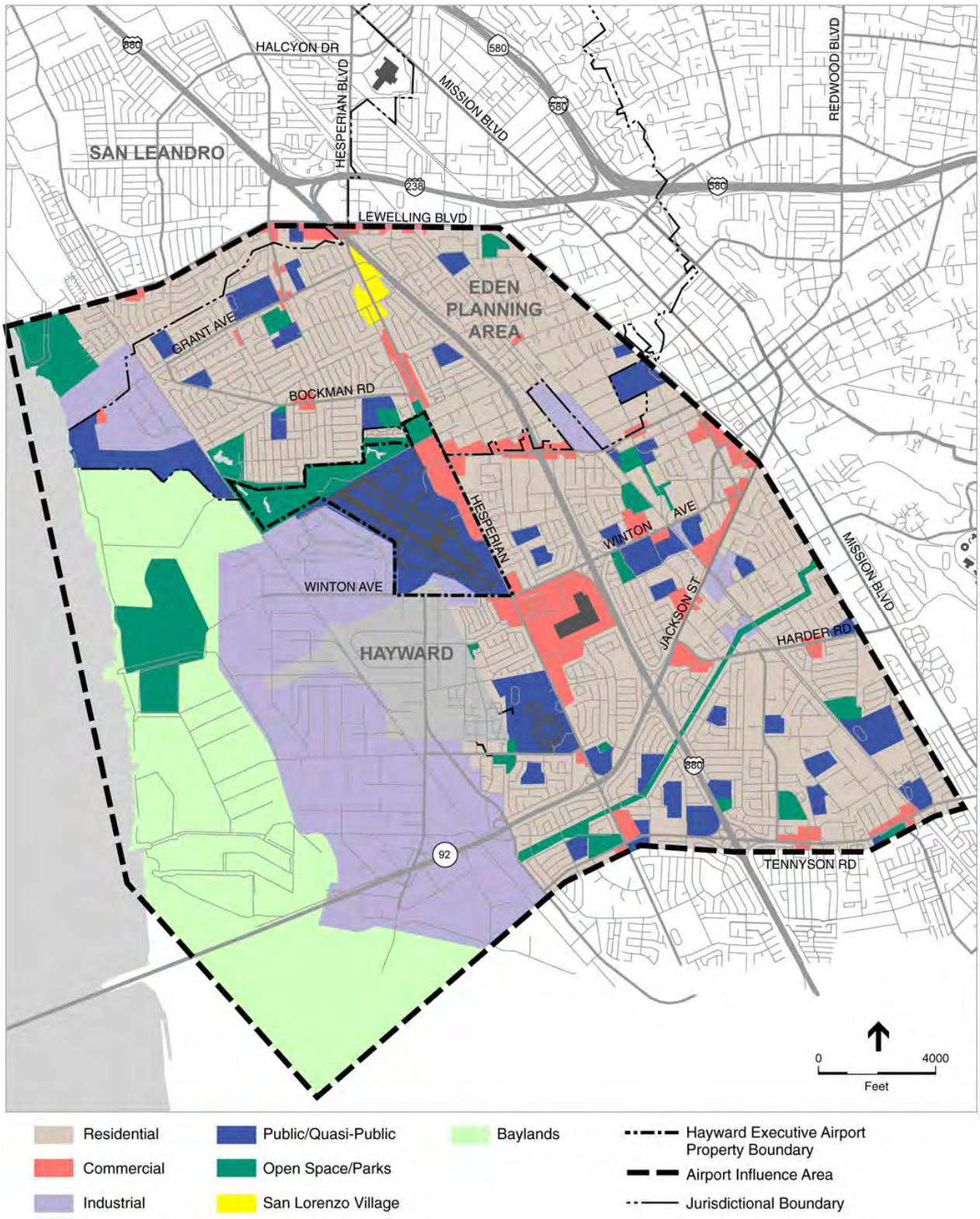
Potential Land Use Constraints

The ALP Update includes shifting Runway 10L-28R 196 feet to the northwest as well as identifies areas for airside improvements and potential development for aviation-related facilities. While Phase 1 and 2 development would occur entirely on existing airport property, a portion of the Skywest Golf Course would requiring re-zoning to Air Terminal – Operations (AT- O), as it is currently designated as a recreation sub-district (AT-R) within the Air Terminal district, in order to accommodate the translating of Runway 10L-28R. Furthermore, given the airport's location within a heavily urbanized setting, the need to assess potential noise-related impacts will be required as the translating of Runway 10L-28R to the northwest will shift the 65 CNEL contour. Additionally, the Preferred Alternative includes shortening Runway 28R by 480 feet, reducing Runway 10L-28R to a total length of 2,627 feet. The Preferred Alternative shortens the runway by relocating the threshold markings, REILS, PAPI, and adjusting runway lights. Reduction of Runway 28R may result in the rerouting of larger aircraft requiring longer runway lengths to Runway 10R-28L. While no significant impacts are anticipated, this action could potentially shift noise contours as well. As part of the environmental process required to obtain NEPA and CEQA certification from FAA and the State of California, additional noise analysis and contouring may be required, prior to the suggested alternatives to shorten or translate primary runway surfaces.

Fish, Wildlife, and Plants

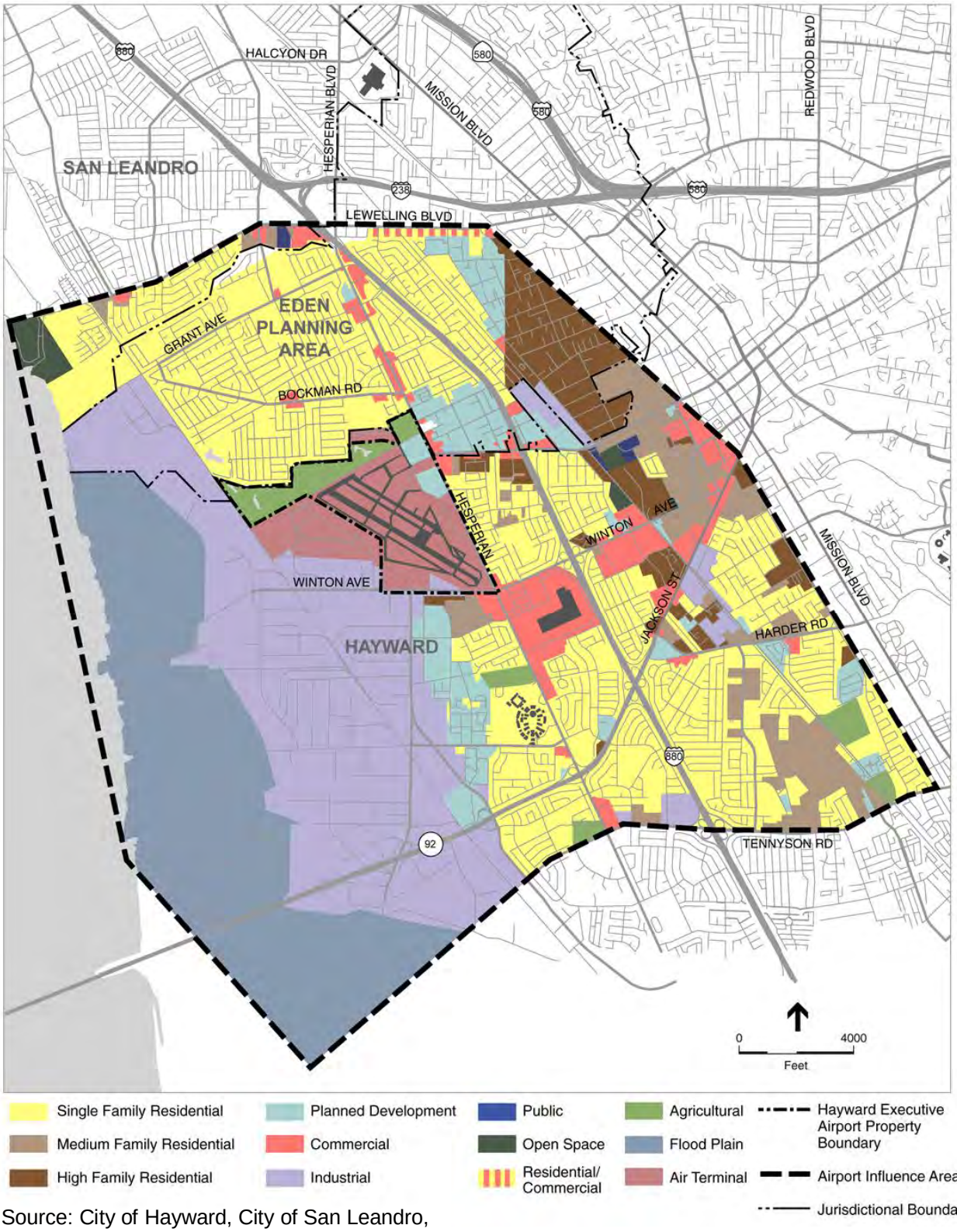
Biological resources at Hayward Executive Airport and its vicinity fall into three general categories:

- Wildlife habitat associated with the airfield and other undeveloped areas of grassland on and in the vicinity of the airport;
- The wetland and aquatic habitats associated with Sulphur Creek; and
- Landscaped urban lands on and adjacent to the airport, primarily on the Skywest Golf Course.



Source: City of Hayward, City of San Leandro, Alameda County; Thomas Brothers Maps.

Figure 9-2
General Plan Land Use Designations in the Vicinity of Hayward Executive Airport



Source: City of Hayward, City of San Leandro, Alameda County; Thomas Brothers Maps.

Figure 9-3
Generalized Zoning Designations in the Vicinity of Hayward Executive Airport

The airport is situated on level ground east of the San Francisco Bay, with the westernmost portion of the airport approximately 1.5 miles east of the Bay. Although largely surrounded by development, the airport is connected to the open space area of the Hayward Regional Shoreline, to the west, both indirectly by the relatively open space of the Skywest Golf Course and directly by Sulphur Creek, which flows east to west through the airport. This creek originates in the Oakland/San Leandro hills to the east, and flows through areas of dense housing along Interstate 880 before it reaches the airport. After leaving the airport, it flows westward along the southeastern boundary of the Skywest Golf Course and then through the Hayward Regional Shoreline until it enters San Francisco Bay at the south end of the Hayward Regional Shoreline.

Biotic Communities

The airport and its immediate vicinity encompass two vegetation associations, each with a corresponding wildlife habitat: the grassland areas of the airport and of Skywest Golf Course, and the wetland/riparian area of Sulphur Creek. The wildlife habitat of the California Wildlife Habitat Relationships System (California Department of Fish and Game, 1999) that best corresponds to the airport grasslands, which are ruderal and landscaped, is “annual grassland”, while the seasonal wetland of Sulphur Creek best corresponds to the “fresh emergent wetland” habitat type.

Vegetation

The vegetation that survives frequent mowing on the airfield consists of disturbed, ruderal non-native grassland species. No legally protected sensitive-plant species are expected to occur in these areas, largely because of past habitat modification and the amount of ongoing, regular disturbance.

The riparian/wetland area of Sulphur Creek forms an intermittent area of wetland vegetation at the airport, channelized through its length and flowing through culverts under Skywest Drive and the airport runways. Although the depth of the stream varies seasonally, pockets of saturated soil are present during the duration of the summer (U.S. Army Corps of Engineers, 2000) and there may be surface water in the channel all year (Shiner, 2000). Emergent vegetation is present in the channel, and consists primarily of bermuda grass (*Cynodon dactylon*), umbrella sedge (*Cyperus eragrostis*), and cattails (*Typha latifolia*). On the airport, vegetation growth is densest towards the eastern end of the channel between Skywest Drive and the airport traffic control tower, with plant density height decreasing through the runway areas and the downstream portion of the channel. The area between Skywest Drive and the airport traffic control tower is the only section of the channel that supports trees and had the deepest water during surveys.

Wildlife

None of the grassland areas provide high quality wildlife habitat because of frequent mowing and other disturbance. However, burrowing owls (*Athene cunicularia*), a California species of special concern and a federal sensitive species, have been seen on the airport (Shiner, 2000), and the grassland might provide habitat for other sensitive species including the California red-legged frog (*Rana aurora draytonii*) and the California tiger salamander *(Ambystoma californiense*). The disturbed vegetation on open lands of the airport, including infield and developed areas (e.g., runways, terminals, parking lots), may support a number of common wildlife species. Birds likely to use these areas include the mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgarus*), and house sparrow (*Passer domesticus*), and the open areas could provide foraging areas for a number of raptors, including the red-tailed hawk (*Buteo jamaicensis*) and kestrel (*Falco sparverius*). Great horned owls (*Bubo virginianus*) also are likely hunters in the area. All might hunt small grassland mammals, including deer mouse (*Peromyscus maniculatus*). Overall, the value of these grasslands as wildlife habitat is low, primarily as a result of regular disturbance during mowing and other maintenance activities.

Similarly, the wetland area of Sulphur Creek provides only low value wildlife habitat. The creek is confined in culverts and in concrete or otherwise stabilized channels throughout the airport. In addition, creek flows are reduced in the summertime and vegetation clearance is conducted as part of routine maintenance by the airport to keep the drainage channel clear. Although the wetland area does provide potential breeding habitat for California red-legged frogs and for California tiger salamanders, a survey by Zander Associates (1998) found neither in the upstream portion of the stream between Hesperian Boulevard and Skywest Drive.

Potential Biotic Community Constraints

Due to the urbanized nature of the airport, potential impacts to biotic communities in the vicinity of the ALP Update are expected to be minimal. While pre-construction surveys should be conducted, it is not anticipated that the landscaped, annual grasslands of the airfield provide quality habitat. However, the relocation of Sulphur Creek into a box culvert does pose the potential for affecting the seasonal wetland and any habitat for special status species it may provide. Further analysis will be required to determine potential impacts to Sulphur Creek as a result of the ALP Update.

Endangered Species and Plants

Regulatory Context

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 USC 1533[c]). Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federal-listed threatened or endangered species may be present in the project area and whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

The U.S. Fish and Wildlife Service (USFWS) also publishes a list of candidate species. Species on this list receive special attention from federal agencies during environmental review, although they are not protected under the FESA. The candidate species are taxa for which the USFWS has sufficient biological information to support a proposal to list as endangered or threatened.

Migratory Bird Treaty Act / Bald Eagle Protection Act

The federal Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. In addition, Executive Order 13186 for the Conservation of Migratory Birds requires that any federal project addresses the impacts of federal actions on migratory birds.

The federal Bald Eagle Protection Act prohibits persons within the United States (or places subject to U.S. jurisdiction) from “possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof.”

Special-Status Species

Special-status species are plants and animals that are legally protected under state and federal Endangered Species Acts (ESAs) or other regulations and species that are considered sufficiently rare by the scientific community to qualify for such protection. These species are in the following categories:

- Plants or animals listed or proposed for listing as threatened or endangered under the federal ESA (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]).

- Plants or animals that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR 40, February 28, 1996);

- Plants or animals listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 California Code of Regulations [CCR] 670.5);

- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);

- Plants that meet the definitions of rare and endangered under CEQA (State CEQA Guidelines, Section 15380);

- Plants considered under the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B, and 2 in CNPS 2008);

- Plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution (Lists 3 and 4 in CNPS 2008), which may be included as special-status species on the basis of local significance or recent biological information; and

- Animals fully protected in California (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Setting

The study area is located in the Hayward 7.5 USGS quadrangle, and has township and range of T 3 S and R 2 W, with an elevation range of 24-32 feet above sea level. With the exception of Skywest Golf Course located northwest of the airfield, the airport is predominately paved, with maintained grasslands located between Runways 10L-28R and 10R-28L and their adjoining taxiways. A portion of Sulphur Creek runs through airport property from east to west, and is an active perennial drainage that eventually flows into San Francisco Bay. The elevation of the study area prevents tidal movements from introducing salt water into this portion of Sulphur Creek. The dominant vegetation type in this feature resembles a freshwater marsh directly in the creek drainage with primarily non-native plant species comprising the upland banks of the creek (WRA, 2005).

Potentially Affected Special Status Species

Wildlife

Fifty-seven special status wildlife species have been recorded in the vicinity of the Hayward (see Appendix H). Of those species identified in the vicinity of the Airport, 48 species are not likely to ever be present, eight wildlife species have a low potential for occurrence within the study area, and one species has a moderate potential for occurrence. Given the developed nature of the airfield, which offers limited value for special status wildlife species to occur, habitat conditions are clearly unsuitable for breeding, rearing, and/or foraging.

The following special status species has "moderate" potential for occurrence at Hayward Executive Airport:

- **Saltmarsh Common Yellowthroat.** Saltmarsh common yellowthroat (Geothlypis trichas sinuosa) is a subspecies of the common yellowthroat, which is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule

patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting. This species has a moderate potential to be present at Hayward due to its ability to co-habitate with human disturbances, and has been observed in Sulphur Creek during previous surveys (see Appendix H). The saltmarsh common yellowthroat is a federal species of special concern, and a CDFG species of concern.

Plants

A review of resources and databases (see Appendix H) revealed that fourteen special status plant species have been documented within the vicinity of Hayward, however, the airport contains suitable habitat for none of these species.

Potential Special-Status Species Constraints

Though the potential for a special status wildlife or plant species to occur on Hayward property is low, surveys should be conducted prior to construction in order to confirm their presence or absence. Relocation of Sulphur Creek into a box culvert, in particular, may result in the removal and/or disturbance of features that may contain sensitive species.

If any special-status species are found on-site and cannot be avoided, the project proponent shall consult with the USFWS and/or CDFG, as applicable, to determine appropriate avoidance and mitigation measures.

Energy Supply and Natural Resources

There are no special purpose laws for energy supply and natural resources. However, Executive Order 13123, Greening the Government through Efficient Energy Management (64 FR 30851, June 8, 1999), encourages Federal agencies to examines ways in which to reduce energy use within their facilities. FAA has responded to this Executive Order as part of its ongoing effort to be consistent with NEPA and Council on Environmental Quality (CEQ) regulations, and it encourages the development of facilities that conserve energy resources and reduce pollution and water consumption.

Impacts to natural resources and energy supply are determined based on the existing capacity of a given system; an adverse impact would be identified if a utility provider would have insufficient capacity to support a proposed project. It is noted that the ALP Update includes electrical upgrades using LED technology.

Geology and Seismicity

Geology

Topographic Setting

Airport elevations range from approximately 45 to 15 feet above mean sea level, with a western downward slope of 0.4 percent. Sulphur Creek, which is an intermittent stream, traverses the northern portion of the airport and drains into San Francisco Bay approximately 1.5 miles west of the airport.

Geologic Setting

The City of Hayward lies within the physiographic region of California referred to as the Coast Ranges geomorphic province. Discontinuous northwest trending mountain ranges, ridges, and intervening valleys characterize this province. Much of the Coast Range province is composed of marine sedimentary and volcanic rocks that form the Franciscan Assemblage. The Franciscan Assemblage in this region of California is Jurassic to Cretaceous-aged (approximately 65 to 150 million years old), and consists primarily of greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient sea floor sediments. Tertiary-aged (65 million years ago) volcanic, marine and non-marine sedimentary rocks overlie

the Franciscan bedrock. Above the Tertiary rocks are Quaternary-aged (2 million years ago to present) alluvial deposits consisting of sand, silts, and clays.

Erosion and alluvial deposition from the surrounding mountains form the alluvial plains that encompass the bay margin of the San Francisco Bay. The San Francisco Bay lies within a structural depression bound to the west by the Santa Cruz Mountains and to the east by the Oakland/Berkeley Hills and the Diablo Range. Hayward is located on the East Bay Plain, a gently western sloping alluvial plain which extends from the Hayward Hills to the marshland adjacent to San Francisco Bay.

Soils

Three major soil associations, as defined by the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) (formerly known as the Soil Conservation Service), characterize surface soil in the airport area. The majority of the airport consists of Clear Lake Clay, a very deep, poorly-drained soil. The surface layer is dark gray, neutral and moderately alkaline clay, underlain by calcareous, dark gray and grayish brown clay and silty clay. Danville silty clay loam, a very deep and well-drained soil occupies the north, northeast and southeast corners of the airport property. The surface layer is grayish brown and dark gray, lightly acid silty clay loam; subsoil's are grayish brown and neutral. Both soils have a high shrink-swell potential, and slow permeability and runoff characteristics. Botella loam occupies a small area along the eastern airport property edge. Botella loam is a very deep and well-drained soil with moderate shrink-swell potential, and slow permeability and runoff characteristics. These soils are classified as prime farmland by the USDA NRCS.

Mineral Resources

The California Division of Mines and Geology (CDMG) has classified lands within the San Francisco-Monterey Bay Region into Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act of 1974.

Seismicity

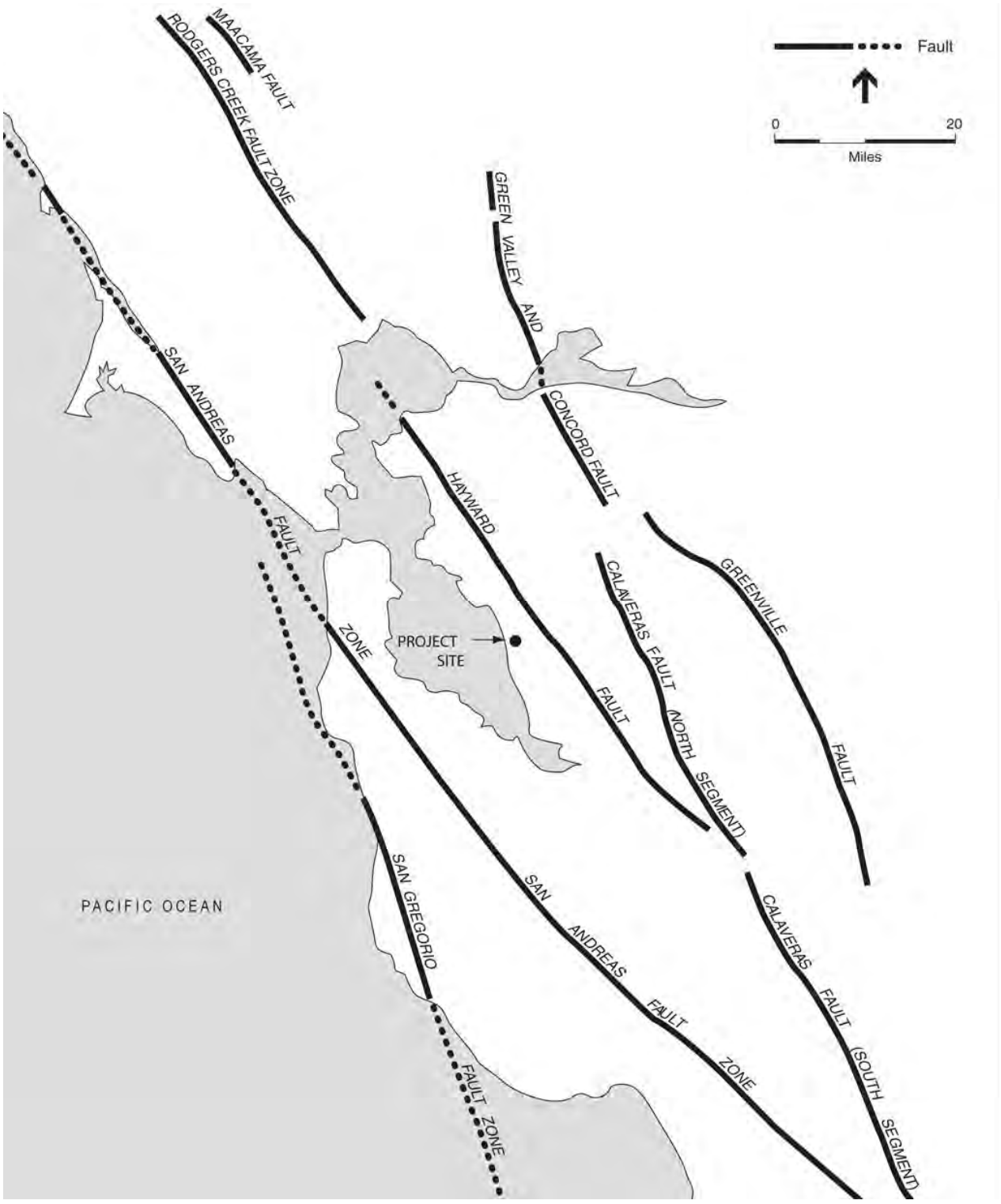
The San Francisco Bay Area region contains both active and potentially active faults and is considered a region of high seismic activity.[1] The 1997 Uniform Building Code (UBC) locates the entire Bay Area within Seismic Risk Zone 4. Areas within Zone 4 are expected to experience maximum magnitudes and damage in the event of an earthquake (Lindenburg, 1998). The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities has evaluated the probability of one or more earthquakes of Richter magnitude 6.7 or higher occurring in the San Francisco Bay Area within the next 30 years. The result of the evaluation indicated a 70 percent likelihood that such an earthquake event will occur in the Bay Area between 2000 and 2030 (USGS, 1999).

Regional Faults

The airport is located approximately 2 miles west of the Hayward Fault Zone, 12 miles west of the Calaveras fault, and 17 miles east from the San Andreas Fault Zone (see Figure 9-4). The Hayward, Calaveras, and San Andreas faults are strike-slip faults that have experienced movement within the last 150 years.[2] A major seismic event on any of these active faults could

1 An active fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A potentially active fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. Sufficiently active is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

2 A strike-slip fault is a fault on which movement is parallel to the fault's strike (Bates and Jackson, 1980).



Source: ESA, 2008.

Figure 9-4
Regional Faults in the
Vicinity of Hayward Executive Airport

cause significant groundshaking at the site, as experienced during earthquakes in recent history, namely the 1868 Hayward earthquake, the 1906 San Francisco earthquake, and the 1989 Loma Prieta earthquake.

Earthquakes on the active faults listed on the following page are expected to produce a wide range of groundshaking intensities at the Airport. The estimated (moment) magnitudes (Table 9-2) represent *characteristic* earthquakes on particular faults.[3]

While the magnitude is a measure of the energy released in an earthquake, intensity is a measure of the groundshaking effects at a particular location. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The Modified Mercalli (MM) intensity scale (Table 9-3 is commonly used to measure earthquake effects due to groundshaking. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total). MM intensities ranging from IV to X could cause moderate to significant structural damage.[4]

At the airport, a characteristic earthquake on the Hayward fault with estimated moment magnitude of 6.9 could produce shaking intensities ranging from strong (VII) to violent (IX). The CDMG Earthquake Planning Scenario for the Hayward Fault predicts shaking intensities which may result in damage that could potentially suspend airport operations. (CDMG, 1987) As a comparison, the 1906 San Francisco earthquake, with a moment magnitude of 7.9 produced shaking intensities ranging from strong to very strong (VII to VIII). The 1989 Loma Prieta Quake, with a moment magnitude of 6.9 produced only moderate (VI) shaking intensities in the Hayward area. A characteristic earthquake on the Calaveras Fault or Peninsula and Golden Gate segments of the San Andreas Fault, with an estimated moment magnitude of 6.8 or 7.3, respectively, would produce strong (VII) shaking intensities at the project site.

Expansive Soils

Expansive soils possess a “shrink-swell” characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. The soils underlying the airport are described as highly expansive (NRCS, 1980).

Landslides and Erosion

The susceptibility of land (slope) failure is dependent on the slope and geology as well as the amount of rainfall, excavation or seismic activities. A landslide is a mass of rock, soil, and debris displaced down-slope by sliding, flowing, or falling. Areas most susceptible to landsliding are characterized by steep slopes and down-slope creep of surface materials. Landslides are least likely in topographically low alluvial fans and at the margin of the San Francisco Bay. Landslides and erosion are not a significant hazard at the project site, as the airport is located on an alluvial plain, and the average slope is 0.4 percent.

Ground Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake’s seismic waves. Ground rupture is considered more likely along

[3] Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CDMG, 1997b). The concept of “characteristic” earthquake means that we can anticipate, with reasonable certainty, the actual damaging earthquake that can occur on a fault.

[4] The damage level represents the estimated overall level of damage that will occur for various MM intensity levels. The damage, however, will not be uniform. Some buildings will experience substantially more damage than this overall level, and others will experience substantially less damage. Not all buildings perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a building all affect its performance (ABAG, 1998a).

Table 9-2
ACTIVE FAULTS IN THE VICINITY OF HAYWARD EXECUTIVE AIRPORT

Fault	Distance and Direction from Hayward	Recency of Movement	Fault Classification[a]	Historical Seismicity[b]	Maximum Moment Magnitude Earthquake (Mw)[c]
Hayward	2 miles west	Pre-Historic (possible 1836; 1868 ruptures) Holocene	Active	M6.8, 1868 Many <M4.5	7.1
Calaveras (northern)	12 miles west	Historic (1861 rupture) Holocene	Active	M5.6-M6.4, 1861 M4 to M4.5 swarms 1970, 1990	6.8
San Andreas	17 miles east	Historic (1906; 1989 ruptures)	Active	M7.1, 1989 M8.25, 1906 M7.0, 1838 Many <M6	7.9
Concord-Green Valley	19 miles northwest	Historic (1955) Holocene	Active	Historic active creep	6.9
Marsh Creek-Greenville	22 miles west	Historic (1980 rupture) Holocene	Active	M5.6 1980	6.9
Rodgers Creek	35 miles northeast	Historic	Active	M6.7, 1898 M5.6, 5.7, 1969	6.75

a An active fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A potentially active fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. Sufficiently active is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

b Richter magnitude (M) and year for recent and/or large events. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.

c Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CDMG, 1997b). The Maximum Moment Magnitude Earthquake (Mw), calculated from rupture area regression (type “all”) from Wells and Coppersmith (1994). These magnitudes are consistent with those derived through the joint CDMG/USGS Probabilistic Seismic Hazard Assessment for the State of California, 1996. (CDMG OFR 96-08 and USGS OFR 96-706).

Sources: Hart, 1997, Jennings, 1994; Wells and Coppersmith, 1994.

Table 9-3
MODIFIED MERCALLI INTENSITY SCALE

Intensity Value	Intensity Description	Average Peak Acceleration
I	Not felt except by a very few persons under especially favorable circumstances.	< 0.0015 g
II	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.0015 g
III	Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibration similar to a passing truck. Duration estimated.	< 0.0015 g
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.015 g-0.02 g [1]
V	Felt by nearly everyone, many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop.	0.03 g-0.04 g
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight.	0.06 g-0.07 g
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	0.10 g-0.15 g
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.25 g-0.30 g
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.50 g-0.55 g
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 0.60 g
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 0.60 g
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 0.60 g

[1] g is gravity = 980 centimeters per second squared

Source: Bolt, Bruce A., Earthquakes, W.H. Freeman and Company, New York 1988.

active faults, which are referenced above. Since no mapped faults are known to pass through the airport, the potential risk from fault rupture is considered unlikely. The airport is not within an Alquist Priolo Special Study Zone (discussed below) for fault rupture hazards, as designated by the state.

Liquefaction

Liquefaction is a phenomenon whereby unconsolidated and/or near saturated soils lose cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, runways, pipelines, underground cables, and buildings with shallow foundations. Loose, granular soils are most susceptible to these effects, while more stable silty clay and clay materials are generally somewhat less affected. The airport is not built on Bay Mud or artificial fill, and predominantly clayey soils underlie the project site, consequently the liquefaction potential is not high. However, the airport is located upon Holocene aged, predominantly medium to coarse-grained alluvial deposits, and the liquefaction potential associated with this geologic unit is considered moderate (USGS, 1979).

Earthquake-Induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged groundshaking. Settlement can occur both uniformly and differentially (i.e. where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or Bay Mud. Areas susceptible to this type of settlement at Hayward include areas underlain by improperly engineered construction fills.

WATER IMPACT CATEGORIES

Water Quality

The Clean Water Act (CWA) is the primary federal law regulating water quality in the U.S. and forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. At the federal level, the CWA is administered by the U.S. Environmental Protection Agency (EPA). At the state and regional levels, the CWA is administered and enforced by the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs).

Surface Water

As described in Floodplains subsection, rainfall runoff from the airport drains into Sulphur Creek, which traverses the northern portion of Hayward. Existing activities at the airport may contribute varying amounts of contaminants, such as oil, grease, fuel, rubber, heavy metals, solvents, and sediments to stormwater runoff. These pollutants are released at developed areas including runways, aircraft maintenance and refueling areas, and parking lots. Exhaust from aircraft and motor vehicles contains lead and particulates that settle on paved surfaces, are entrained by runoff, and carried into the airport's stormwater system.

No water quality data is available for Sulphur Creek. Laboratory analytical water quality testing is currently not conducted by the airport, and therefore no water quality data is available for stormwater runoff originating from Hayward. A visual inspection is performed in accordance with the airport's Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is described in detail in

the discussion of stormwater runoff quality. Visual inspection includes a review of color, clarity, odor and visual debris.

Water Quality Standards

The California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region is responsible for protecting and regulating water quality in the airport vicinity. The RWQCB has developed a *Water Quality Control Plan* (RWQCB, 1995), conventionally referred to as the Basin Plan, that establishes water quality policies and standards for the water bodies in the region. Water quality standards are developed by first establishing the current and future beneficial uses of a water body. The RWQCB has not established any existing or potential beneficial uses for Sulphur Creek. If streams are not specifically identified in the Basin Plan or have not been assigned specific uses, it is presumed that they support the same beneficial uses as the nearest downstream segment for which uses are specifically identified. Sulphur Creek drains into San Francisco Bay approximately 1.5 miles west of Hayward.

Non-Point Source Pollution

During periods of wet weather, rain carries pollutants and soil particles into surface water bodies such as streams, rivers, reservoirs, or marshes. In an urban setting, natural drainage patterns have been altered and stormwater runoff, as well as non-storm discharge (irrigation water, accidental spills, washdown water, etc.), picks up soil particles and contaminants from land surfaces and transports these pollutants into surface and ground water. The diffuse sources of pollutants include roadways and parking lots, bare earth at construction sites, and agricultural and landscape sites. The total amount of pollutants entering aquatic systems from these diffuse, nonpoint sources is now generally considered to be greater than the contribution from any point source.

The impacts to aquatic systems from nonpoint source pollutants in urban runoff are numerous. Polluted runoff can result in significant adverse impacts to aquatic ecosystems, public use, human health from ground and surface water contamination, damage to and destruction of wildlife habitat, decline in fisheries, and loss of recreational opportunities. Small soil particles washed into streams can smother spawning grounds and marsh habitat. Suspended particulates can restrict light penetration into water and limit photosynthesis of aquatic biota. Metals and petroleum hydrocarbons washed off from roadways and parking lots may cause toxic responses in aquatic life or contaminate possible public water supply sources such as reservoirs or aquifers.

Stormwater Runoff Quality

The airport consists of 527 acres, of which approximately 260 acres are impervious surfaces from which runoff may flow to the Sulphur Creek rather than percolate into the ground (City of Hayward, 1992). Stormwater laden with contaminants runoff can be a significant source of pollution to watercourses. The U.S. Environmental Protection Agency has estimated that at least one-third of all contaminants in lakes and estuaries and 10 percent of all river contamination is attributable to stormwater runoff. The federal government has taken steps to regulate the quality of stormwater runoff from industrial facilities (the airport falls into this category), from construction activities disturbing more than five acres, and from urban municipalities. The Clean Water Act, which includes the National Pollutant Discharge Elimination System (NPDES) for point source discharges, was amended to include stormwater discharges from these activities. In California, the State Water Resources Quality Control Board (SWRQCB) implements NPDES programs. The SWRQCB has adopted a General Industrial Stormwater Permit (General Permit) for all categories of industrial discharges. The General Permit requires industrial dischargers to eliminate non-stormwater discharges; develop and implement a SWPPP, and perform monitoring of discharges to the stormwater drainage system.

In compliance with the General Permit program, the airport has filed a Notice of Intent with the State Water Resources Control Board and prepared a SWPPP covering its operational areas. Under General Permit regulations, certain organizations can form a group to comply with the requirements listed above. All facilities belonging to the group must eliminate non-stormwater discharges and develop and implement a SWPPP. However, only 20 percent of the group participants must perform the required stormwater sampling. The airport is a member of the American Association of Airport Executives (AAAE), a qualified organization under the General Permit guidelines. The airport is not among the 20 percent of the AAAE members that perform water sampling associated with General Permit requirements.

The SWPPP identifies potential pollutants and material handling practices and establishes stormwater management controls. These controls include Best Management Plans (BMPs) to control runoff quality and quantity, inspection and water quality testing protocols, and spill prevention and response plans. Airport areas that are considered covered under this plan include: the South Ramp, West T-Hangars, East T-Hangars, Helicopter Landing Pad, Aircraft Wash Rack, Tenant Maintenance Shelter, West Executive Hangars, Green Ramp, and Airport Maintenance Hangar.

Individuals or organizations who have leased land from the airport are entities distinct from the airport. Several of these tenants engage in industrial activities that may be subject to Clean Water Act requirements. These tenants have been advised to file a separate Notice of Intent and prepare a SWPPP. Hayward's SWPPP states that airport administration will provide assistance to tenants in preparing their SWPPP and offers group monitoring.

The SWPPP also identifies materials that have been treated, stored, disposed, spilled or leaked in significant quantities in stormwater discharge on site, such as aviation and unleaded fuel, various engine fluids, and cleaning agents. Waste fluid recycling containers have been made available to properly dispose of waste oil. Secondary containment is provided for all oil recycling bins, which are cleaned and monitored on a regular basis. The Wash Rack is the designated area for aircraft washing as it drains into the sanitary sewer system. The washwater, which may be contaminated with surface dirt, metals, and airplane fluids (fuel, hydraulic fluid, oil, etc.), passes through an oil/water separator before discharge to the sewer. Airplane maintenance typically takes place inside or directly outside the leased T-hangars or within the tenant maintenance hangar. No fueling or defueling operations are permitted in the tenant maintenance hangar. The tenant maintenance hangar has an oil/water separator. Spill control equipment is readily accessible in the maintenance hangar. Herbicides are used to control vegetation along cracks or joints within the runways, taxiways and other hard surface areas of the airport.

Activities in the hangars are monitored through regular hangar inspections. The Hangar Safety Inspection *Guidelines* specifically prohibit the storage of certain hazardous substances and painting in the hangar. Visual inspections are conducted to observe non-stormwater flows and the conditions of drainage facilities. Such inspections have resulted in the removal of debris and vegetation from channels and drainage swales. As of this date, there are no non-stormwater discharges present in the storm drainage system located on the areas identified as airport operational areas.

As a means of complying with federal regulations, all spills of petroleum products that have the potential to reach waterways and are of sufficient volume to create a visible sheen on the water must be reported to the airport management and the U.S. Coast Guard. A discharge of oil or hazardous substance (i.e., jet fuel, gasoline) is classified as a spill when the material enters a navigable waterway. A discharge that is contained and does not reach a navigable waterway is considered a spill under Environmental Protection Agency reporting requirements.

Relatively small spills that occur during aircraft refueling and maintenance are not uncommon and do not require reports to regulatory agencies. These spills can occur several times per month and typically result in several gallons of fuel loss. They occur on paved surfaces and are relatively

easily contained. After the spill is contained, the fuel is collected with absorbent material and classified as hazardous waste. Spills of greater than 25 gallons are reported to the City of Hayward Fire Department. Spills are cleaned up and not allowed to dry up or evaporate. Large spills, if not double contained, have a potential to flow to the storm drain. Accordingly, the storm drain inlets are temporarily plugged with sand bags to prevent spills from discharging into nearby storm drains.

Based upon current site activities, pollutants with the greatest potential to be present in stormwater runoff at the airport are oil/greases and petroleum hydrocarbons. Other potential pollutants that may occur to a lesser degree are solvents, antifreeze, and herbicides. The most likely transport mechanisms for these substances into stormwater are spills or leaks, rainfall runoff, and outdoor area wash-downs.

All fuel storage facilities at Hayward are privately owned and operated. Fuel storage at the airport totals 84,000 gallons. Three 10,000 gallon underground tanks are operated by the Hayward Jet Center at their location on the east side of the airport. Three underground tanks operated by Flightcraft are located on the north side of the airport. Two of the Flightcraft tanks provide 20,000 gallons of storage each, while a third tank provides 10,000 gallons of storage. The East Bay Regional Park District on the west side of the airport owns and operates a 4,000 gallon above-ground fuel storage tank. Fuels include 100LL, Jet A, and diesel.

Groundwater

Groundwater is defined as subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated. Groundwater occurs in aquifers that are saturated geologic units that contain sufficient permeable thickness to yield substantial quantities of water to wells and springs. Hayward is located on the East Bay Plain, which contains an aquifer system greater than 100 square miles in area (RWQCB, 1998). Most groundwater of the East Bay Plain aquifer is a bicarbonate type containing predominantly calcium and sodium cations, and the Department of Water Resources (DWR) has estimated the storage capacity of the Alameda County portion of the East Bay Plain basin to be 2,670,000 acre-feet. The estimated maximum safe yield for this portion of the basin is 10,000 acre-feet per year (East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, SFRWQCB, June 2000). The East Bay Plain is utilized for irrigation, industrial, and emergency groundwater supply purposes, and as a limited drinking water source. However, the shallow groundwater in the vicinity of Hayward is located in a non-attainment zone, and the sole existing beneficial use is for industrial processes.[5] Groundwater located within a non-attainment zone does not have the potential to be utilized as a municipal or domestic water supply. Because of its low elevation and close proximity to San Francisco Bay, Hayward has a relatively shallow groundwater table, located at depths of approximately 5 to 20 feet below ground surface. Groundwater in the airport vicinity most likely is unconfined. Groundwater fluctuates with seasonal variations in precipitation, and depths are usually shallower during winter months.

Wastewater

Wastewater generated at the airport consists of domestic wastes from the airport's bathrooms and restaurant and treated airplane wash water from the public use aircraft wash rack located adjacent to Executive Hangar A at the north side of the airport. Wastewaters are conveyed to the City of Hayward Wastewater Treatment Plant and then pumped into the East Bay Dischargers Authority sewer line for final disposal in the deeper water of San Francisco Bay, west of San Leandro.

[5] A non-attainment zone is defined as groundwater that, due to potential contaminant levels, does not have the potential to be utilized as a municipal or domestic water supply. Water quality standards for groundwater in a non-attainment zone are above RWQCB maximum contaminant levels (MCLs) for drinking water.

Applicable Plans, Policies, and Regulations

Local and state agencies (e.g., RWQCB) regulate water quality standards and issue permits in accordance with the provisions of Clean Water Act of 1977 and applicable state laws. FAA Order 5050.4B states that early consultation with local, State, and federal agencies charged with implementation of water quality regulations and issuance of permits will normally identify any deficiencies with regard to water quality or additional information needed to make judgments on the significance of impacts. Policy and impact analyses in this document are based upon consultation with the RWQCB and the County. Order 5050.4B also contains policies concerning impacts to water quality, consistent with Executive Order 11988.

Statewide oversight of the underground storage tank (UST) program is assigned to the RWQCB, which has been given a variety of specific functions, including preparing and revising the State UST Law, establishing and administering a system of licensing for tank integrity testers, and administering the (Petroleum) Underground Storage Tank Cleanup Fund. The State's underground storage tank regulatory and permit program is administered by the City of Hayward Fire Department that oversees regulatory compliance and permitting under State of California 23 CCR sections 2601 – 2728.

The Porter-Cologne Water Quality Control Act is the primary statute covering the quality of waters in California. The act sets out specific water quality provisions and discharge requirements regulating the discharge of waste within any region that could affect the quality of State waters. It established and is administered by the State Water Resources Control Board (SWRCB) and nine RWQCBs. The San Francisco Bay RWQCB is the relevant board reviewing actions at the airport that may affect receiving waters. The RWQCB administers the NPDES in California, pursuant to the federal Clean Water Act.

In compliance with a General NPDES Permit, the airport maintains a SWPPP. The General Permit requires permittees to eliminate non-stormwater discharges and develop and implement a SWPPP to limit contact of potential pollutants with stormwater. The airport is responsible for amending the SWPPP periodically and whenever there is a change in construction, operation, or maintenance that affects the quality or quantity of the industrial stormwater discharge.

A series of BMPs for aircraft and vehicle service facilities, storm drain protection, and spill response have been developed and implemented under the SWPPP as described previously. The SWPPP contains applicable rules and compliance requirements for protection of surface and groundwaters of the state.

The airport is also subject to General NPDES Permit, which regulates discharges of stormwater runoff associated with construction activities. Since construction of projects reflected on the ALP Update would disturb over 5 acres, the airport would be required to file a Notice of Intent with the State Water Board, prepare a SWPPP, and implement BMPs to control the quality of runoff from the construction site. Contaminants of concern from construction activities are sediments and leaks and spills from construction equipment.

Potential Water Quality Constraints

Hayward Executive Airport, like many airports, is located in close proximity to waterways that contain or convey water to sensitive natural waterways. As a result, airport-related projects and operations can result in degradation of water quality in adjacent and downstream waterways. Construction-related activities, including grading, use of heavy machinery, scraping, fuel/oil/grease spills, and waste construction materials can result in reduced water quality by introducing sediment, hazardous wastes, or trash into adjacent waterways. Additionally, airport operations, including seasonal deicing, fuel spills, accidental release of hazardous materials (fuels, oils, antifreeze, grease, etc.), and release of runoff contaminated with greases/oils, can result in pollutants migrating into natural waterways and causing water quality degradation, or in the contamination of water sources used for drinking water.

Both phases of the proposed development would involve the creation of additional impervious surfaces, which could affect the quality of surface water in the vicinity of Hayward. More specifically, the proposed relocation of Sulphur Creek into a box culvert could potentially have direct impacts on the Creek. Implementation of the ALP Update could have both the short-term (construction) and long-term affects on water quality; however, implementation of NPDES BMPs and other measures that would be implemented under required NPDES permits, as well as additional construction and operation-period mitigation that would be applied during environmental review would greatly reduce the intensity of these potential impacts.

Wetlands

As summarized in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, wetlands are protected by the Clean Water Act; Executive Order 11990, *Protection of Wetlands*; and Department of Transportation (DOT) Order 5660.1A, *Preservation of the Nation's Wetlands*. Executive Order 11990 requires federal agencies to ensure their actions minimize the destruction, loss, or degradation of wetlands. It also assures the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable during the planning, construction, funding, and operation of transportation facilities and projects. DOT Order 5660.1A sets forth DOT policy that transportation facilities should be planned, constructed, and operated to assure protection and enhancement of wetlands. The State's authority to regulate activities in wetlands and waters at the site resides primarily with the CDFG and the RWQCB.

A survey of Sulphur Creek was conducted in June 2000 as part of the environmental analysis associated with the HWD master plan update. Additionally, another survey of the Creek was performed in October 2005 in connection with proposed restoration of Sulphur Creek. In both cases, the surveys noted that Sulphur Creek possessed indicators such as hydrophytic vegetation and frequency of inundation, which suggests that portions of the Creek would be considered jurisdictional wetlands. Furthermore, given that the waters of Sulphur Creek drain into the San Francisco Bay, it is likely that it would be considered Section 404 Waters of the United States.

Potential Wetlands Constraints

Portions of the Proposed Project, particularly the placement of Sulphur Creek into a boxed culvert, will have direct impacts on potential wetlands and jurisdictional waters. Prior to implementation of projects associated with either Phase I or II of the Proposed Project, a formal wetland delineation will need to be prepared in order to identify potential jurisdictional waters, and BMPs will need to be identified in order to minimize impacts to the Creek. Furthermore, prior to construction, a Section 404 and/or 401 permits may need to be obtained.

Floodplains

Water Resources, Drainage, and Flooding

Climate

Average annual precipitation at Hayward is approximately 18 inches per year (Regional Water Quality Control Board [RWQCB], 1998). The 100-year, 24-hour rainfall intensities are 5.5 inches (NOAA Atlas 2 Volume XI). For the 25-year return period, rainfall intensities are 4.5 inches for the 24-hour duration (NOAA Atlas 2 Volume XI). The heaviest rainfall occurs during the cool and wet winter months from December through February, with very little or no rainfall during the summer months.

Watershed

The project is located in the San Francisco Bay Watershed within the Hydrological Planning Area identified as the South Bay Basin in the San Francisco Bay RWQCB's *Water Quality Control Plan* (Basin Plan). Hayward is located in Zone 2 of the Alameda County Flood Control and Water

Conservation District (ACFCD). Zone 2 includes the San Lorenzo Creek (Line B of the ACFCD) watershed, which has a total drainage area of approximately 40 square miles. Sulphur Creek (line K of the ACFCD), which runs through Hayward, is also located in Zone 2 and has a total drainage area of approximately 4.3 square miles. Sulphur Creek is an intermittent stream that originates in the Hayward Hills and passes through the highly developed commercial and residential areas east of Hesperian Boulevard before discharging into San Francisco Bay approximately 1.5 miles west of the airport. Sulphur Creek is a concrete lined channel along most of its course, but is primarily an open channel on airport property except where it is conveyed in culverts under Hesperian Boulevard, Skywest Drive, and the airfield runways and taxiways. Other surface water features on the airport property include seasonal drainages extending parallel to and between the runways.

Onsite Drainage

Rainfall runoff at Hayward is conveyed in pipelines and open channels to Sulphur Creek, which acts as the primary drainage conduit. Line K-1, which collects storm water along West A Street east of the airport, releases storm water into Sulphur Creek on the airport property. Surface water runoff is collected by storm drains located along Skywest Drive and along airport taxiways throughout the property, and discharged into Sulphur Creek. Seasonal drainages located between runways also feed into Sulphur Creek, which discharges into San Francisco Bay approximately 1.5 miles west of the airport.

Sulphur Creek's average flow (one-year storm event) is approximately 250 cubic feet per second (cfs) on the airport. Storm flows on the airport during 100-year flood events are approximately 1,070 cfs. Under normal conditions, storm water flows of up to 350 to 400 cfs are diverted to San Lorenzo Creek approximately 3 miles upstream of the airport. Flows in excess of 350-400 cfs are channeled to Sulphur Creek. The Stormwater Pollution Prevention Plan (SWPPP) for the airport lists the airport site as 527 acres with 260 acres, or 49 percent of the total area of the property, with impervious surfaces.

Flooding

Flood Insurance Rate Maps (FIRM) published by the Federal Emergency Management Agency (FEMA) delineate areas that would be subject to either storm or coastal flooding during a 100-year storm event. The flood maps do not indicate all areas that are subject to flooding, but only those areas with particular interest for flood insurance purposes. The February 9, 2000 FIRM for the airport shows the central portions of the airport subject to flooding in a 100-year storm event, as depicted in Figure 9-5. In the easternmost portion of the airport, flooding is confined to the area immediately surrounding Sulphur Creek. As the creek traverses westward adjacent to the apron used for transient aircraft operations, flooding increases significantly north of Sulphur Creek. The floodplain tapers back adjacent to the helipad as Sulphur Creek bends and begins traverse to the south. As Sulphur Creek flows through the taxiways and runways, the floodplain widens significantly across Runway 10L-28R, Taxiway Z, and the drainage swails. The floodplain narrows to encompass the area immediately surrounding Sulphur Creek just outside of the southwest corner of the airport property. Flooding is anticipated to be caused primarily by culvert blockages, and the unlined channel of Sulphur Creek within the airport area. Drainage facilities upstream and downstream of Hayward convey the 100-year storm event, and the mapped floodplain is conveyed within, or immediately adjacent to, Sulphur Creek.

Potential Floodplain Constraints

Implementation of the ALP Update, which would include the construction of aviation-related structures, could require mitigation to ensure that the proposed facilities would not be subject to flooding during a 100-year event. Typical mitigation would include the construction of protective berms to protect facilities from potential flood flows, or raising of the base level of proposed facilities to a height that is considered to be above the FEMA-delineated 100-year flood height.

Source: FEMA, February 9, 2000.

Figure 9-5
Floodplains in the Vicinity of
Hayward Executive Airport

Additional investigation and mitigation may be necessary to ensure that implementation of these flood protection measures would not divert or obstruct floodflows during a 100-year event, such that additional areas could be subjected to flooding.

Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968, as amended, identifies river segments that are designated for or eligible for inclusion in the Wild and Scenic Rivers System. The purpose of the Act is to identify rivers that possess outstanding scenic, recreation, geologic, historic, cultural, or wildlife values, and to preserve them in their free-flowing condition. No rivers in the vicinity of Hayward have been included in the Wild and Scenic River System. The closest river to Hayward designated as a wild and scenic is the American River, which is located approximately 75 miles northeast of the airport.

Coastal Resources

Federal activities involving or affecting coastal resources are governed by the Coastal Zone Management Act (CZMA) and the Coastal Barriers Resources Act. Activities affecting coastal resources are also governed by the California Coast Act of 1976 (as of 2006). No coastal barriers are present along the west coast of the United States. Therefore, the provisions of the Coastal Barriers Resources Act do not apply to Hayward.

Coastal Zone Management Act

In 1972, the U.S. Congress enacted the Coastal Zone Management Act (CZMA) to "preserve, protect, develop and, where possible, restore or enhance the coast resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs as well as fish and wildlife using those habitats." The CZMA provides grants to states that develop and implement federally-approved coastal zone management plans. The CZMA also allows states with approved plans the right to review federal actions to ensure they are consistent with those plans. Detailed procedures for determining federal consistency with approved coastal zone management programs are contained in the National Oceanic and Atmospheric Administration (NOAA) Regulations (15 *Code of Federal Regulations*, Part 930). The sections most relevant to airport actions are subpart D, Consistency for Activities Requiring a Federal License or Permit, and subpart F, Consistency for Federal Assistance to State and Local Governments. The closest Coastal Zone Management Program to Hayward is located in the City and County of San Francisco, at the Pacific Ocean coastline.

In California, protection of coastal resources predates the CZMA and began with the McAteer-Petris Act of 1965, which established the Bay Conservation and Development Commission (BCDC) as a temporary agency to prepare an enforceable plan to guide the future protection and use of San Francisco Bay and its shoreline. This plan, the *San Francisco Bay Plan*, was adopted in 1968 and has been updated periodically since then (San Francisco Bay Conservation and Development Commission, 1998). In 1969, the California Legislature revised the McAteer-Petris Act by designating BCDC as the permanent agency responsible for maintaining and carrying out the provisions of the Act and the *San Francisco Bay Plan*. The *San Francisco Bay Plan* contains policies on airport development along the Bay shoreline that recognize the appropriateness of shoreline airports but limit additional Bay fill.

A statewide coastal protection program was initiated in 1972 and formalized under the California Coastal Act of 1976, which grants authority to the California Coastal Commission to regulate development and related resource-depleting activities in a defined coastal zone boundary. The California Coastal Commission's jurisdiction does not include the coastal area located in or around San Francisco Bay, which lies within the jurisdiction of BCDC. The overall program, including both the portion of the program implemented by the California Coastal Commission and the portion implemented by BCDC, was approved by NOAA in 1977, and since then, all federal activities affecting coastal zone resources became subject to the regulatory jurisdictions of these agencies.

The California Coastal Commission and BCDC use a permit process as one means to regulate development within their respective "coastal zones" and thereby further the goals of their respective coastal protection plans.

The westernmost portion of Skywest Golf Course, which is part of Hayward, is approximately 100 feet from the eastern edge of Hayward Regional Shoreline, which is considered part of San Francisco Bay by BCDC as "marshlands" that lie between mean high tide and five feet above mean sea level. Hayward lies approximately 2,800 feet east of Hayward Regional Shoreline. Projects proposed on airport property would be outside the jurisdiction of BCDC and would require neither a coastal development permit nor a consistency determination. However, as Sulphur Creek does flow into the Bay, analysis related to the relocation of the Creek into a boxed culvert should assess potential impacts coastal resources as a resulted of this proposed Phase 1 project.

ATMOSPHERIC IMPACT CATEGORIES

Air Quality

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions (for example, wind speed, wind direction, and air temperature) in combination with local surface topography (for example, geographic features such as mountains and valleys), can affect local air quality.

Regulation of air pollution is achieved through both federal and state ambient air quality standards and emissions limits for individual sources of air pollutants. An "ambient air quality standard" represents the level of air pollutant in the outdoor (ambient) air necessary to protect public health. The EPA has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS or national standards) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO2), and sulfur dioxide (SO2), particulate matter less than or equal to 10 microns (PM10), and particulate matter less than or equal to 2.5 microns (PM2.5), and lead. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (CAAQS or state standards).

The nine-county Bay Area is currently classified as an attainment area for all criteria pollutants except ozone and particulate matter. Specifically, the Bay Area is designated as a nonattainment area for ozone under the national 8-hour and California 1-hour standards, particulate matter under the California annual arithmetic mean and 24-hour standards, and fine particulate matter under the California annual arithmetic mean standard. The Bay Area is not designated as a maintenance area for any criteria pollutant under either the national or State standards.

General Conformity

According to FAA's Air Quality Procedures for Civilian Airports and Air Force Bases (2004), an air quality assessment (dispersion modeling) is not needed if activity forecasts for a general aviation airport predict less than 180,000 general aviation operations annually. Total operations at the airport were approximately 153,684 in 2008. The current forecast projects 221,800 annual operations by 2020. As the forecasted number of operations is above the 180,000 operation threshold, dispersion modeling would be required.

Under the Clean Air Act, the FAA has the responsibility for applying the General Conformity Rule to federal actions involving airport development in non-attainment areas. The criteria for determining the conformity of such actions state that a conformity determination must be performed when the emissions caused by a federal action equal or exceed de minimis levels. Operation of the Preferred Alternative elements would not likely exceed de minimis levels. In addition, FAA requires the performance of an emissions inventory to assess the air quality impacts associated with landside development when such development would increase the capacity of an airport. The proposed facilities associated with the Preferred Alternative would be

constructed as needed to support a demonstrated demand for additional facilities rather than to enhance the capacity of HWD.

Future development must comply with the guidance provided by the Bay Area Air Quality Management District for analyzing and mitigating project-specific air quality impacts from construction and operational activities. Should the development of landside facilities occur as a response to growth in the based fleet, construction-related impacts on air quality and greenhouse gasses would require further environmental analysis.

Noise

Title 21 of the California State Aeronautics Regulations specifies the use of Community Noise Equivalent Level (CNEL) for quantifying cumulative aircraft noise exposure. CNEL is the 24-hour average sound level in decibels with an additional weighting placed on evening (7:00:00 pm – 9:59:59 pm) and nighttime (10:00:00 pm – 6:59:59 am) operations to account for the increased sensitivity people have to noise events during these hours. For calculation purposes, this means that each aircraft event occurring during the evening hours is treated as if three noise events occurred, and each aircraft noise event occurring during the nighttime hours is treated as if ten aircraft noise events occurred. The CNEL descriptor is used by the State of California and Alameda County Airport Land Use Commission (ALUC) to evaluate land use compatibility around airports. For the purposes of NEPA, FAA accepts CNEL as equivalent to DNL. California has established an outdoor CNEL of 65 dB and greater as incompatible with residential areas, however, for Hayward, the ALUC has adopted the 55 dB CNEL and greater as incompatible with residential uses. New dwellings within the Hayward 55 dB CNEL shall be designed to reduce interior noise levels to 45 CNEL with windows closed in any habitable room.

The primary noise sources in the vicinity of Hayward are transportation related, including noise from Interstate 880, railroad noise from the Union Pacific line west of Hayward, surface traffic along Hesperian Boulevard and Winton Avenue, and aircraft operating at the airport. Figure 9-6 presents the CNEL contours for forecast operations at Hayward (2020). The noise contours depicted in Figure 9-6 do not reflect a shortening of Runway 28R; however, significant changes to the noise contours are not anticipated as a result of this project. Portions of existing residential uses are located within the 60 dB CNEL contour, including parts of the San Lorenzo community to the north and the Longwood-Winton Grove community to the east. Less sensitive industrial uses are located west of the airport. The majority of the 65 dB CNEL contour remains on airport property, with the main exception occurring to the west and southwest of Hayward. Approximately 55 residences would be located in the 2020 65 dB CNEL contour. The noise contours depicted in Figure 9-6 do not provide for sound attenuation by the existing noise berm or proposed sound wall. Details of the noise analysis are contained in Appendix I of this report.

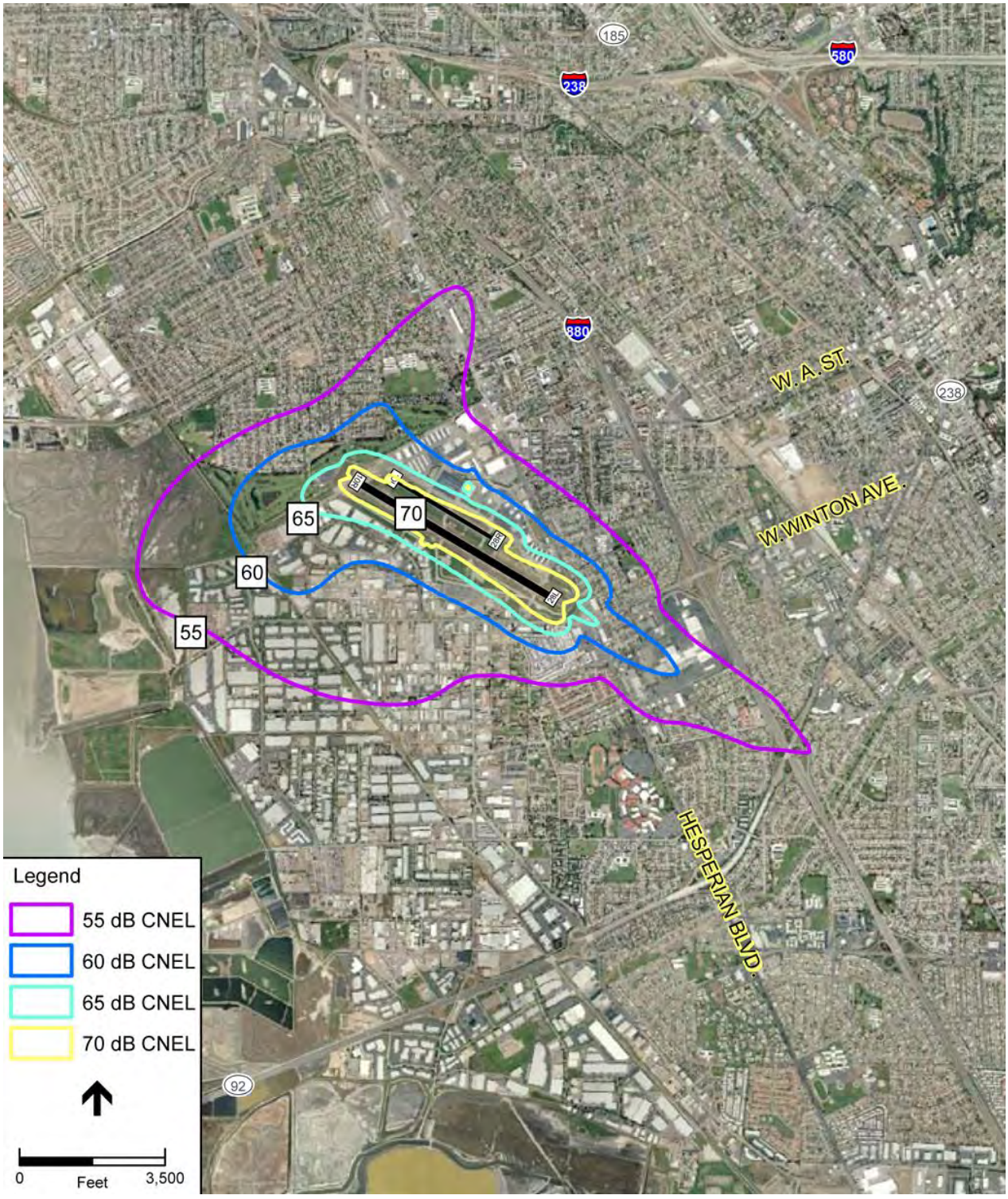
Potential Noise Constraints

If implementation of the proposed Phase 1 and 2 projects at Hayward will cause changes in the type or number of aircraft operations, an analysis using FAA's Integrated Noise Model (INM) and local land use information to determine changes in aircraft noise exposure may be required. Should updated CNEL contours be required, they would be created using the proposed airfield configuration, expected aircraft fleet mix, flight tracks and operational profiles, daily operations, and runway layout data. Furthermore, analysis of short-term noise generated by construction activity will also require analysis for potential effects on noise-sensitive land uses in the vicinity of the airport.

COMMUNITY IMPACTS

Historic, Architectural, Archaeological, and Cultural Resources

Cultural resources consist of prehistoric and historic resources and historic buildings and structures.



Source: ESA Airports, 2009, INM 7.0a; ESRI; Digital Globe, 2007-04-01

Figure 9-6
2020 CNEL Contours

Affected Environment

Historic and Architectural Resources

- **On Airport.** No buildings at Hayward or adjacent to the Hayward property are currently listed on the National Register of Historic Places (NHRP) or on the California Register of Historic Resources. Although the airport was originally constructed during World War II, none of the buildings have any historical significance or importance.

- **Airport Vicinity.** To evaluate the impacts to other historic and architectural resources in the vicinity of Hayward, documents and unpublished historical inventories from the Hayward Historical Society were reviewed. A search of the National Register and the California Historical Landmarks listings was also completed. Four buildings within one mile of the airport appear to be eligible for listing in the National Register as separate properties.Archaeological Resources

- **On Airport.** Hayward is located within a designated "moderate" sensitivity zone for archaeological resources. Nonetheless, neither prehistoric nor historic archaeological resources have been recorded or identified on or immediately adjacent to the airport. Additionally, the field study performed in support of the most recent master plan update did not yield any observations of surface or subsurface evidence for such resources.

  Because extensive grading and earthmoving has occurred at the airport, the potential for archaeological resources to exist is remote. This does not preclude the possibility that unknown archaeological deposits could be discovered by excavations associated with site clearing or subsurface construction implemented as a part of proposed development at the airport (ESA, 2004).

- **Airport Vicinity.** Prehistoric aboriginal use in the vicinity of the airport is likely to have occurred along San Lorenzo Creek, approximately 1.5 miles north of the airport boundary, and along Sulphur Creek, which runs through Hayward property. The closest recorded early prehistoric site, a former village site, lies 1.25 miles north of Hayward along the south bank of San Lorenzo Creek. Although Hayward occupies former Chochenyo and Ohlone tribelet territories, no Native American villages or trails are known to have been located in the immediate vicinity of Hayward.

Potential Cultural Resource Constraints

Though no historic, cultural, or archaeological resources are currently identified on Hayward property, in the event of future development of either Phase 1 or 2 projects at Hayward, surveys by a qualified archaeologist should be required for any specific project that may be proposed. In the event that a resource is identified, it will be evaluated for potential significance. The lead agency and qualified archaeologist will determine the appropriate avoidance measures or if other appropriate mitigation will be required. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.

Department of Transportation Section 4(f)

Section 4(f) provides for the protection of certain publicly owned lands, including public parks, recreation areas, wildlife and waterfowl refuges of national, State, or local significance, as well as any land or historic site of national, State or local significance. Programs or projects requiring the use of Section 4(f) lands will not be approved by the federal government unless there is no feasible and prudent alternative to the use of such land and such programs include all possible planning to minimize harm resulting from the use. Historic properties or historic and archaeological resources also must be addressed in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, which addresses properties listed or eligible for listing in the National Register of Historic Places.

Affected Environment

To determine the number and location of Section 4(f) properties in the vicinity of the Hayward Executive Airport, a survey was conducted that included the area within a one-mile radius of Hayward boundaries. These potential Section 4(f) properties are identified in Table 9-4. The properties include thirteen parks and recreation areas, four playgrounds associated with public elementary and intermediate schools, one playground connected with a private elementary school, three school affiliated play fields, and four historic building sites. No wildlife and waterfowl refuges are located in the immediate Hayward vicinity. None of the potential Section 4(f) properties identified in this overview are within the existing 65 CNEL contour.

Table 9-4
POTENTIAL SECTION 4(f) PROPERTIES IN THE VICINITY OF HAYWARD EXECUTIVE AIRPORT

Section 4(f) Property Type	
City of Hayward	
P1 Longwood Park	
P2 Kenneth Birchwood Memorial Park	
P3 Centennial Park	
P4 Cannery Park	
P5 Skywest Park	
P6 John F. Kennedy Park	
P7 San Lorenzo Park	
P8 Hayward Regional Shoreline	
P9 Greenwood Park	
P10 Rancho Arroyo Park	
S1 Park Elementary School	
S2 Longwood Elementary School	
S3 Anthony W. Ochoa Intermediate School	
Alameda County	
P11 Cherry Land Park	
P12 Del Rey Park	
P13 Mervin Morris Park	
P14 McConaghy Park	
S4 Manor Lorenzo Elementary School	
S5 Bohannan High Continuation School	
S6 Del Rey Elementary School	
S7 Stivers Elementary School	
Total Parks	**14**
Total Schools	**7**

Source: ESA Airports, 2008.

While all proposed projects associated with Phase 1 and 2 development would occur on Hayward property, translating Runway 10L-28R to the northwest, as well as the potential increase in aircraft activity associated with the construction of additional hangars, may shift or increase the 65 CNEL contour. Environmental analysis should determine if the ALP Update would expose any potential Section 4(f) properties to the 65 CNEL contour; potentially constituting an indirect take of the property.

SOCIOECONOMIC IMPACTS

Transportation

FAA Orders 1050.1E and 5050.4B indicate that a significant impact would occur if a proposed action causes an increase in congestion from surface transportation by causing a decrease in the level of service (LOS) to below acceptable levels, as determined by the appropriate transportation agency.

Roadway Network

Access to Hayward is provided by a network of regional and local roadways, which is described below.

Regional

Regional access for Hayward is provided by I-880 (Nimitz Freeway). Interstate 880 provides access to Oakland to the north and to San Jose to the south, and connects to the network of other regional highways serving the area surrounding the City of Hayward (i.e., I-580, I-238, and State Route 92). Average daily traffic (ADT) volume on I-880 is about 240,000 vehicles between the SR 92 and Hesperian Boulevard / Lewelling Boulevard interchanges, and approximately 175,000 vehicles north of the latter interchange (Caltrans, 2000).

Local

The airport can be accessed from Hesperian Boulevard at signalized intersections with West A Street and with West Winton Avenue. *Hesperian Boulevard*, a six-lane arterial is located along the eastern boundary of the airport property. The ADT on Hesperian is approximately 37,000 vehicles north of West Winton Avenue and about 32,000 vehicles south of West Winton Avenue (Associated Transportation Engineers [ATE], 1999). *West A Street* is a four-lane arterial that extends easterly from Skywest Drive (on airport property just west of Hesperian Boulevard) to central Hayward, with an interchange at I-880. The ADT on West A is about 23,400 vehicles east of Hesperian Boulevard (ATE, 1999). *West Winton Avenue* is a four-lane arterial that extends from west of Hesperian (along the southern boundary of the airport property) to central Hayward, with an interchange at I-880. The ADT on West Winton is approximately 38,000 vehicles east of Hesperian Boulevard (ATE, 1999). Other local roadways in the airport area include Longwood Avenue and Sueirro Street, which intersect with Hesperian Boulevard and serve the adjacent Longwood – Winton Grove Neighborhood, and Skywest Drive, which provides local circulation within the airport property.

Existing Traffic Conditions

The operations of roadway facilities, including intersections, are described in terms of LOS, which is a qualitative description of the average driver's perception of traffic flow based on such factors as delay. Six levels of service are defined, ranging from LOS A (the best operating conditions, with little or no delay) to LOS F (the worst operating conditions, with extremely long delays). LOS D is generally considered to be the minimum acceptable service level during peak traffic hours; as stated above, the City of Hayward has adopted a policy of maintaining LOS D or better at all signalized intersections, except in certain conditions when LOS E may be acceptable due to costs of mitigation or when there would be other unacceptable impacts associated with maintaining LOS D. LOS E corresponds to operations "at-capacity." When volumes exceed the capacity of a roadway facility, stop-and-go-conditions result, and operations are designated as LOS F.

Specific development proposals would need to evaluate impacts to intersection functioning and delays, traffic safety, and parking demand as applicable.

Potential Transportation Constraints

Both long-term and short-term affects of the proposed development will need to be analyzed for its potential impacts to local traffic conditions. While all construction would remain on airport property, short-term impacts to local roadway systems will require assessment across both phases of the ALP Update as the presence of construction vehicles would add to the daily vehicle count near Hayward. Furthermore, long-term affects of the ALP Update will require analysis as both Phase 1 and 2 of development will include the construction of additional hangar space, which is likely to generate greater vehicle traffic to and from Hayward.

Environmental Justice

Executive Order 12898*, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations,* requires all federal agencies to identify and address disproportionately high and adverse impacts on minority and low-income populations. U.S. Department of Transportation (DOT) Order 5610.2 presents DOT's policy to promote the principles of environmental justice through the incorporation of those principles in all DOT programs, policies and activities. The DOT Order defines a low-income person as an individual whose median household income is at or below the poverty level. Minorities are defined as individuals or populations who are considered in the black, Asian/Pacific Islander, or American Indian/Alaskan Native racial categories, or individuals of Hispanic origins.

Impacts to environmental justice populations (as defined above) are assessed by determining whether a low-income or minority population has the potential to be disproportionally exposed to any negative effects associated with a project. Given the airport's urban environment, various components of the proposed development have the potential to expose environmental justice populations to both short-term and long-term impacts. Noise, dust, and increased traffic associated with the construction of Phase 1 and 2 components may have short-term affects on environmental justice populations residing in the vicinity of Hayward; while the shifting of noise contours related to moving Runway 10L-28R may expose to environmental justice populations to the 65 CNEL contour.

Environmental documentation prepared for both Phase 1 and 2 projects will need to identify and address disproportionately high and adverse impacts to environmental justice populations, and identify possible mitigation for reducing these effects.

Children's Environmental Health and Safety Risks

Children may suffer disproportionately from environmental health and safety risks as a result of their developing bodies and systems and from the effect of products or substances with which they are likely to come in contact or ingest (e.g., air, food, drinking water, recreational waters, soil, or products to which they might use or be exposed). Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* FAA Order 1050.1E (Section 16.1b) directs federal agencies to make it a high priority to identify and assess environmental health risks and safety risks to children (i.e., the portion of the population under 18 years of age). Federal agencies are encouraged to ensure that their policies, programs, and activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Impacts to children's health and safety are assessed by determining whether children in the vicinity of an airport have the potential to be disproportionally exposed to any negative effects associated with a project. Given the airport's urban environment, several parks and schools are located within a mile of Hayward. Short-term effects on a child's environment may include noise and poor air quality associated with dust and smoke from construction vehicles; while the shifting of noise contours related to moving Runway 10L-28R or increased aircraft operations may have more long-term affects on a child's health and safety.

Environmental documentation prepared for both Phase 1 and 2 projects will need to identify and address disproportionately high and adverse impacts to children's health and safety, and identify possible mitigation for reducing these effects.

INDUCED SOCIOECONOMIC IMPACTS

Employment, Population, and Housing

FAA requires the evaluation of a proposed project's potential to affect population and housing demand and to change business and economic activity.

Approximately 343 persons are employed due to Hayward activities and operations, including construction activities.[6] In 2000, there were 31 aviation-related employers at the airport. The 343 daily jobs at Hayward fall into the following categories: fixed base operator services; air courier; air ambulance; aircraft maintenance; fuel and line services; sales, charter, and rental services; pilot training and supplies; and government agencies (including Airport Administration, California Air National Guard, FAA air traffic control tower, and East Bay Regional Park District). In addition to daily employment, contractors also carry out various capital projects (i.e., construction) during the year.

Although no residential pattern survey has been completed, it is assumed that all Hayward employees live within the surrounding Alameda County communities of Hayward, San Leandro, San Lorenzo, and Castro Valley. While the ALP Update is likely to generate some short-term employment associated with the construction of proposed facilities and airfield improvements, it is assumed that the existing employment pool in the vicinity of Hayward will accommodate this need. Construction of both Phase 1 and 2 components of the ALP Update will not likely generate employment numbers that would require the construction or expansion of homes or utilities.

Utilities

Airport development would be considered to have a significant impact on the water delivery system if major new facilities would be required to accommodate the projected demand. For wastewater, an action is considered to have a significant impact on the sanitary and industrial wastewater systems if a major new wastewater facility is required to meet the projected demand.

Water

The City of Hayward purchases its water from the San Francisco Water Department, delivered to the area from its reservoirs on the Tuolumne River watershed. The water is supplied as part of a contract with the City and County of San Francisco that allows the City to buy unlimited water. The present system can provide enough water to serve existing needs and still have reserve capacity for protection against fire, peak demands, and other emergencies (City of Hayward, 1997). The airport consumed 888,624 gallons of water over a two-month period in 1999, or 14,347 gallons per day (Hayward Utility System, 2000).

Wastewater

The City of Hayward Wastewater Treatment System serves Hayward, and is operated by the City's Department of Public Works. The system has capacity for up to 150,000 people. The wastewater treatment plant handles normal average flows of about 10 – 10.5 million gallons per day (MGD) with a maximum capacity of 16.5 MGD. Current usage is approximately 60 percent of capacity (City of Hayward, 1996). Hayward currently generates approximately 10,000 to 12,000 gallons of wastewater per day (Zenk, 2000).

Potential Utility Constraints

While many of the projects associated with both Phase 1 and 2 of the ALP Update include either the development or improvement of certain airfield features, both phases also call for the construction of additional facilities at Hayward. New facilities will require expanded use of utility

[6] Existing Commercial and Industrial jobs reflect estimates of FTE for Pacific Roller Die and Manzella's Restaurant. Hayward jobs estimated above do not include the portion of Hayward east and north of Skywest Drive (such as Festival Cinemas, Carrows Restaurant, JT's Gas Station, and Vagabond Inn (Coffman & Associates, 2000).

services such as electricity, water, and wastewater. An environmental assessment will be required to determine if the expansion or addition of facilities at Hayward would place a strain on current utility providers, and if expansion of utility systems or facilities would be required as a result of the ALP Update.

HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

According to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, two statutes of most importance to the FAA when proposing actions to construct and operate facilities and navigational aids are the Resources Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and clean-up of any release of a hazardous substance (excluding petroleum) into the environment.

FAA Order 1050.1E states that terminal area development may involve circumstances which require consideration of solid waste impacts. If the projected quantity or type of solid waste generation or method of collection or disposal would cause an "appreciably different" level of service to meet project needs, then solid waste-related impacts would be significant.

A search of available environmental records was conducted by Environmental Data Resources (EDR) on October 21, 2008. Several facilities and sites located on or adjacent to the airport are listed in federal, state, regional, and local agency databases and reports as reported release sites and as businesses permitted for the generation, storage, or disposal of hazardous materials. Appendix J includes the complete EDR report.

Project-specific environmental review would require examination of the hazardous nature of any materials or wastes to be used, as well as the potential to expose both temporary and permanent workers to the contaminated sites identified in the EDR report. Specifically, analysis of the reuse of the former CANG facility will require an examination of any hazardous materials that workers may be exposed to during excavation and demolition of the facility. Furthermore, any potential increase in solid waste generation, both short-term and long-term, or effects related to the transportation of solid waste would also be required.

CONSTRUCTION IMPACTS

FAA Order 1050.1E provides primary guidance and notes that construction activities are addressed by regulations at all levels of government and that these impacts are generally discussed under descriptions within the appropriate impact category. At a minimum, project specifications should incorporate the provisions of Advisory Circular 150/5370-10C Standards for Specifying Constructions of Airports; Item P-156 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control.

Construction impacts, which generally would be temporary and of short duration, include increased air pollutant emissions, noise disturbance, soil erosion, water quality degradation, potential exposure of workers to hazardous materials and construction debris disposal. Permits or certificates pertaining to specific impacts may be required on a project by project basis.

Construction impacts and impact avoidance would be considered during project-specific planning, design, and construction.

LIGHT EMISSIONS

FAA safety requirements prohibit any major source of glare from being present at Hayward. FAA Order 1050.1E and Order 5050.4B, require the project sponsor to identify light emissions (e.g., strobe lights, high-intensity airfield or facility lighting) that could create an annoyance for people in the vicinity of an installation as a potential impact of airport development.

Prior to project development, if lighting is to be altered, public involvement and consultation with appropriate federal, state, and local agencies and tribes may help determine the extent of these impacts.

CONCLUSIONS

Implementation of the proposed Phase 1 and 2 projects associated with the Hayward ALP Update will likely be subject to both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analysis. While some projects may be categorically excluded under NEPA, it is assumed that a supplemental environmental assessment (EA) would be required for NEPA evaluation of specific projects, to be determined by the FAA. A supplemental environmental impact report (EIR) may be required for CEQA. In support of these documents, a variety of technical reports would also likely require preparation; including, but not limited to: a formal wetland delineation (and associated permitting), an air quality assessment (dispersion modeling), and a traffic study. In addition, the Alameda County Airport Policy Plan should be updated to reflect this ALP Update. For environmental overview references, please see Appendix K.

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Appendix A
TAC Members and Meeting Notes

Appendix A – TAC Members and Meeting Notes

Technical Advisory Committee (TAC) Members

Elisha Novak
FAA SFO Airport District Office
831 Mitten Road, Room 210
Burlingame, CA 94010

Terry Barrie
Caltrans State Aviation Division
Department of Transportation, Division of Aeronautics
MS#40 / P.O. Box 942874
Sacramento, CA 94274-0001

John Kyle
Longwood/Winton Grove Neighborhood
22638 Teakwood Street
Hayward, CA 94541

Ernest Delli Gatti
San Lorenzo Village Homeowners Association
1715 Via Lucas
San Lorenzo, CA 94580

John Bridi, General Manager
Volo Hayward Holdings, LLC
21889 Skywest Drive
Hayward, CA 94541

Cindy Horvath
Alameda County Airport Land Use Commission
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Hayward, CA 94544

City of Hayward
Lloyd Partin, Airport Manager
Bob Bauman, Department of Public Works

William Field
Tyler Orsow
Bud Field Aviation
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Hayward, CA 94541

Jackie Boyce
Eden Gardens Mobile Home Park
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Hayward, CA 94541

Norman Ramirez, General Manager
Atlantic Aviation
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Hayward, CA 94541

Robb Foersterr, Operations Manager
Port of Oakland, Oakland International Airport
530 Water Street
Oakland, CA 94607

Jonathan Lee
SP Aviation Inc.
21889 Skywest Drive
Hayward, CA 94541

Gerald Turney
6655 Aitken Drive
Oakland, CA94611

Meeting Notes
Hayward Executive Airport – Airport Layout Plan Update
Technical Advisory Committee Meeting No. 1
Hayward City Hall
August 26, 2008
2:30 p.m.

Attendees: Colette Armao, Caltrans Division of Aeronautics
Bob Bauman, City of Hayward, Department of Public Works
John Bridi, Volo Holdings
Ernest Delli Gatti, San Lorenzo Homeowners Association
Dan Gargas, Caltrans Division of Aeronautics
John Kyle, Longwood/Winton Grove Neighborhood
Jonathan Lee, SP Aviation, Inc.
Lloyd Partin, City of Hayward, Airport Manager
Gerald Turney, Non-Commercial Hangar Rent Group (NCHRG)
Andrew Scanlon, DMJM Aviation
Douglas Sachman, DMJM Aviation
Lisa Harmon, ESA Airports

1. **Introduction**
Doug Sachman of DMJM Aviation opened the meeting and agendas were distributed. Participants were asked to introduce themselves and sign the sign-in sheet that was being circulated (see Attachments).

2. **Ground Rules**
Mr. Sachman explained the format and purpose of this and forthcoming Technical Advisory Committee (TAC) meetings:

a. **Working Group:** Meetings would be held to discuss the issues and progress during the Airport Layout Plan (ALP) update process.

b. **Informal Approach:** Members were invited to provide input throughout the meetings, and encouraged to participate in the question and answer portion that would follow the consultant's presentation.

3. **Project Introduction – Presentation by Consultant**
   a. **Powerpoint Presentation.** DMJM Aviation provided a PowerPoint presentation to introduce the project. The presentation addressed the following:

- Purpose of the ALP Update
- Project Organization and Role of the TAC
- Project Approach and Schedule
- Existing Facilities at Hayward Executive Airport (HWD)
- Issues, Goals and Objectives
- Next Steps in the ALP Update Process

b. Purpose of the ALP Update. Mr. Sachman explained that the nature of operations at Hayward has changed. The type of aircraft that use the airport (fleet mix) has changed, and the type of critical aircraft has changed.

c. Change in Approach Reference Code (ARC) Designation. Since the type of aircraft using the airport has changed, the ARC associated with HWD will change. This purpose of the ALP update is to identify the appropriate ARC and applicable design standards that

apply to HWD, and to identify any facility improvements that might be required to achieve the design standards.

d. ALP Update. The revised ARC designation and any subsequent facility changes would be documented in the ALP update for FAA review and approval.

e. TAC Input. Mr. Sachman explained that the City and its Consultant will summarize its findings in an interim report for the TAC review and comment. Additionally, the Consultant intends to have preliminary development concepts and a technical memo at the second TAC meeting for TAC review and input. TAC comments will be tracked throughout the process to ensure concerns and recommendations are considered.

The presentation was informal, and questions from the committee were presented throughout the presentation. This discussion is summarized in item 4 below.

4. Questions and Answers

a. **California Air National Guard (CANG) Property.** A TAC member requested clarification regarding the acreage of the CANG property that would be transferred to the City (22 or 28 acres). Lloyd Partin explained that although the property was 28 acres in size, only 22 would be transferred initially, as 6 acres would remain under CANG control.

b. **Revised Fleet Mix.** Andrew Scanlon explained that jet traffic at HWD has been historically lower, but recently has increased. A TAC member asked that the change in fleet mix be broken down into aircraft category (Stage 2, Stage 3, Very Light Jets (VLJs), etc.).

c. **Regional Aviation Planning Committee (RAPC).** Colette Armao commented that this project occurs at a good time, as RAPC is currently updating its system plan. She encouraged the Airport Manager to participate in RAPC and report the findings of the ALP update to RAPC, such as changes in jet traffic. Dan Gargas added that changes in operations or facilities at HWD are not airport specific, but could have an effect on airports throughout the San Francisco Bay area.

d. **Russell City Energy Plant/WAAS Approach.** Mr. Delli Gatti asked whether the change in jet traffic would affect operations near the previously approved Russell City Energy plant. Mr. Bauman explained that approximately 0.4% of the flight tracks showed overflight near the plant's stack, and a NOTAM would be provided.

A question was posed regarding the effect of the proposed Russell City Plant on circle-to-land operations. Lloyd Partin, Airport Manager, agreed to send a copy of a Terminal Instrument Procedures (TERPS) map regarding the circle-to-land operations and the need for pilots to land at an alternate airport. Lloyd also noted that HWD is on the FAA list for a Wide Area Augmentation System (WAAS) approach.

e. **RSA Issues and Alternatives.** Bob Bauman inquired about the potential change in the size of Runway Safety Areas (RSAs) and the likelihood of using an Engineered Material Arresting System (EMAS). Dan Gargas stated that general aviation (GA) airports generally do not install EMAS because it can be cost prohibitive. Doug Sachman explained that other options to be explored include: declared distances, non-standard RSAs, and relocated threshold/shorter runway.

Dan Gargas emphasized that FAA's Runway Safety Action team is focused on RSAs, and that RSA attainment should be the primary goal of this ALP update process. He encouraged the City to get FAA's endorsement of the City's proposed RSA solution from the start.

f. **West A Street Extension.** Bob Bauman noted that the extension of West A Street (near the golf course) remains a priority for the City and one of his greatest concerns. Dan Gargas commented that FAA would not likely accept the roadway extension as currently envisioned. Ernie Delli Gatti expressed concerns regarding security issues and the proposed expansion of West A Street.

g. **Financial Analysis.** Colette Armao asked whether a financial analysis would be performed prior to alternative selection. Doug Sachman confirmed that a financial analysis would be performed.

5. Closing Remarks

Doug Sachman provided a summary of topics discussed and closed the meeting at 4:00 p.m. A four-page handout was distributed to attendees.

Attachments:

- Agenda
- Sign-in Sheet
- Project Summary Handout
- PowerPoint Presentation

Hayward Executive Airport

Airport Layout Plan Update
Technical Advisory Committee (TAC) Meeting #1
2:30 PM August 26, 2008

Agenda

1. Introduction of committee members

2. Establish ground rules for meeting

3. Presentation of Airport Layout Plan Update by consultant

4. Questions and Answers

5. Closing remarks

Sign-In Sheet

Hayward Executive Airport - Airport Layout Plan Update
Technical Assistance Committee (TAC) Meeting
August 26, 2008 – 2:00 P.M.

Name	Affiliation	Phone No.	Email
Bob Bauman	Director PW City	583-4170	[illegible]@hayward-ca.gov
John Kyle	Neighborhood of Longwood	(510) 782-7612	JWKYLE6@COMCAST.NET
Jerry Turney	non commercial Hangar Rent Group	510 520 7089	wyldrydes@Hotmail.com
Ernie Delli Gatti	San Lorenzo Homeowners Association	510 317 9780	E.Delli Gatti @Hotmail.com
John Bridi	Volo Holdings Hayward	510-670-2864	JBRIDI@voloaviation.com
Jonathan Lee	SP Aviation, Inc	510-783-3584	JonLee@SPAVIATION.COM

Sign-In Sheet

Hayward Executive Airport - Airport Layout Plan Update
Technical Assistance Committee (TAC) Meeting
August 26, 2008 – 2:00 P.M.

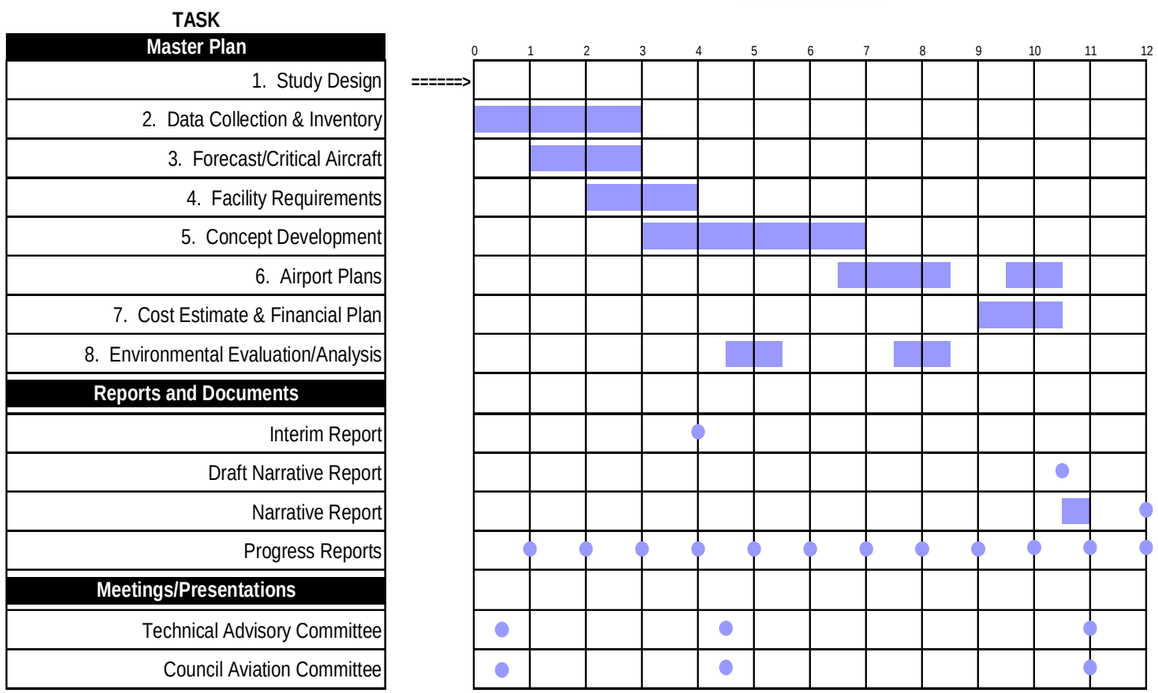
Name	Affiliation	Phone No.	Email
DAN GARGAS	CALTRANS AERONAUTIC AVIATION SAFETY OFFICER	(916) 654-5222	DAN.GARGAS@DOT.CA.GOV
COLETTE ARMAS	CalTRANS DIV of AERONAUTICS Planner	916-654-5346	colette_armas@dot.ca.gov
ANDREW SCANLON	DMJM AVIATION	714 648-2017	ANDREW.SCANLON@DMJMAVIATION.COM
LLOYD PARTIN	CITY of Hayward	293-5460 (510)	lloyd.partin@hayward-ca.gov

Also - L. Harmon ESA
D. Sachman, DMJM (lyh)

Hayward Executive Airport

Airport Layout Plan Update

Project Schedule



Contact Information

City of Hayward
Hayward Executive Airport

LLoyd Partin, Airport Manager
(510) 293-8678

DMJM Aviation

Doug Sachman, Project Principal
(714) 648-2005

Andrew Scanlon, Project Manager
(714) 648-2017

About the Project

The City of Hayward is in the process of updating the Airport Layout Plan for Hayward Executive Airport. The Airport Layout Plan Update is focused on defining the critical aircraft applicable to the airport and applying appropriate Federal Aviation Administration design standards to the airport. Any deviations from the design standards will be addressed in the planning study. The project is funded by a grant from the Federal Aviation Administration.

About the Airport

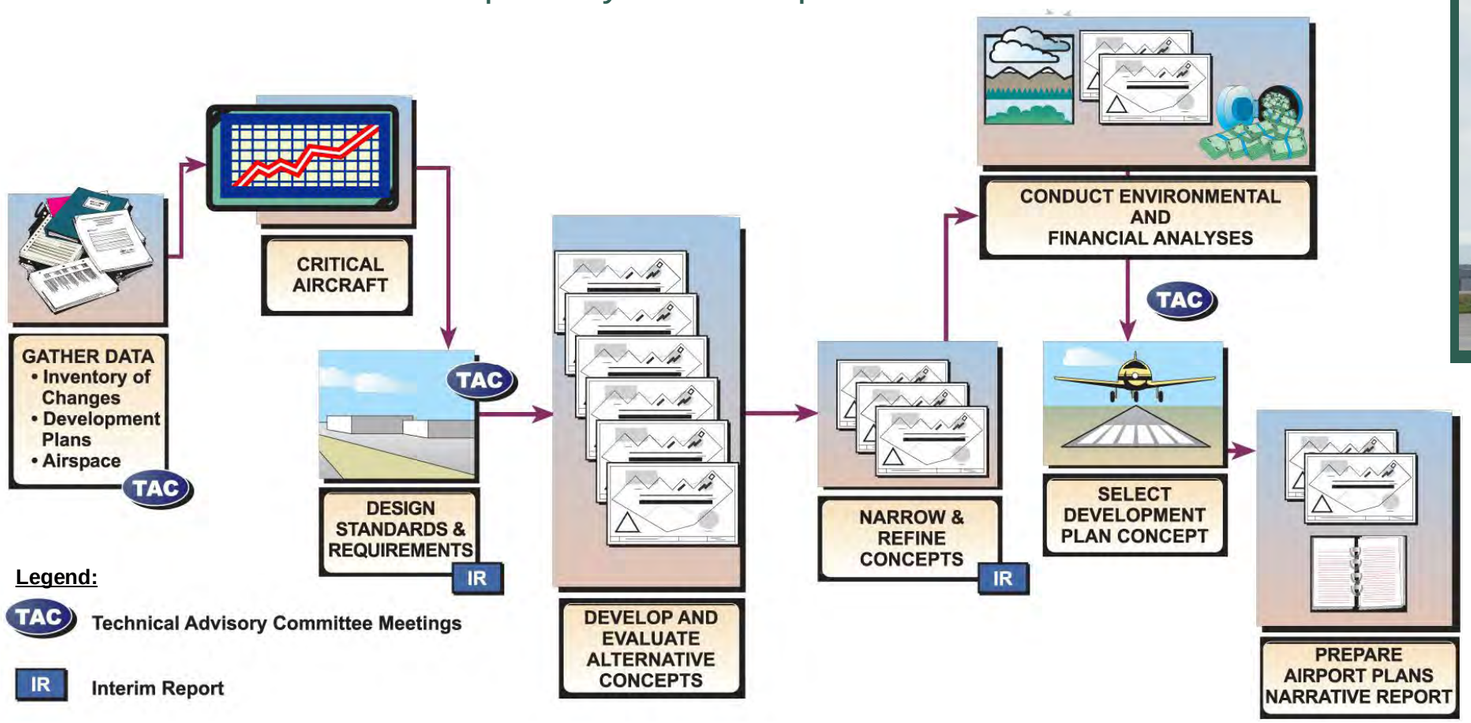
Hayward Executive Airport serves as a reliever airport in the San Francisco Bay Area. The airport is owned and operated by the City of Hayward and is home to about 490 aircraft. The airport has two parallel runways, a small general aviation terminal, hangars, fueling, and other aviation services.

About the Planning Team

DMJM Aviation
Orange County airport planning and engineering firm with over 40 years of experience

ESA Airports
Full service environmental firm based in San Francisco for more than 35 years

Airport Layout Plan Update Process



- Identify and document what has changed since the Airport Layout Plan was prepared
- Determine the design aircraft at the Hayward
- Define applicable Federal Aviation Administration Design Standards
- Apply Design Standards to the airport
- Develop alternatives on how to accommodate Design Standards
- Prepare Airport Layout Plan and associated plan sheets
- Prepare a list of projects to correct any deviations from Design Standards
- Prepare an Environmental Overview
- Obtain Federal Aviation Administration approval on the Airport Layout Plan

Key Issues

Key issues initially identified by DMJM Aviation are listed below. These issues will be fully vetted through meetings with the City, Technical Advisory Committee, Federal Aviation Administration, and Caltrans.

- **Airport Reference Code from B-II. There has been a change in the fleet mix at the airport. This change affects the Design Standards applied to the airport.**
- **Runway safety area evaluation. Evaluate the runway safety areas defined by the applicable Design Standards for any deviations from standard. Determine ways to meet runway safety area standards.**
- **Understanding current planned FBO developments, such as Bud Field Aviation's and Volo Aviation's to accurately depict the plans on the updated Airport Layout Plan.**
- **West A Street extension. The City has plans to extend West A Street near the end of the runway.**
- **The California Air National Guard property (about 22 acres) will be transferred to the City.**

CITY OF HAYWARD
HEART OF THE BAY

Airport Layout Plan Update
Hayward Executive Airport

TECHNICAL ADVISORY COMMITTEE
KICKOFF MEETING

August 26, 2008

DMJM AVIATION | AECOM

CITY OF HAYWARD
HEART OF THE BAY

Agenda

- **Purpose of an Airport Layout Plan Update**
- **Project Organization**
- **Role of Technical Advisory Committee**
- **Project Approach, Schedule, and Status**
- **Existing Facilities and Activity**
- **Issues, Goals, and Objectives**
- **Next Steps**
- **Questions/Answers**

DMJM AVIATION | AECOM

CITY OF HAYWARD
HEART OF THE BAY

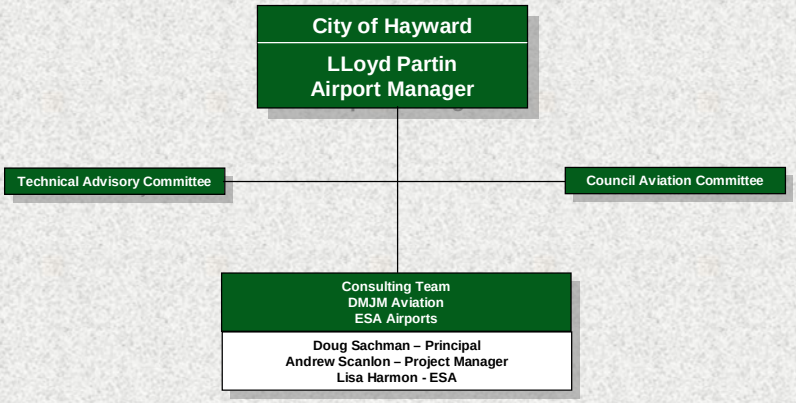
Purpose of an Airport Layout Plan Update

An airport layout plan update is appropriate for the examination of a single development item, such as runway safety area improvements.

FAA Advisory Circular 150/5070-6B, Airport Master Plans

CITY OF HAYWARD
HEART OF THE BAY

Project Organization



CITY OF HAYWARD
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Role of Technical Advisory Committee (TAC)

- **Provide input and comments in an advisory capacity throughout the planning process.**
- **Participate in TAC meetings. Meetings are intended as working sessions.**
- **All input from TAC will be considered in the development of the Airport Layout Plan.**
- **Assist with local liaison between Hayward Executive Airport and surrounding local communities**

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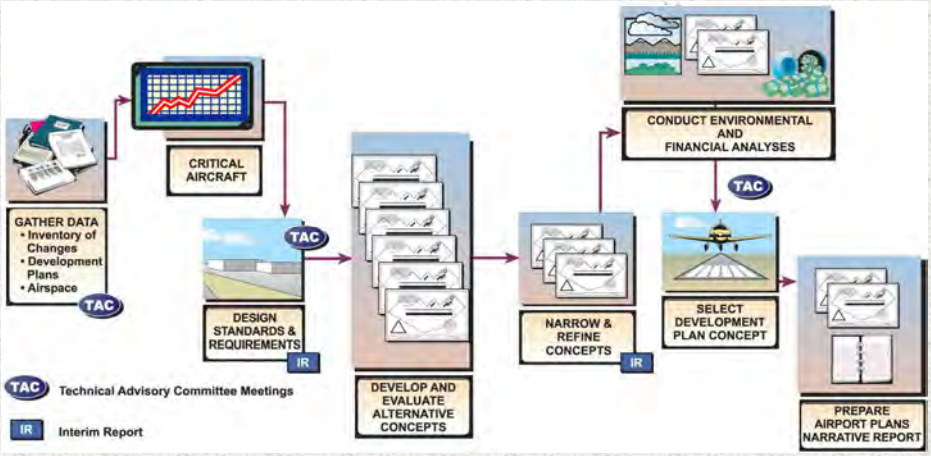
Project Approach



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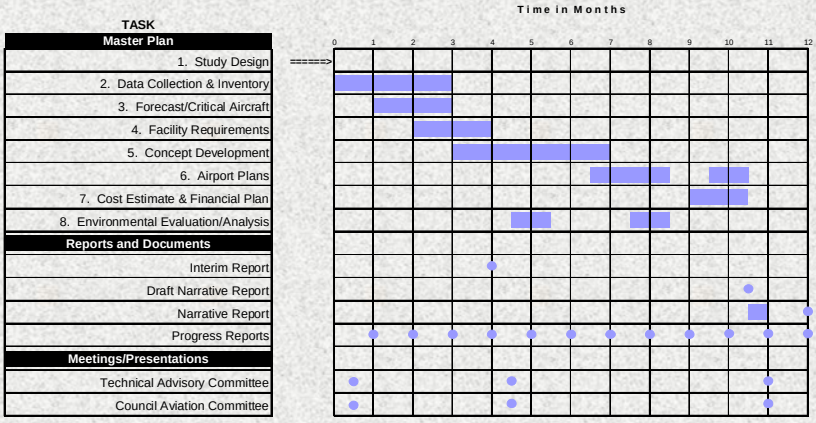
Estimated Project Schedule



PROJECT SCHEDULE
Hayward Executive Airport
Airport Layout Plan and Narrative Report

CITY OF HAYWARD
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Project Status

- **Notice to Proceed – July 7, 2008**
- **Inventory and Data Collection**
  - **Met with key FBO operators**
  - **Met with HWD air traffic control staff**
  - **Coordinating digital base mapping**
  - **Site visit**
- **Identify Design Aircraft**
  - **Reviewed data available from ANOMS 8 system**
- **Project Coordination**
  - **Preparation for kick-off meeting with Technical Advisory Committee**

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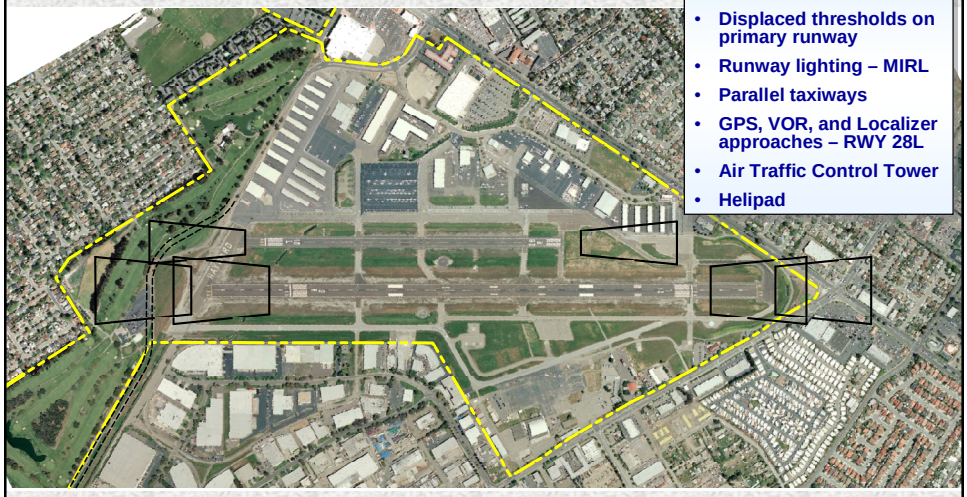
Existing Facilities



- Parallel Runways 5,694x150 and 3,107x75
- Displaced thresholds on primary runway
- Runway lighting – MIRL
- Parallel taxiways
- GPS, VOR, and Localizer approaches – RWY 28L
- Air Traffic Control Tower
- Helipad

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Key Issues

1. Airport Reference Code C-II
2. RSA evaluation
3. South Side development
4. FBO planned developments
5. West A Street extension
6. CANG property

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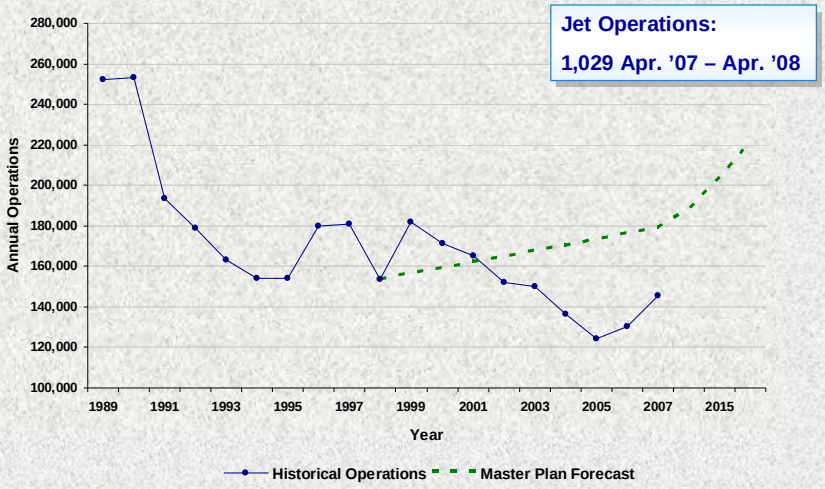
Aircraft Operations



CITY OF HAYWARD
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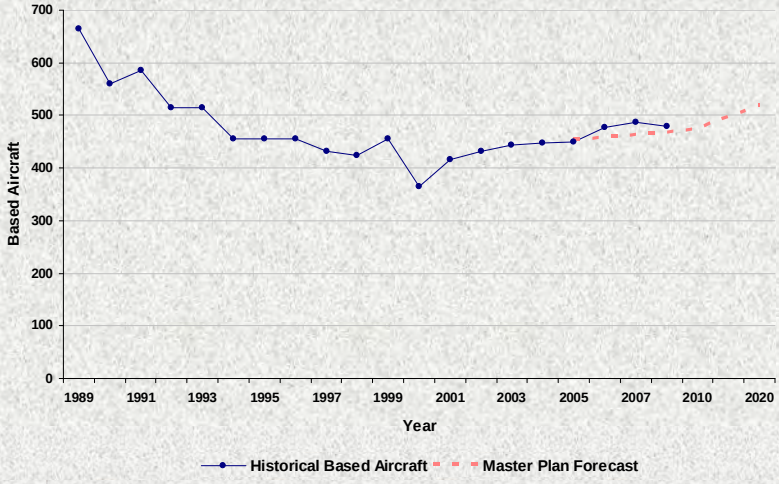
Based Aircraft



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Goals and Objectives

- **Identify design aircraft**
- **Define applicable FAA design standards**
- **Develop alternatives to meet FAA design standards and correct any deviations**
- **Obtain FAA approval/concurrence with recommended plan to meet standards**
- **Prepare list of projects that can be implemented to correct any deviations**

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Next Steps

- **Complete inventory including digital mapping**
- **Determine design aircraft**
- **Determine facility requirements – including applicable FAA design standards**
- **Prepare Interim Report**
- **Second TAC Meeting**

Meeting Notes
Hayward Executive Airport – Airport Layout Plan (ALP) Update
Technical Advisory Committee (TAC) Meeting No. 2
Hayward City Hall
February 9, 2009
2:00 p.m.

Attendees: Bob Bauman, City of Hayward, Department of Public Works
John Bridi, Volo Aviation
Dan Gargas, Caltrans Division of Aeronautics
Brad Haines, Atlantic Aviation
Don Haug, Caltrans Division of Aeronautics
John Kyle, Longwood/Winton Grove Neighborhood
Jonathan Lee, SP Aviation, Inc.
Larry Lepore, Hayward Recreation and Parks District (HARD)
Tyler Orsow, Bud Field Aviation
Lloyd Partin, City of Hayward, Airport Manager
Norman Ramirez, Atlantic Aviation
Rick Silva, HARD
Andrew Scanlon, DMJM Aviation
Douglas Sachman, DMJM Aviation
Duke Young, DMJM Aviation
Lisa Harmon, ESA Airports

1. **Introduction**
Bob Bauman of the City of Hayward's Department of Public Works opened the meeting, and meeting agendas and project summary handouts were distributed. Participants were asked to introduce themselves and sign the sign-in sheet that was being circulated (see Attachment).

2. **Meeting Ground Rules**
Mr. Scanlon reviewed that the purpose of the meeting was to gain input from the TAC regarding the contents of the previously distributed document, *Hayward Executive Airport, Airport Layout Plan (ALP) Update, Interim Narrative Report* and its findings, which would be discussed in the forthcoming presentation.

3. **ALP Update Presentation by Consultant**
   a. **Powerpoint Presentation.** DMJM Aviation provided a PowerPoint presentation to discuss project findings and progress. The presentation addressed the following:

      - Purpose of the ALP Update (review)
      - Existing Facilities at Hayward Executive Airport (HWD) (review)
      - Key Issues (review)
      - Fleet Mix and Design Aircraft
      - Facility Requirements – Major Findings
      - Next Steps

   b. **Fleet Mix Changes.** Mr. Scanlon explained that the Competitive Market Area (CMA) for HWD included 23 airports, of which eight could be considered direct competitors, and analyzed the fleet mix associated with these airports. Based on historical data, HWD had captured 17 percent of the based aircraft in the Competitive Market Area in 2007. The number of jets within the CMA nearly doubled during the period from 1998 to 2006, and further increases in jet operations are anticipated by 2020.

      Based on data obtained from the Terminal Area Forecast, the Airport Master Plan forecast and data from the Alameda County Tax Assessor, the fleet mix associated with

HWD included approximately 34 based jets in 2008 (approximately 7 percent of based aircraft of historical operations). In 2020, approximately 52 based business jets are anticipated (approximately 10 percent of based aircraft).

c. **Change in Airport Reference Code Designation (Design Aircraft).** Mr. Scanlon explained that once the fleet mix changes were identified, it was possible to determine which design aircraft and associated Airport Reference Code (ARC) would be appropriate for HWD.

- The Airport currently serves 770 Category C aircraft operations, and more than 1,158 Design Group II operations, requiring a designation of C-II at HWD.
- By 2010, forecasts indicate that the airport will serve nearly 465 Category D operations, and 1,535 Design Group II operations.
- Approximately 678 Category D operations are anticipated by 2015, indicating that Category D aircraft operations are likely to reach 500 by 2011, requiring a designation of D-II at HWD.

Conclusion: Based upon this data, the current ARC Designation appropriate for HWD is C-II, with an anticipated ARC designation of D-II likely by 2011.

d. Facility Requirements/Major Findings. Current facilities are appropriate for ARC B-II, while HWD currently serves more than 500 C-II operations. Upon reviewing requirements for ARC C-II and D-II, they were found to be nearly identical. The following facilities do not meet C-II or D-II according to FAA Design Standards at Advisory Circular 150/5300-13, *Airport Design.*

- Runway Safety Areas (RSAs) – length and width beyond runway ends,
- Object Free Areas (OFAs) – length and width beyond runway ends,
- Runway Protection Zones (RPZs) increase in size, and
- Runway holdline – distance from the runway centerline – increases.

e. **Next Steps.** During the next phase of the ALP Update, DMJM Aviation will develop and evaluate potential alternatives to correct non-standard safety zones and present a recommended development concept for presentation to the TAC. Following TAC input and discussion, DMJM Aviation will prepare a revised ALP including recommendations for capital improvements.

4. Questions and Answers

a. **Interim Report Questions.** John Kyle identified some questions regarding the use of forecasts as shown in the most recent Master Plan for HWD. He expressed concern that that Interim Report relied too heavily on the Master Plan Data, which was developed prior to the development of the runway extension that occurred at Livermore Airport and drew traffic away from HWD and other nearby airports.

- Mr. Kyle asked the project team to consider the potential effect of differences between the master plan forecast data and the actual operations data and determine any potential effect on projections pertaining to fleet mix and critical aircraft.
- Mr. Sachman explained that data pertaining to critical aircraft operations was derived from historical noise data rather than forecast data. The total number of operations presented in the Master Plan forecast is retained in the ALP Update and the mix of aircraft has been adjusted to reflect recent trends at the airport. DMJM Aviation will perform additional forecast analysis that will be included in the Draft Final Narrative

Report. However, it is interesting to note that since the runway extension at Livermore, the number of total operations at Hayward initially dropped, but operations have been increasing steadily since 2005, and the number of jets based at and operating at HWD has increased significantly. The current trend of increased business jet operations is expected to continue, especially as Fixed-base Operators (FBOs) continue to develop facilities.

- Mr. Bauman clarified that the purpose of using the data was to determine the ramifications of changes in the fleet mix on the RSA, other airport facilities, and nearby facilities and projects (golf course, West A Street Extension, etc.).

b. **Funding Pursuits.** Mr. Kyle asked whether the report conclusions would influence or affect funding pursuits for airport improvements. Mr. Bauman offered the following:

- FAA will help the City identify the type of changes or improvements that are possible and acceptable to help achieve design standards. Once a solution was identified, FAA would identify funding options.

- Subsequent planning decisions would be associated with the decisions made regarding airport improvements, such as an appropriate alignment for West A Street extension and a decision regarding south side development proposed by Bud Field Aviation.

- West A Street is an arterial/alternative route to provide access to the industrial area west of the airport, which was identified in the City's last General Plan update. The alternative route is needed to address the congestion or bottleneck at the Winton/Hesperian intersection.

c. **Caltrans Position and Concerns.** Dan Gargas of Caltrans noted that Caltrans, as the permitting agency, is concerned primarily with alternatives that would achieve Runway Safety Area standards to the satisfaction of FAA. He also noted that the proposed alternatives should address ARC D-II requirements and standards. He reiterated that FAA's Runway Safety Action team is focused on RSAs, and that RSA attainment should be the primary goal of this ALP update process. He encouraged the City to get FAA's endorsement of the City's proposed RSA solution from the start.

Mr. Gargas also noted that if an alternative was selected that caused changes to the runway length, a state review process would be undertaken.

d. **Public Conversation/Involvement to Date.** Jonathan Lee asked whether anyone from the City has talked to nearby landowners or considered the potential effects of proposed airport improvements on the adjacent golf course.

Mr. Bauman clarified that questions pertaining to the potential effects on nearby owners and the golf course would be posed after the ALP update. At this point the City and its consultants are still trying to work through the issues to determine appropriate alternatives.

e. **Runway Alternatives Development.** Bob Bauman asked the project team to discuss the alternatives discerned so far. Mr. Scanlon clarified that a thorough alternatives development would follow based on the data presented during the meeting. He offered the following preliminary thoughts:

- *Land Acquisition/Runway Alignment.* Neither land acquisition nor runway realignment were viable alternatives that would be considered;

- *Maximize Existing Land.* All alternatives for further consideration would be limited to what was available on existing airport property and the need to maximize the use of existing land.
- *Engineered Materials Arrestor System (EMAS).* The use of EMAS would be reviewed, but it is noted that this alternative could be expensive, require costly maintenance, and where it would fit on existing property could pose challenges.
- *Move/shift runway.* Any alternative that reduces the runway length is considered to would not meet requirements and, therefore, would not be analyzed. The use of declared distances would be considered, but such an alternative could create other impacts and is generally discouraged at general aviation airports.
- *Separate Runways by function.* It is possible that Runway 10R-28L could be reserved for use by C-II/D-II design aircraft, and runway 10L-28R could be retained for use by B-II design aircraft.
- *Two Classifications for the Same Runway.* Mr. Jonathan Lee asked if Runway 28L could be classified as a C-II/D-II and Runway 10R be classified as B-II. This option was presented because the operational capabilities of the airport in IFR conditions (when 10R is used) could not accommodate C-II/D-II aircraft, primarily due to safety area beyond the runway end. This concept would pose several challenges, one of which is that it would likely require approval from FAA Headquarters.

f. **Taxiway Alternatives Development.** Bob Bauman asked the project team to discuss alternatives to address the Taxiway A OFA and service road conflicts. Mr. Scanlon offered the following preliminary thoughts, but noted that a more thorough analysis will be conducted:

- *Relocation of the Service Road.* Move the service road so that it is outside of the object free area. Due to existing development (East T-Hangars) this alternative does not appear feasible.
- *Tower Contact.* Require vehicles using this segment of the service road to be equipped with radios to contact the tower. Vehicles would need the tower's approval prior to using the service road.
- *Close the Service Road.* Close this segment of the service road entirely.
- *Relocate the Taxiway.* Shift the taxiway alignment closer to Runway 28R. This alternative would further impact current conflicts with Runway 28R approach slope obstructions.

5. Closing Remarks

Bob Bauman closed the meeting stated that the consultant team would be moving forward to develop alternatives in consultation with the City and FAA. Once identified, viable alternatives would be shared with the TAC.

The meeting adjourned at 3:20 p.m.

Attachments:

- Agenda
- Sign-in Sheet
- Project Summary Handout
- PowerPoint Presentation

CITY OF
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AGENDA

Hayward Executive Airport
Airport Layout Plan Update
Technical Advisory Committee (TAC) Meeting

February 9, 2009
2:00 p.m.
City of Hayward
Worksession Room 2A
777 B Street
Hayward, CA 94541

1. **Introductions**
2. **Meeting Ground Rules**
3. **Airport Layout Plan (ALP Update) Presentation**
    - Purpose and Approach
    - Existing Facilities
    - Key Issues
    - Fleet Mix and Design Aircraft
    - Facility Requirements – Major Findings
    - Next Steps
4. **Questions and Answers**
5. **Closing Remarks**

DEPARTMENT OF PUBLIC WORKS
HAYWARD EXECUTIVE AIRPORT

20301 SKYWEST DRIVE, HAYWARD, CA 94541
TEL: 510/293-8678 • FAX: 510/783-4556 • TDD: 510/247-3340 • www.hayward-ca.gov

Sign-In Sheet

Hayward Executive Airport - Airport Layout Plan (ALP) Update
Technical Assistance Committee (TAC) Meeting
February 9, 2009 – 2:00 P.M.

Name	Affiliation	Phone No.	Email
DOUG SAECHMAN	OMNI AVIATION	(714)648-2005	douglas.saechman@aecom.com
Jonathan Lee	SP Aviation, Inc.	(510)783-3584	JonLee@SPAviation.com
Tyler Orsow	Bud Field Aviation	(510) 782-9063	tylerOrsow@budfieldaviation.com
John Bridi	Volo Aviation	(510) 670-2864	jbridi@voloaviation.com
LARRY LEPORE	HARD	(510) 881-6716	lep1@haywardrec.org
Rick Silva	HARD	(510) 317-2311	silr@haywardrec.org

Sign-In Sheet

Hayward Executive Airport - Airport Layout Plan (ALP) Update
Technical Assistance Committee (TAC) Meeting
February 9, 2009 – 2:00 P.M.

Name	Affiliation	Phone No.	Email
✓ Norman Ramirez	Atlantic Aviation	(510)264-5555	Norman.Ramirez @ AtlanticAviation.com
✓ Brad Haines	Atlantic Aviation	(510) 264-5555	bradley.haines @ Atlantic Aviation.com
✓ Duke Young	DMJM Aviation		
✓ Andrew Scanlon	DMJM Aviation		
✓ Lisa Harmon	ESA		
Bob Bauman (lgh)	City of Hayward Dept. of Public Works		

Sign-In Sheet

Hayward Executive Airport - Airport Layout Plan (ALP) Update
Technical Assistance Committee (TAC) Meeting
February 9, 2009 – 2:00 P.M.

Name	Affiliation	Phone No.	Email
John Kyle	RESIDENT RETIRED	(510) 785-7612	JWKyle6@COMCAST.NET
Lloyd Partin (LP)	Airport Manager		

Kate arrivals - Dan Gargas, Caltrans
Don Haug, Caltrans (noted by LJH)

Hayward Executive Airport

Airport Layout Plan Update

Significant Facility Requirements

FAA Design Standard (AC 150/5300-13)	Airport Reference Code	
	B-II	C-II/D-II
Runway centerline to parallel taxiway/taxilane centerline	240'	300'
Runway centerline to edge of aircraft parking	250'	400'
Runway width	75'	100'
Runway blast pad width	95'	120'
Runway safety area width	150'	500'
Runway safety area length beyond each runway end	300'	1000'
Runway object free area width	500'	800'
Runway object free area length beyond each runway end	300'	1000'
Runway protection zone inner width	500'	500'
Runway protection zone outer width	700'	1010'
Runway protection zone length	1000'	1700'
Runway holdline	200'	250'
Runway/Taxiway Separation	240'	300'

Contact Information

City of Hayward
Hayward Executive Airport

LLoyd Partin, Airport Manager
(510) 293-8678

DMJM Aviation

Doug Sachman, Project Principal
(714) 648-2005

Andrew Scanlon, Project Manager
(909) 933-5225

About the Project

The City of Hayward is in the process of updating the Airport Layout Plan for Hayward Executive Airport. The Airport Layout Plan Update is focused on defining the critical aircraft applicable to the airport and applying appropriate Federal Aviation Administration design standards to the airport. Any deviations from the design standards will be addressed in the planning study. The project is funded by a grant from the Federal Aviation Administration.

About the Airport

Hayward Executive Airport serves as a reliever airport in the San Francisco Bay Area. The airport is owned and operated by the City of Hayward and is home to about 490 aircraft. The airport has two parallel runways, a small general aviation terminal, hangars, fueling, and other aviation services.

About the Planning Team

DMJM Aviation
Orange County airport planning and engineering firm with over 40 years of experience

ESA Airports
Full service environmental firm based in San Francisco for more than 35 years

Existing Airport

Legend:

- A — Runway 28L Extension
- B — Pavement Failing
- C — Ascend Development ParkAvion
- D — Helicopter Parking Area
- E — ARFF Equipment
- F — Airport Property Released in November 2005
- G — Water Line

Existing Facilities

- Parallel Runways 5,694x150 and 3,107x75
- Displaced thresholds on primary runway
- Runway lighting – MIRL
- Parallel taxiways
- GPS, VOR, and Localizer approaches – RWY 28L
- Air Traffic Control Tower
- Helipad

Aircraft Operations

	Itinerant				Local		Total			
Year	Air Carrier	Air Taxi	GA	Military	GA	Military	Itinerant	Local	Night	Total
1998	0	115	60,895	130	94,116	74	61,140	94,190	N/A	155,330
1999	1	466	70,180	87	111,198	34	70,734	111,232	N/A	181,966
2000	4	803	69,294	60	100,946	20	70,161	100,966	N/A	171,127
2001	0	744	65,541	133	98,854	46	66,418	98,900	N/A	165,318
2002	N/A	N/A	N/A	N/A	N/A	N/A	64,552	87,760	N/A	152,312
2003	N/A	N/A	N/A	N/A	N/A	N/A	65,617	84,225	N/A	149,842
2004	N/A	1,205	66,788	114	N/A	N/A	68,106	68,074	3,922	140,102
2005	N/A	1,236	61,421	70	N/A	N/A	62,715	61,895	3,574	128,184
2006	N/A	1,938	62,326	77	N/A	N/A	64,364	66,069	3,039	133,472
2007	N/A	2419	65410	39	N/A	N/A	67,880	77,864	4,231	149,975

Based Aircraft

	FBO			FAA TAF / City of Hayward			
Year	Helicopter	Jet	Other Aircraft	Helicopter	Jet	Other Aircraft	Total
1998-1999	N/A	N/A	N/A	6	5	445	456
2000	5	N/A	88	2	N/A	289	364
2001	6	N/A	120	2	N/A	289	417
2002	7	N/A	129	3	N/A	293	432
2003	6	N/A	113	2	N/A	322	443
2004	11	9	116	5	0	307	448
2005	10	13	107	5	0	314	449
2006	13	15	121	6	0	322	477
2007	13	14	128	6	0	326	487
2008	18	33	112	5	0	312	480

Competitive Market Area

Competing Airports

- Hayward
- Oakland Int'l
- San Francisco Int'l
- Livermore Municipal
- San Jose Int'l
- Buchanan Field
- Napa County
- Sonoma County

Design Aircraft

	Past	Present	Future
			

Item	Cessna Citation V	Challenger 601	Gulfstream IV
Airport Reference Code	B-II	C-II	D-II
Approach speed (knots)	107	125	149
Wingspan (feet)	52.25	64.33	77.83
Length	49.92	68.42	88.33
Undercarriage width (feet)	12.58	11.98	15.72
Tail height	20.67	20.67	24.42
Max. design taxi/ramp weight (pounds)	16,100	44,750	75,000
Max. design takeoff weight (pounds)	15,900	44,600	74,600
Max. design landing weight	15,200	36,000	66,000
Maximum fuel capacity (US gallons)	861	2,983	4,917

CITY OF HAYWARD
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Airport Layout Plan Update
Hayward Executive Airport

TECHNICAL ADVISORY COMMITTEE
SECOND MEETING

February 9, 2009

CITY OF HAYWARD
HEART OF THE BAY

Agenda

- **Purpose of an ALP Update**
- **Project Approach**
- **Existing Facilities**
- **Key Issues**
- **Fleet Mix and Design Aircraft**
- **Facility Requirements – Major Findings**
- **Next Steps**
- **Questions/Answers**

CITY OF HAYWARD
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Purpose of an ALP Update

An airport layout plan update is appropriate for the examination of a single development item, such as runway safety area improvements.

FAA Advisory Circular 150/5070-6B, Airport Master Plans

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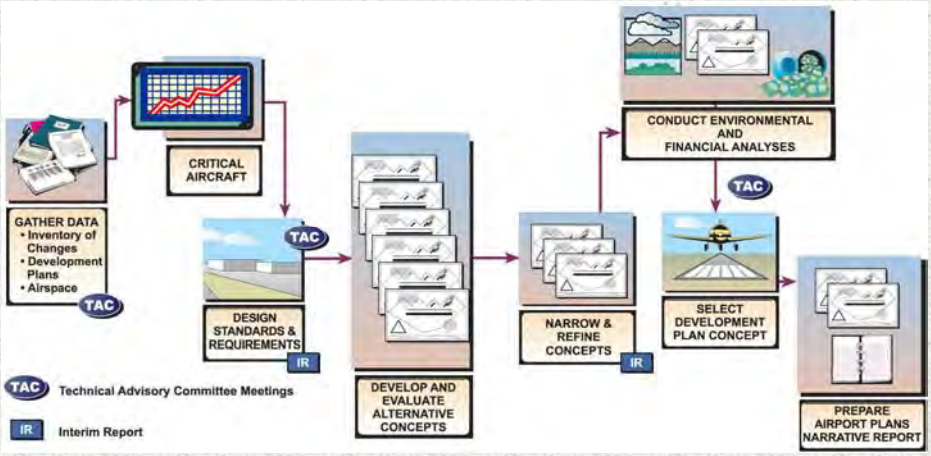
Project Approach



DMJM AVIATION | AECOM

CITY OF HAYWARD
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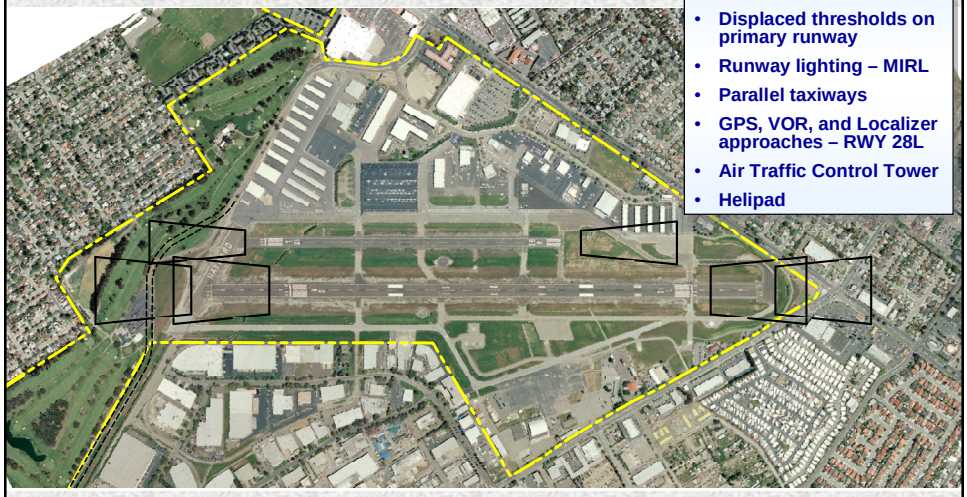
Existing Facilities



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- Helipad

CITY OF HAYWARD
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Existing Facilities – Significant Changes

CITY OF HAYWARD
HEART OF THE BAY

Key Issues

1. Airport Reference Code
2. RSA evaluation
3. South Side development
4. FBO planned developments
5. West A Street extension
6. CANG property

CITY OF HAYWARD
HEART OF THE BAY

Fleet Mix – Competitive Market Area

Hayward captured 17 percent of based aircraft within the CMA in 2007.

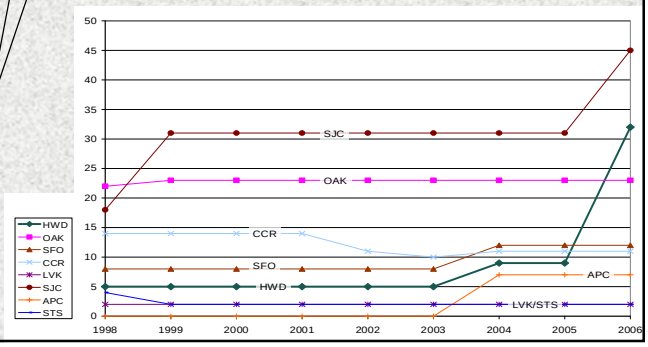
- Hayward
- Oakland Int'l
- San Carlos
- Palo Alto
- San Francisco Int'l
- Livermore Municipal
- Half Moon Bay
- San Jose Int'l
- Buchanan Field
- Reid Hillview
- Byron
- Napa County
- Gnoss Field
- Sonoma Valley
- Rio Vista
- Sonoma Skypark
- Petaluma
- South County
- Nut Tree
- Angwin-Parrett
- Sonoma County
- Healdsburg
- Cloverdale

CITY OF HAYWARD
HEART OF THE BAY

Fleet Mix within CMA

Year	Single Engine #	Single Engine %	Multi-Engine #	Multi-Engine %	Jet #	Jet %	Helicopter #	Helicopter %	Other #	Other %	Total
1998	2,698	81.44%	484	14.61%	73	2.20%	56	1.69%	2	0.06%	3,313
1999	2,483	82.27%	397	13.15%	85	2.82%	51	1.69%	2	0.07%	3,018
2000	2,483	82.27%	397	13.15%	85	2.82%	51	1.69%	2	0.07%	3,018
2001	2,483	82.27%	397	13.15%	85	2.82%	51	1.69%	2	0.07%	3,018
2002	2,505	82.59%	397	13.09%	82	2.70%	48	1.58%	1	0.03%	3,033
2003	2,526	82.71%	399	13.06%	81	2.65%	47	1.54%	1	0.03%	3,054
2004	2,499	81.16%	420	13.64%	97	3.15%	60	1.95%	3	0.10%	3,079
2005	2,499	81.16%	420	13.64%	97	3.15%	60	1.95%	3	0.10%	3,079
2006	2,298	80.35%	362	12.66%	134	4.69%	63	2.20%	3	0.10%	2,860

Number of jets within CMA has nearly doubled since 1998.



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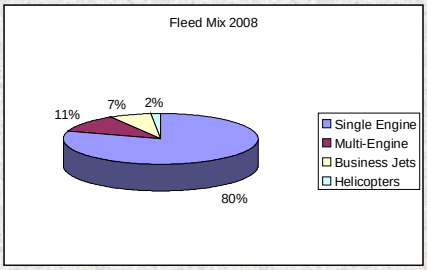
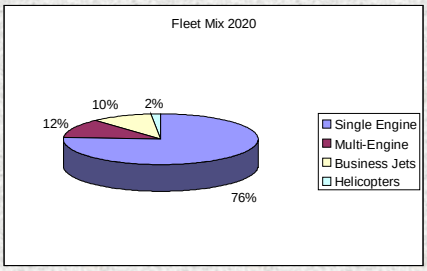
CITY OF HAYWARD
HEART OF THE BAY

Fleet Mix at Hayward





Year	Single Engine	Multi-Engine	Jet	Helicopter	Total
2008	384	54	34	8	480
2010	374	55	38	8	475
2015	385	59	45	8	497
2020	394	64	52	9	519

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HEART OF THE BAY

Design Aircraft

Today

Approach Category	Airplane Design Group I	II	III	Total
B	240	744	0	984
C	524	246	0	770
D	186	168	4	358
Total	950	1,158		

Operations by D-II aircraft will likely exceed 500 in 2011

Future

Approach Category	Airplane Design Group I	II	III	Total
	Year 2010			
B	318	986	0	1,305
C	695	326	0	1,021
	247	223	5	475
	1,259	1,535	5	2,800
	Year 2015			
	455	1,409	0	1,864
	992	466	0	1,458
D	352	318	8	678
Total	1,799	2,193	8	4,000
	Year 2020			
B	625	1,938	0	2,563
C	1,365	641	0	2,005
D	484	438	10	932
Total	2,474	3,016	10	5,500

C-II
- Approach Speed up to 141 knots
- Wingspan up to 79 feet
- Tail height up to 30 feet

D-II
- Approach Speed up to 166 knots
- Wingspan up to 79 feet
- Tail height up to 30 feet

CITY OF HAYWARD
HEART OF THE BAY

Design Aircraft

	Past	Present	Future
			
Item	Cessna Citation V	Challenger 601	Gulfstream IV
Airport Reference Code	B-II	C-II	D-II
Approach speed (knots)	107	125	149
Wingspan (feet)	52.25	64.33	77.83
Length	49.92	68.42	88.33
Undercarriage width (feet)	12.58	11.98	15.72
Tail height	20.67	20.67	24.42
Max. design taxi/ramp weight (pounds)	16,100	44,750	75,000
Max. design takeoff weight (pounds)	15,900	44,600	74,600
Max. design landing weight	15,200	36,000	66,000
Maximum fuel capacity (US gallons)	861	2,983	4,917

CITY OF HAYWARD
HEART OF THE BAY

Major Findings - Airside

- **Airport Reference Code C-II today, D-II in immediate future (2011)**
- **Potential delays – increase runway capacity**
- **Runway 10-28 alignment provides adequate wind coverage**
- **Runway 10R-28L length (5,694 feet) accommodates business jets and is a reasonable length to maintain**
- **Runway Safety Areas, Runway Object Free Areas, Runway Obstacle Free Zones, and Runway Protection Zones do not meet ARC C-II/D-II design standards.**
- **The service road is within the Taxiway A OFA**

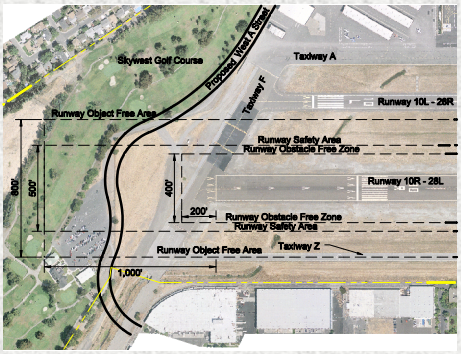
CITY OF HAYWARD
HEART OF THE BAY

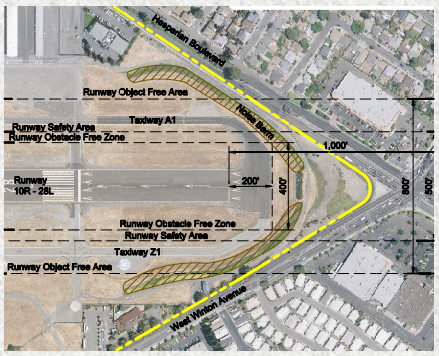
Facility Requirements

FAA Design Standard (AC 150/5300-13)	Airport Reference Code	
	B-II	C-II/D-II
Runway centerline to parallel taxiway/taxilane centerline	240'	300'
Runway centerline to edge of aircraft parking	250'	400'
Runway width	75'	100'
Runway blast pad width	95'	120'
Runway safety area width	150'	500'
Runway safety area length beyond each runway end	300'	1000'
Runway object free area width	500'	800'
Runway object free area length beyond each runway end	300'	1000'
Runway protection zone inner width	500'	500'
Runway protection zone outer width	700'	1010'
Runway protection zone length	1000'	1700'
Runway holdline	200'	250'

CITY OF HAYWARD
HEART OF THE BAY

ARC C-II/D-II applied to Hayward





CITY OF HAYWARD
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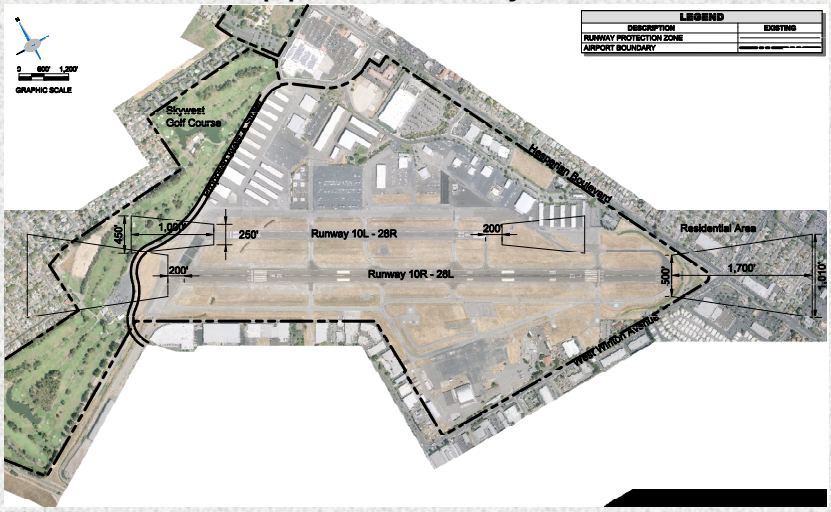
ARC C-II/D-II applied to Hayward



CITY OF HAYWARD
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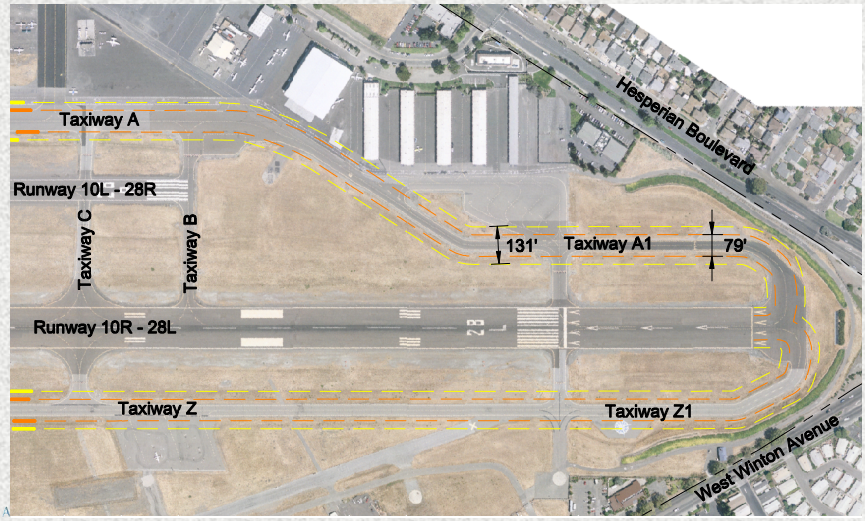
Taxiway 'A' Object Free Area



CITY OF HAYWARD
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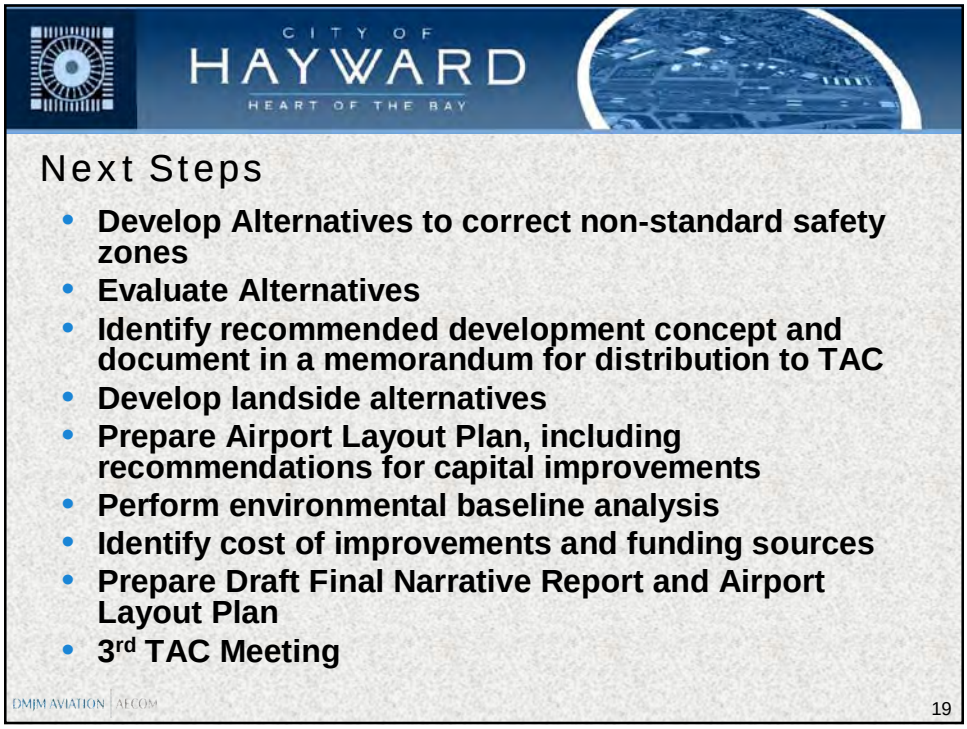
Facility Requirements - Landside

Item	1998	2005	2010	2020
Based Aircraft	**423**	**454**	**475**	**518**
Aircraft in Hangars	303	341	369	426
Aircraft in T-Hangars	192	230	246	279
Aircraft in Conventional Hangars	97	111	123	147
Aircraft on Tie-Downs	120	113	106	92
Transient Aircraft	**N/A**	**44**	**47**	**56**
Hangar Area Requirements (square feet)	**427,000**	**466,600**	**512,300**	**603,000**
T-Hangar Area	229,600	275,600	295,300	334,700
Conventional Hangar Area	197,400	191,000	217,000	268,300
Apron Area Requirements (square yards)	**131,700**	**108,400**	**106,800**	**104,500**
Based Aircraft Apron	N/A	73,500	68,900	59,800
Transient Apron	N/A	34,900	37,900	44,700
Other Requirements				
Public Terminal Building (square feet)	N/A	7,900	9,100	11,800
Aircraft Wash Facility	Two Bays	Two Bays	Two Bays	Two Bays
Tenant Maintenance Shelter	Two Bays	Two Bays	Two Bays	Two Bays

In addition, space should be designated for a privately developed T-hangar complex.


CITY OF
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Next Steps
• Develop Alternatives to correct non-standard safety zones
• Evaluate Alternatives
• Identify recommended development concept and document in a memorandum for distribution to TAC
• Develop landside alternatives
• Prepare Airport Layout Plan, including recommendations for capital improvements
• Perform environmental baseline analysis
• Identify cost of improvements and funding sources
• Prepare Draft Final Narrative Report and Airport Layout Plan
• 3rd TAC Meeting
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Hayward Executive Airport TAC Meeting
Informational Update on Airport Layout Plan
December 17, 2009

2:30 – Call to Order (Lloyd Partin)

Present for Meeting:

City of Hayward
Lloyd Partin – Hayward Airport Manager
Bob Bauman – City of Hayward Public Works Director

Consultants
Doug Sachman – AECOM
Andrew Scanlon – AECOM
Dan Wormhoudt – ESA
Reema Mahamood – ESA
Phil Wade – ESA

TAC Attendees
John Kyle – Longwood/Winton Grove Resident
Jerry Turney – Hayward Hangar Group
Ernie Delligatti – San Lorenzo HMA
Cindy Horvath – Alameda ALUC
Jackie Boyce – Eden Garden Estates
Bud Field – Bud Field Aviation
Noemi Dostal – Hayward Executive Airport
Rick Silva – Hayward Area Recreation and Park District
Larry Lspore – Hayward Area Recreation and Park District
Darrin Perdue – SP Aviation

2:33 – AECOM's Presentation (Andrew Scanlon)

See attached

2:42 – End of Presentation, Open to Questions

Topics: Closure of Taxiway A, 10-foot height restriction

Bud Field – Is taxiway closure set in stone? Bud expressed concern over asking pilots to cross two runways during taxiing.

> Lloyd Partin – Air Traffic Control (ATC) could hold traffic, but this would affect arriving aircraft. Taxiing across both runways to Taxiway Z is still the most viable option from a time factor.

Jerry Turney – Asked for clarification on the 10-foot tail height restriction due to imaginary surfaces. Proposed ATC instructing arrivals to shift to other runway, as has been done at the airport previously. Jerry felt that "existing" operational standards should still be used.

> Sheet 5 of the Airport Layout Plan set was presented by Andrew which shows Federal Aviation Regulations (FAR) Part 77 surfaces and clearances over the taxiway.

Bud Field – Expressed concern about keeping aircraft idling on the ground as a result of the proposed Taxiway A closure; indicating potential air quality impacts from this. He placed an emphasis on minimal ground time for aircraft.

Ernie Delligatti – Expressed concerned about the increased usage in locations where aircraft are taxiing (as a result of taxiway closure) across the runways, and the affect this would have on pavement strength

> Lloyd Partin. – FAA is taking a hard-line stance on anything that might penetrate Hayward's FAR Part 77 surfaces.
>
> Taxiway C and Z pavements will be rehabilitated and strengthened.

Ernie Delligatti – Asked if Lloyd has spoken to Oakland ATC and Nor Cal TRACON to coordinate the proposed changes, and encouraged Lloyd to do so. (Lloyd has spoken with ATC and Nor Cal Tracon regarding the proposed changes).

> Bob Bauman – We weighed the issues with FAA and the current proposed alternative was the most feasible.

Topics: Effects on golf course; tree removal

Larry Lepore – Concerned about potential affects to the golf course

> Bob Bauman – EMAS (Engineered Materials Arresting System) was a viable alternative to providing 1,000-feet of RSA; thus preventing further clearance of the golf course and keeping it open. Will require relocation of the golf course road to keep the road out of the restricted area, and will impact two holes on the golf course.
>
> Rick Silva – Movement of the two holes is "doable"; par 5 can be turned away from the airport, and the tee box on 18 can be relocated.

Bob Bauman – Expressed the need to identify the location of trees that penetrate Part 77 surfaces. There are a large number of trees that need to be either topped or removed. This could be a potential concern to the public. Approximately 20 trees on the golf course that need to be trimmed or removed. Not sure of the best approach for dealing with trees on

private property. The existing ALP identifies trees that needed to be removed that weren't. Tree growth and change in surfaces necessitates the management of trees.

> Lloyd Partin – Any trees that penetrate the surfaces to the west of Hayward will need to be trimmed or eliminated. If a tree is eliminated, it will be replaced with compatible foliage. For the golf course, Oleander bushes may be used. Further west in the neighborhood will require the City to speak with residents about topping theses trees, or removing them.

Topics: Noise and other environmental concerns

Ernie Delligatti – There will have to be a give and take regarding the proposed ALP projects. As a homeowner he is concerned about this, but also concerned about potential noise impacts. Ernie expressed concern that San Lorenzo will bare the brunt of potential noise effects associated with the proposed projects. Ernie can hear jets after their turn to avoid Oakland airspace (echo affect). Additional studies need to be done on potential noise impacts associated with the project. If you want the cooperation of San Lorenzo, you need to do an outreach and reassess the contours.

> Bob Bauman – We will report the information we discover from the studies to the community.

Ernie Delligatti – Concerned about introducing additional jets to the environment, and the effects this will have on the community; the city needs to address and present the project and its potential effects to the community in order to get their buy off on this project.

> Lloyd Partin – Mentioned homeowner disclosures about living in the Airport Influence Area of Hayward. Anything outside the 65 CNEL requires no action (per CA state law).
>
> Ernie Delligatti – Felt that the tracks are different than what is being depicted in ANOMS and Hayward noise software, and suggested that the City check their software.
>
> Lloyd Partin – We (the City) addressed whether we should use San Jose's or Oakland's radar data, as there is discrepancy between some of the data, but ultimately chose to use Oakland's data. We are working on improving outreach and putting together education programs to get feedback from the community. We'll work with the pilots to make sure everyone is on the same page.

John Kyle – Wanted clarification on real estate disclosure, how it works, who it affects, etc. (Bob Bauman provided clarification)

John Kyle – Asked what the landing speed is of the design category aircraft? He expressed concern about both air quality and noise issues. Have you (the City) performed analysis to determine the potential effects of the ALP the projects?

Bob Bauman – Approval of ALP is categorically exempt. Action on the proposed projects within the ALP will require environmental analysis.

John Kyle – Expressed concern about the length and height of the sound wall. He suggested extending the sound wall 100-feet to the west, and proposed moving the zipper lane between Hesperian and the sound wall. He felt that the proposed location of the sound wall doesn't go far enough to correspond with the runway translation.

Larry Lepore – State that in the report under Table 1, you've (the City) identified the trees; I recommend including two more columns identifying the tree type and recommend max height for the tree based on their location within the Part 77 surface.

AECOM will provide a graphic and spreadsheet identifying all trees in the vicinity of the airport. The spreadsheet will indicate the type of tree, current elevation, and maximum elevation. AECOM will need the City's help in identifying the type of tree.

Ernie Delligatti – Were considerations made during analysis for when traffic patterns get shifted to the south?

Lloyd Partin – Yes, when approaching from the north, the approach thresholds are different, allowing for a steeper descent, which puts aircraft further away from homes.

Bob Bauman. – We mainly focused on operations to the north as that is the predominate pattern. Noise effects are actually slightly reduced with the proposed layout when operations arrive from the north.

Ernie Delligatti – What happens when ATC is closed; how does this affect the safety of aircraft taxiing to Taxiway Z. What about signage?

The short runway is closed at night and there is a need to increase signage.

Larry Lepore – When would construction of the EMAS occur and re-alignment of the golf course road occur?

Bob Bauman – Probably 2 years after waiting for FAA approval, funding, design, etc. Assessing Part 77 issues will occur more quickly.

Larry Lepore – Suggested making changes to the golf course first, and then adjusting the road.

Cindy Horvath – Emphasized that noise issues will always be a concern, and that she wants to be involved in the ALP update process. She also stated that the City will have to amend the Airport Land Use Compatibility Plan once the ALP has been approved.

Ernie Delligatti – Asked which FAA office will review the ALP (answer: San Francisco Airports District Office).

Darrin Partin – How is the EMAS area striped or lit? (answer: Lloyd – it will be chevroned and signed)

Bob Bauman – thank you for your input. We will act on the items and issues you raised.

3:57 – Meeting adjourned, closing comments (Bob Bauman)

Potential Action Items from Meeting

- Additional public outreach
- Noise analysis to assess potential impacts to the San Lorenzo community
- Update Table 1 to include type of tree and it's maximum allowable height per FAR Part 77
- Consideration of lengthening the sound wall

12-17-09 HWD TAC Meeting.

Sign-In Sheet

Name	Affiliation	Email/Phone
E. Dellagatti	San Lorenzo Homeowners Assoc	EJDellaGatti@Hotmail.com
Jackie Boyce	Eden Garden Estates	JBoyce4982@aol.com
Darrin Perdue	SP Aviation Inc.	Darrinperdue@spaviation.com
Jerry Gumey	HWD Hangar Group	510 520 7089 wyldrydes@Hotmail.com
Bud Field	Bud Field Aviation	Budfield@Budfieldaviation.com
Rick Selina	HARD	silv@Haywardrec.org.
LARRY LEPORE	HARD	lepl@haywardrec.org
JOHN Kyle	LONGWOOD [illegible]	JWKyle@[illegible] @Comcast
ANDREW SCANLON	AECOM	andrew.scanlon@AECOM.COM
CINDY HORVATH	ALUC	CINDY.HORVATH@ACGOV.ORG
NOEMI DOSTAL	HAYWARD AIRPORT	

CITY OF HAYWARD
HEART OF THE BAY

Informational Update on Airport Layout Plan Hayward Executive Airport

Technical Advisory Committee Meeting

December 17, 2009

AECOM

CITY OF HAYWARD
HEART OF THE BAY

TECHNICAL REPORT - AIRFIELD ALTENATIVES

- **Evaluation of Constraints and Opportunities**
- **Examined Both Existing Facilities Needs and Future Facility Requirements to Identify Steps Required to Comply with FAA Advisory Circular 150/5300-13 (Airport Design)**
- **Ten Possible Alternatives Identified**
- **Final Solution : Modified Alternative # 4**
- **Modifications include use of Engineered Material Arresting System (EMAS) to Reduce RSA Area and Removal of Noise Berms - Replaced with Sound Walls**

Fig-5

AECOM

CITY OF HAYWARD
HEART OF THE BAY

Constraints and Opportunities

AECOM

3

CITY OF HAYWARD
HEART OF THE BAY

Constraints and Opportunities

AECOM

4

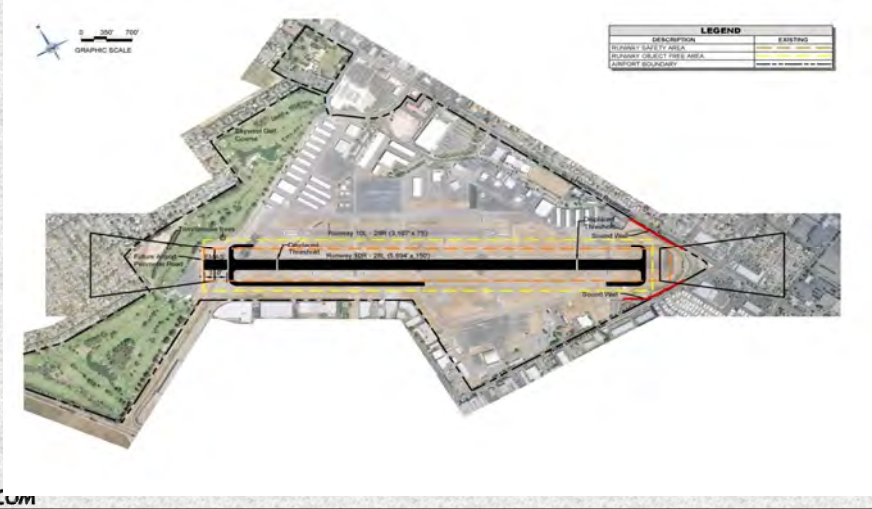
CITY OF HAYWARD
HEART OF THE BAY

Effects of Change in RSA

- **Would have split Golf Course into two halves at mid-point if full RSA (1000' X 500') provided - Solution EMAS**
- **Concluded West "A" Street extension project no longer feasible due to project costs (Tunnel Option) and unacceptable impacts to the San Lorenzo Community (Surface Street Option)**
- **On East End of Runway can not meet RSA of 1000' - Solution Runway Translation 196 foot Westward to Maximize available RSA (Threshold Markings)**

CITY OF HAYWARD
HEART OF THE BAY

Recommended Airfield Alternative



CITY OF HAYWARD
HEART OF THE BAY

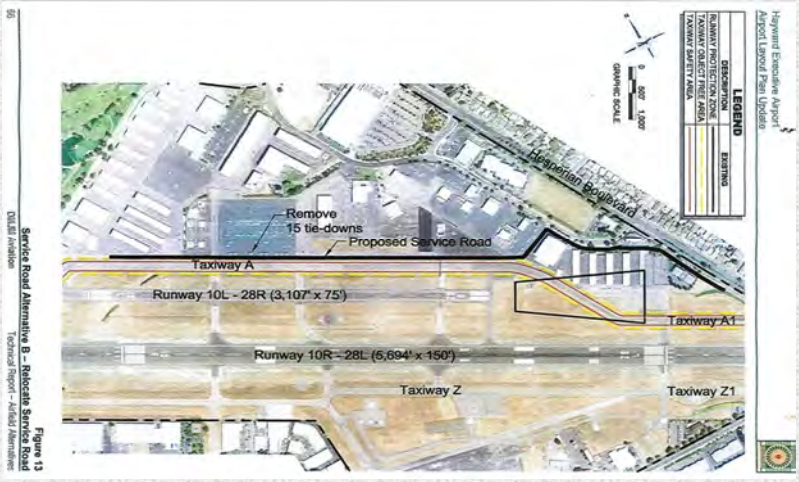
Additional Conflicts - Airside

- **Aircraft with Tail heights Greater than 10' taxiing through Area west of BFA Hangar Impact Part-77 Airspace (Approach Surfaces)**
- **The vehicle service road (zipper lane) is within the Taxiway A Object Free Area (TOFA)- Fig. 13**
- **Solution - Close this portion of the Taxiway to Aircraft and relocate vehicle access road (Zipper Lane) Fig. 9**
- **Implement New Taxi Procedure, Requiring Aircraft to Cross Airport at Taxiway "C" for Runway 28L access, or Taxi West along "A" to "F" on Departure End of Runway 28 and Proceed East on "Z"**

AECOM 7

CITY OF HAYWARD
HEART OF THE BAY

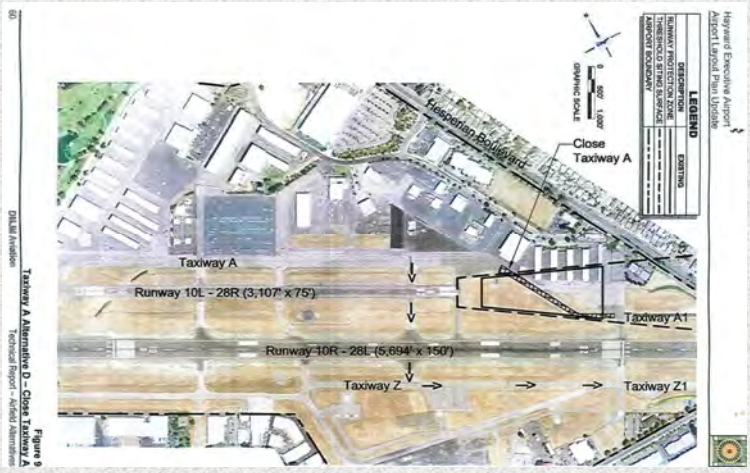
Airport Service Road-(Zipper Lane)



AECOM 8

CITY OF HAYWARD
HEART OF THE BAY

Taxiway "A" Closure



AECOM 9

CITY OF HAYWARD
HEART OF THE BAY

Environmental Overview

- **Projects depicted on the ALP will be subject to both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) review**
  - NEPA – Environmental Assessment (EA) or Supplemental EA
  - CEQA – Environmental Impact Report (EIR) or Supplemental EIR
- **Locating Sulphur Creek into a box culvert is an environmental concern, but has very negative impacts to Airfield safety**
- **Noise contours prepared for Year 2020 – noise footprint is forecasted to be considerably smaller than shown in the 2002 Master Plan**

AECOM 10

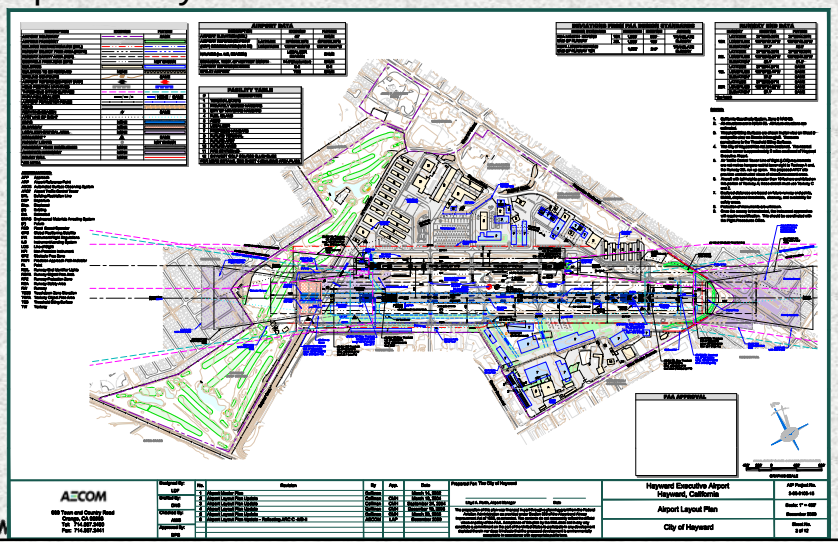
CITY OF HAYWARD
HEART OF THE BAY

Next Steps

- **ALP Categorically Exempt from CEQA - Section 15262 “Feasibility and Planning Studies”**
- ***Feb. 25, 2010 :*** **Report on Draft Final ALP and Narrative to CAC -**
- ***Mar. 2, 2010 :*** **Submittal of Draft Final report to FAA -**
- **NEPA Certification required for all Individual Projects Prior to Construction.**
- ***June 2010 :*** **Estimated date of FAA conditional approval of ALP**

CITY OF HAYWARD
HEART OF THE BAY

Airport Layout Plan



CITY OF HAYWARD
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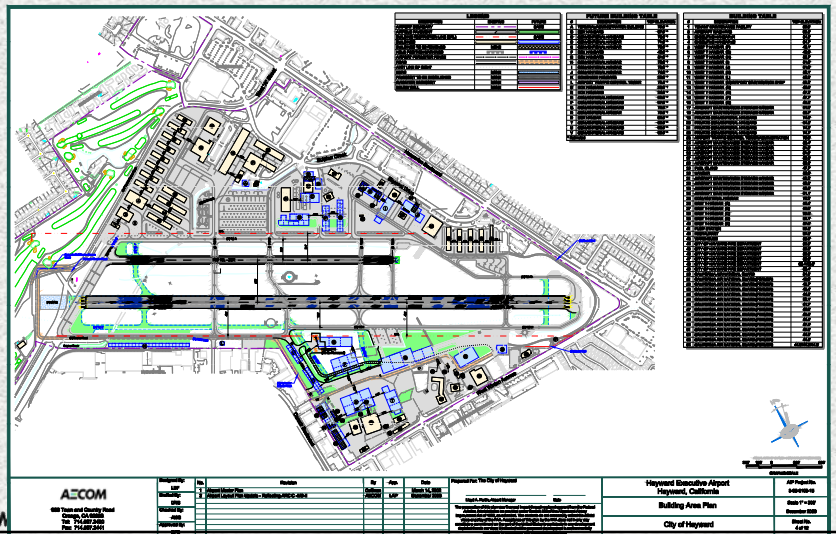
Building Area Plan



AECOM

CITY OF HAYWARD
HEART OF THE BAY

Airport Layout Plan Update
Hayward Executive Airport

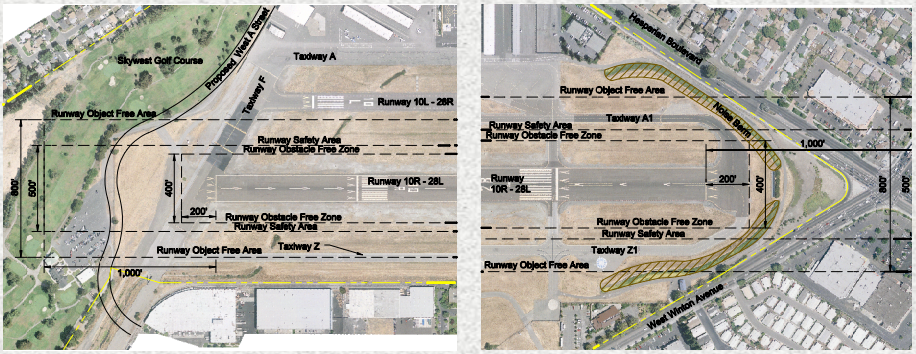
Council Airport Committee Meeting

February 26, 2009

AECOM

CITY OF HAYWARD
HEART OF THE BAY

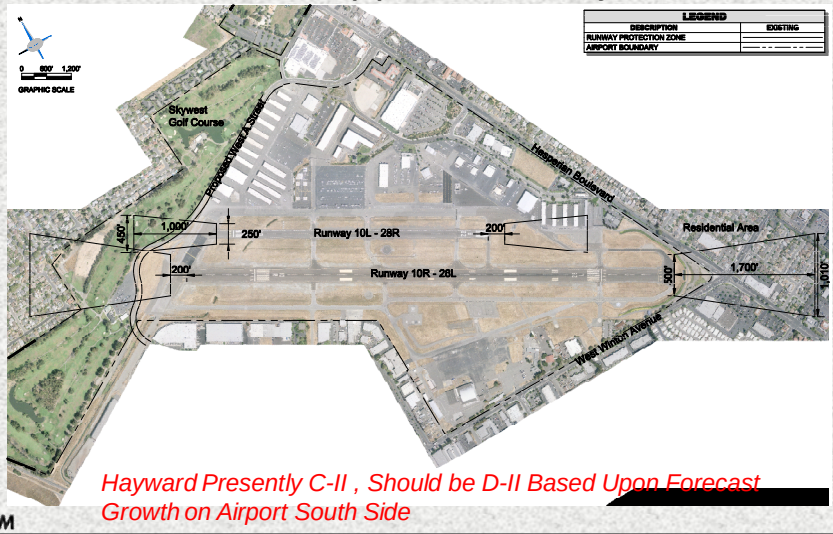
ARC C-II/D-II Runway Object Free Width Applied to Hayward



Major Difference between C-II –D-II is Width (400' Wide for C-II and 500Feet Wide fro D-II. Both C & D Require 1000 Foot Safety Area

CITY OF HAYWARD
HEART OF THE BAY

ARC C-II/D-II applied to Hayward



Hayward Presently C-II , Should be D-II Based Upon Forecast Growth on Airport South Side

CITY OF HAYWARD
HEART OF THE BAY

Runway Safety Area Widths and Length Differences

FAA Design Standard (AC 150/5300-13)	Airport Reference Code	
	B-II	C-II/D-II
Runway centerline to parallel taxiway/taxilane centerline	240'	300'
Runway centerline to edge of aircraft parking	250'	400'
Runway width	75'	100'
Runway blast pad width	95'	120'
Runway safety area width	150'	500'
Runway safety area length beyond each runway end	300'	1000'
Runway object free area width	500'	800'
Runway object free area length beyond each runway end	300'	1000'
Runway protection zone inner width	500'	500'
Runway protection zone outer width	700'	1010'
Runway protection zone length	1000'	1700'
Runway holdline	200'	250'

AECOM 17

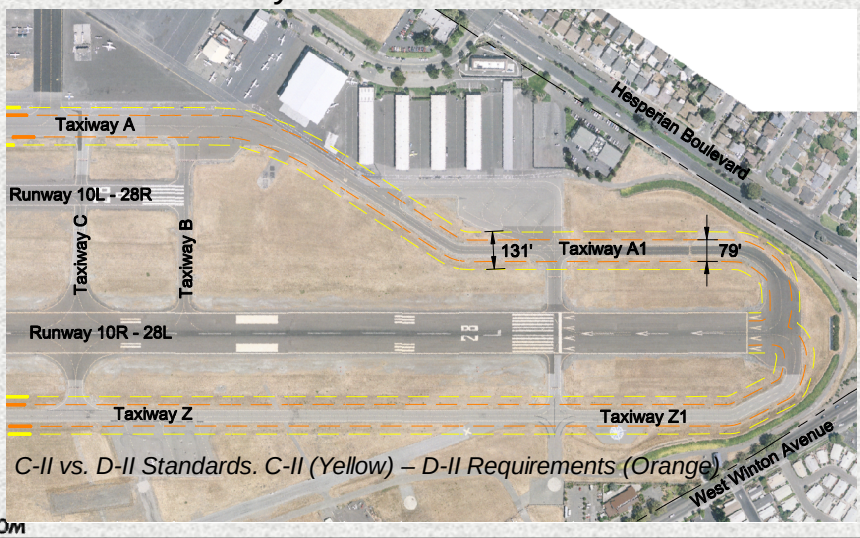
CITY OF HAYWARD
HEART OF THE BAY

RSA Depictions, ARC-C / D

AECOM 18

CITY OF HAYWARD
HEART OF THE BAY

Taxiway 'A' Constraints-TOFA



C-II vs. D-II Standards. C-II (Yellow) – D-II Requirements (Orange)

AECOM

19

Appendix B
Glossary and Abbreviations

Appendix B– Glossary and Abbreviations

A

A-WEIGHTED SOUND LEVEL - The sound pressure level which has been filtered or weighted to reduce the influence of low and high frequency (dBA).

ABAG - Association of Bay Area Governments

AC - Advisory Circular published by the Federal Aviation Administration.

ACCOM. - Accommodations

ADPM - Average Day of the Peak Month

AFB - Air Force Base

AGL - Above Ground Level

AIA - Annual Instrument Approaches

AICUZ - Air Installation Compatible Use Zones define areas of compatible land use around military airfields.

AIP - Airport Improvement Program of the FAA.

AIR CARRIER - A commercial scheduled service airline carrying interregional traffic.

AIRCRAFT MIX - The relative percentage of operations conducted at an airport by each of four classes of aircraft differentiated by gross takeoff weight and number of engines.

AIRCRAFT TYPES - An arbitrary classification system which identifies and groups aircraft having similar operational characteristics for the purpose of computing runway capacity.

AIR NAVIGATIONAL FACILITY (NAVAID) - Any facility used for guiding or controlling flight in the air or during the landing or takeoff of aircraft.

AIR ROUTE SURVEILLANCE RADAR (ARSR) - Long-range radar which increases the capability of air traffic control for handling heavy enroute traffic. An ARSR site is usually located at some distance from the ARTCC it serves. Its range is approximately 200 nautical miles. Also called ATC Center Radar.

AIR TAXI - Aircraft operated by a company or individual that performs air transportation on a non-scheduled basis over unspecified routes usually with light aircraft.

AIRPORT AVAILABLE FOR PUBLIC USE - An airport available for use by the public with or without a prior request.

AIRPORT MASTER PLAN - Long-range plan of airport development requirements.

ALP - Airport Layout Plan

ALSF-1 - Approach Light System with Sequence Flasher Lights

ALS - Approach Light System

AMBIENT NOISE - All encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far.

ANCLUC - Airport Noise and Compatible Land Use Control plan; an FAA sponsored land use compatibility planning program preceding Part 150 Airport Noise Compatibility Program.

APPROACH CONTROL SERVICE - Air traffic control service provided by a terminal area traffic control facility for arriving and departing IFR aircraft and, on occasion, VFR aircraft.

APPROACH FIX - The point from or over which final approach (IFR) to an airport is executed.

APPROACH SLOPE - Imaginary areas extending out and away from the approach ends of runways which are to be kept clear of obstructions.

APPROACH SURFACE - An element of the airport imaginary surfaces, longitudinally centered on the extended runway centerline, extending upward and outward from the end of the primary surface at a designated slope.

AREA NAVIGATION (RNAV) - A method of navigation that permits aircraft operations on any desired course within the coverage or stationed-reference navigation systems or within the limits of self-contained system capability.

ARC - Airport Reference Code

ARFF - Aircraft Rescue and Fire-Fighting

ARTS-III - Automated Radar Terminal Service - Phase III. A terminal facility in the air traffic control system using air ground communications and radar intelligence to detect and display pertinent data such as flight identification, altitude and position of aircraft operating in the terminal area.

ADSA – Accelerate stop distance available: is the length of runway and stopway available and suitable for the acceleration and deceleration of an airplane aborting a takeoff.

ASOS – Automated Surface Observing System

ASV - Annual Service Volume - a reasonable estimate of the airfield's annual capacity.

ATCT - Airport Traffic Control Tower

ATC - Air Traffic Control

AVIGATION AND HAZARD EASEMENT - An easement which provides right of flight at any altitude above the approach surface, prevents any obstruction above the approach surface, provides a right to cause noise vibrations, prohibits the creation of electrical interferences, and grants right-of-way entry to remove trees or structures above the approach surface.

B

BAAQMD - Bay Area Air Quality Management District

BASED AIRCRAFT - An aircraft permanently stationed at the airport, usually by some form of agreement between the aircraft owner and airport management.

BIT - Bituminous Asphalt Pavement

BUSINESS JET - Any of a type of turbine powered aircraft carrying six or more passengers and weighing less than approximately 90,000 pounds gross takeoff weight.

C

CY - Calendar Year

CAC - City Aviation Commission

CANG - California Air National Guard

CAP - Citizens Against Pollution

CARE - Californians for Renewable Energy

CARGO - Originating and/or terminating.

CASP - California Aviation System Plan

CAT I - Category I Instrument Landing System. (Minimums: decision height of 200 feet; Runway visual range 1,800 feet).

CAT II - Category II Instrument Landing System. (Minimums: decision height of 100 feet; Runway visual range 1,200 feet).

CAT III - Category III Instrument Landing System. (Minimums: no decision height; Runway visual range of from 0 to 700 feet depending on type of CAT III facility).

CEC – California Energy Commission.

CENTER'S AREA - The specified airspace within which an air route traffic control center provides air traffic control and advisory service.

CEQA - California Environmental Quality Act

CFR - Crash, Fire and Rescue. This is now called Airport Rescue and Fire Fighting (ARFF).

CIRCLING APPROACH - A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in instrument approach is not possible. This maneuver requires ATC clearance and that the pilot establish visual reference to the airport.

CL - Centerline

CNEL - Community Noise Equivalent Level - a noise metric used in California to describe the overall noise environment of a given area from a variety of sources.

COMM. - Communications

COMMERCIAL SERVICE AIRPORT - A public airport which received scheduled passenger service and enplanes annually 2,500 or more passengers.

COMMUTER AIRLINE - Aircraft operated by an airline that performs scheduled air transportation service over specified routes using aircraft with 60 seats or less.

CONC. - Portland Cement Concrete Pavement

CONICAL SURFACE - An imaginary surface extending upward and outward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

CONNECTION - A passenger who boards an aircraft directly after deplaning from another flight. On-line single carrier connections involve flights of the same carrier, while interline or off-line connections involve flights of two different carriers. This term can also be applied to freight shipments.

CONTROLLED AREA - Airspace within which some or all aircraft may be subject to air traffic control.

CONTROL TOWER - A central operations facility in the terminal air traffic control system consisting of a tower cab structure (including an associated IFR room if radar equipped) using air/ground communications and/or radar, visual signaling and other devices to provide safe and expeditious movement of terminal air traffic.

CONTROL ZONES - These are areas of controlled airspace which extend upward from the surface and terminate at the base of the continental control area. Control zones that do not underlie the continental control area have no upper limit. A control zone may include one or more airports and is normally a circular area with a radius of 5 statute miles of any extensions necessary to include instrument departure and arrival paths.

CONTROLLED AIRSPACE - An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification, Class A, Class B, etc.

CROSSWIND RUNWAY - A runway aligned at an angle to the prevailing wind which allows use of an airport when crosswind conditions on the primary runway would otherwise restrict use.

CURFEW - A restriction placed upon all or certain classes of aircraft by time of day, for purposes of reducing or controlling airport noise.

D

DECISION HEIGHT (DH) - With respect to the operation of aircraft, this means the height at which a decision must be made, using an ILS or PAR instrument approach, to either continue the approach or to execute a missed approach.

DEMAND - The actual number of persons, aircraft or vehicles currently using a facility if that facility is operating at or below capacity or the number of persons, aircraft or vehicles who want to use the facility when the facility is operating above capacity.

DEPLANEMENT - Any passenger getting off an arriving aircraft at an airport. Can be both a terminating and connecting passenger. Also applies to freight shipments.

DISTANCE MEASURING EQUIPMENT (DME) - An electronic installation established with either a VOR or ILS to provide distance information from the facility to pilots by reception of electronic signals. It measures, in nautical miles, the distance of an aircraft from a NAVAID.

E

EAT - End Around Taxiway

EBMUD - East Bay Municipal Utility District

ENROUTE - The route of flight from point of departure to point of destination, including intermediate stops (excludes local operations).

ENROUTE AIRSPACE - Controlled airspace above and/or adjacent to terminal airspace.

EPA - Environmental Protection Agency.

EQUIVALENT SOUND LEVEL (LEQ) - The steady A-weighted sound level over a specified period that has the same acoustic energy as the fluctuating noise during that period.

F

F&E - Facilities and Equipment Programming - FAA

FAA - Federal Aviation Administration of the United States Department of Transportation

FAR - Federal Aviation Regulation

FAR Part 36 - A regulation establishing noise certification standards for aircraft.

FAR Part 77 - A regulation establishing standards for determining obstructions to navigable airspace.

FAR Part 139 - A regulation which prescribes rules governing the certification and operation of land airports which serve any scheduled or unscheduled passenger operation of an air carrier that is conducted with an aircraft having a seating capacity of more than 30 passengers.

FAR Part 150 - A regulation establishing criteria for noise assessment and procedures and criteria for FAA approval of noise compatibility programs.

FBO - Fixed Base Operator

FEDERAL AIRWAYS - See Low Altitude Airways.

FINAL APPROACH IFR - The flight plan of landing aircraft in the direction of landing along the extended runway centerline from the base leg to the runway.

FLEET MIX - The proportion of aircraft types or models expected to operate at an airport.

FLIGHT SERVICE STATION (FSS) - A facility operated by the FAA to provide flight assistance service.

FOD – Foreign Object Debris

FY - Fiscal Year

G

GA - General Aviation - Refers to all civil aircraft and operations which are not classified as air carrier.

GLIDE SLOPE (GS) - The vertical guidance component of an Instrument Landing System (ILS).

GND CON. - Ground Control

GPS - Global Positioning System

H

HANGAR – In this report hangars are classified as individual or conventional. Individual hangars are designed to accommodate a single aircraft and may be portable, "T", or rectangular hangars. These are assumed to accommodate smaller, personal use aircraft. Individual hangars may be constructed in groups that results in a larger structure, however, the individual hangar spaces are counted separately. Conventional hangars are larger structures designed to accommodate several aircraft in an open bay(s) and for the purposes of this report are assumed to house turboprop and business jet aircraft. Conventional hangars are often occupied by an FBO.

HAPA - Hayward Area Planning Association

HGRS. - Hangars

HIGH ALTITUDE AIRWAYS - See Jet Routes.

HIRL - High Intensity Runway Lighting

HITL - High Intensity Taxiway Lighting

HOLDING - A predetermined maneuver which keeps an aircraft within a specified airspace while awaiting further clearance.

HORIZONTAL SURFACE - An imaginary surface constituting a horizontal plane 150 feet above the airport elevation.

HWD – Three letter identifier for Hayward Municipal Airport.

I

IFR - Instrument Flight Rules that govern flight procedures under IFR conditions (limited visibility or other operational constraints).

IMAGINARY SURFACE - An area established in relation to the airport and to each runway consistent with FAR Part 77 in which any object extending above these imaginary surfaces is, by definition, an obstruction.

INDUCED TRIPS - See Trip.

INSTRUMENT APPROACH - A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the intial approach to a landing or to a point from which a landing may be made visually.

INSTRUMENT LANDING SYSTEM (ILS) - A precision landing aid consisting of localizer (azimuth guidance), glide slope (vertical guidance), outer marker (final approach fix) and approach light system.

INSTRUMENT OPERATION - A landing or takeoff conducted while operating on an instrument flight plan.

INSTRUMENT RUNWAY - A runway equipped with electronic and visual navigation aids for which a precision or non-precision approach procedure having straight-in landing minimums has been established.

INTEGRATED NOISE MODEL (INM) - A computer-based airport noise exposure modelling program.

ITINERANT OPERATIONS - All aircraft arrivals and departures other than local operations.

INTERNATIONAL OPERATIONS - Aircraft operations performed by air carriers engaged in scheduled international service.

J

JET ROUTES - A route designed to serve aircraft operating from 18,000 feet MSL up to and including flight level 450.

L

LAT – Latitude

LDA - Localizer Type Directional Aid

LDA – Landing distance available: is the length of the runway which is declared available and suitable for the ground run of an airplane landing.

LDN - Day-Night Average Sound Level. The 24-hour average sound level, in decibels, from midnight to midnight, obtained after the addition of ten decibels to sound levels for periods between 10 p.m. and 7 a.m.

LDNG. AIDS - Landing Aids

LENGTH OF HAUL - The non-stop airline route distance from a particular airport.

LEVEL OF SERVICE - An arbitrary but standardized index of the relative service provided by a transportation facility.

LIRL - Low Intensity Runway Lighting

LITL - Low Intensity Taxiway Lighting

LOAD FACTOR - Ratio of the number of passenger miles to the available seat miles flown by an airline representing the proportion of aircraft seating capacity that is actually sold and utilized. Load factors are also referred to in air cargo and can be determined by weight or volume.

LOC - Localizer (part of an ILS)

LOCAL OPERATION - Operations performed by aircraft which: (a) operate in the local traffic pattern or within the sight of the tower; (b) are known to be departing for, or arriving from, flight in local practice areas located within a 20-mile radius of the control tower, or (c) execute simulated instrument approaches or low passes at the airport.

LOM - Compass locator at an outer marker (part of an ILS). Also called COMLO.

LONG - Longitude

LOW ALTITUDE AIRWAYS - Air routes below 18,000 feet MSL. They are referred to as Federal Airways.

LRR - Long-Range Radar

M

MALS - Medium Intensity Approach Light System

MALSF - Medium Intensity Approach Light System with sequence flashing lights.

MALSR - MALS with Runway Alignment Indicator Lights (RAIL)

MGD – Million Gallons of Water per Day

MARKER BEACON - An electronic navigation facility which transmits a fan or boneshaped radiation pattern. When received by compatible airborne equipment they indicate to the pilot that he is passing over the facility. Two to three beacons are used to advise pilots of their position during an ILS approach.

MGW - Maximum Gross Weight

MILITARY OPERATION - An operation by military aircraft.

MINIMUM DESCENT ALTITUDE (MDA) - The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circling-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glide slope is provided.

MIRL - Medium Intensity Runway Lighting

MISSED APPROACH - A prescribed procedure to be followed by aircraft that cannot complete an attempted landing at an airport.

MITL - Medium Intensity Taxiway Lighting

MLS - Microwave Landing System

MM - Middle Marker (part of an ILS)

MOA - Military Operations Area

MODAL SPLIT - The distribution of trips among competing travel modes, such as walk, auto, bus, etc.

MODE - A particular form or method of travel such as walk, auto, carpool, bus, rapid transit, etc.

MOVEMENT - Synonymous with the term operation, i.e., a takeoff or a landing.

MSL - Mean Sea Level

N

NA - Not applicable

NAS - NATIONAL AIRSPACE SYSTEM - The common system or air navigation and air traffic encompassing communications facilities, air navigation facilities, airways, controlled airspace, special use airspace and flight procedures authorized by Federal Aviation Regulations for domestic and international aviation.

NAVAID - See Air Navigation Facility.

NCDC – National Climatic Data Center

NDB - NON-DIRECTIONAL BEACON - An electronic ground station transmitting in all directions in the L/MF frequency spectrum; provides azimuth guidance to aircraft equipped with direction finder receivers. These facilities are often established with ILS outer markers to provide transition guidance to the ILS system.

NEPA - National Environmental Policy Act

NM - Nautical Mile

NOISE ABATEMENT - A procedure for the operation of aircraft at an airport which minimizes the impact of noise on the environs of the airport.

NOISE CONTOUR - A noise impact boundary line connecting points on a map where the level of sound is the same.

NOISE EXPOSURE MAP - A scaled, geographic depiction of an airport, its noise contours and surrounding area.

NOISE LEVEL REDUCTION (NLR) - The amount of noise level reduction achieved through incorporation of noise attenuation (between outdoor and indoor levels) in the design and construction of a structure.

NON-PRECISION APPROACH - A standard instrument approach procedure in which no electronic glide slope is provided.

NPI - Non-Precision Instrument Runway

NPIAS - National Plan of Integrated Airport Systems

O

OAG - Official Airline Guide

OAK – Three letter identifier for Oakland International Airport.

OBSTRUCTION - Any structure, growth, or other object, including a mobile object, that exceeds a limiting height established by federal regulations or by a hazard zoning regulation.

OFZ – Obstacle free zone

OM - Outer Marker (part of an ILS)

OPERATION - An aircraft arrival at or departure from an airport.

OUTER FIX - A point in the destination terminal area from which aircraft are cleared to the approach fix or final approach course.

P

PAPI - Precision Approach Path Indicator

PAR - Precision Approach Radar

PEAK HOUR FACTOR - The ratio of the average flow rate during the peak hour to the highest short-term (say 15 minutes) rate within the peak hour.

PEAK HOUR PERCENTAGE - The percentage of total daily trips or traffic occurring in the highest or "peak" hour. Frequently confused with Peak Hour Factor.

PI - Precision Instrument Runway marking.

POSITIVE CONTROL - The separation of all air traffic within designated airspace by air traffic control.

PRECISION APPROACH - A standard instrument approach procedure in which an electronic glide slope/glide path is provided; e.g., ILS/MLS and PAR.

PRIMARY RUNWAY - The runway on which the majority of operations take place. On large, busy airports, there may be two or more parallel primary runways.

PRIMARY SURFACE - An area longitudinally centered on a runway with a width ranging from 250 to 1000 feet and extending 200 feet beyond the end of a paved runway.

PROHIBITED AREA - Airspace of defined dimensions identified by an area on the surface of the earth within flight is prohibited.

PSD - Prevention of Significant Deterioration

PU - Publicly owned airport.

PVC - Poor visibility and ceiling.

PVT - Privately owned airport.

Q

QUEUE - A line of pedestrians or vehicles waiting to be served.

R

RADAR SEPARATION - Radar spacing of aircraft in accordance with established minima.

RAIL - Runway Alignment Indicator Lights

RAPC - Regional Aviation Planning Committee

RCAG - Remote Center Air/Ground Communications

REIL - Runway End Identification Lights

RELIEVER AIRPORT - An airport which, when certain criteria are met, relieves the aeronautical demand on a high density air carrier airport.

RESTRICTED AREAS - Airspace of defined dimensions identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions.

RNAV - See Area Navigation.

ROFA – Runway Object Free Area

ROTATING BEACON - A visual NAVAID displaying flashes of white and/or colored light used to indicate location of an airport.

RPZ – Runway Protection Zone

RSA – Runway Safety Area

RSAT – Runway Safety Action Team

RUNWAY PROTECTION ZONE –An area off the end of the runway end to enhance the protection of people and property on the ground.

RUNWAY SAFETY AREA - An area symmetrical about the runway centerline and extending beyond the ends of the runway which shall be free of obstacles as specified.

RVR - Runway Visual Range

RVV - Runway Visibility Value

R/W - Runway

S

SALS - Short Approach Light System.

SDF - Simplified Directional Facility landing aid providing final approach course.

SEGMENTED CIRCLE - An airport aid identifying the traffic pattern direction.

SEPARATION MINIMA - The minimum longitudinal, lateral, or vertical distances by which aircraft are spaced through the application of air traffic control procedures.

SFO – Three letter identifier for San Francisco International Airport.

SFPUC – San Francisco Public Utility Commission.

SOCIOECONOMIC - Data pertaining to the population and economic characteristics of a region.

SSALF - Simplified Short Approach Light System with Sequence Flashing lights.

SSALS - Simplified Short Approach Light System.

SSALR - Simplified Short Approach Light System with Runway Alignment Indicator Lights (RAIL)

STANDARD LAND USE CODING MANUAL (SLUCM) - A standard system for identifying and coding land use activities published by the U.S. Department of Housing and Urban Development and the Federal Highway Administration.

STRAIGHT-IN APPROACH - A descent in an approved procedure in which the final approach course alignment and descent gradient permits authorization of straight-in landing minimums.

STOL - Short Takeoff and Landing

STOVL - Short Takeoff Vertical Landing

SYSTEM PLAN - A representative of the aviation facilities required to meet the immediate and future air transportation needs and to achieve the overall goals.

T

TACAN - Tactical Air Navigation

TDZ - Touchdown Zone

TERMINAL AIRSPACE - The controlled airspace normally associated with aircraft departure and arrival patterns to/from airports within a terminal system and between adjacent terminal systems in which tower enroute air traffic control service is provided.

TERMINAL CONTROL AREA (TCA) - This consists of controlled airspace extending upward from the surface or higher to specified altitudes within which all aircraft are subject to positive air traffic control procedures.

TERPS - Terminal Instrument Procedures

T-HANGAR - A T-shaped aircraft hangar that provides shelter for a single airplane.

THRESHOLD - The beginning of that portion of the runway usable for landing.

TODA – takeoff distance available: is the length of the takeoff run available, plus the length of the clearway, where provided.

TORA – takeoff run available: is the declared length of runway available and suitable for the ground run of an airplane taking off.

TOUCH-AND-GO OPERATION - An operation in which the aircraft lands and begins takeoff roll without stopping.

TRAFFIC PATTERN - The traffic flow that is prescribed for aircraft landing at, taxiing on, and taking off from an airport. The usual components of a traffic pattern are upwind leg, crosswind leg, downwind leg and final approach.

TRANSIENT OPERATIONS - See Itinerant Operations.

TRANSITIONAL SURFACE - An element of the imaginary surfaces extending outward at right angles to the runway centerline and from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces.

TRANSITIONAL AIRSPACE - That portion of controlled airspace wherein aircraft change from one phase of flight or flight condition to another.

TRIP - The one-way unit of travel between an origin and a destination.

TRIP ASSIGNMENT - That portion of the transportation planning process where distributed trips are allocated among the actual routes they can be expected to use.

TW & T/W - Taxiway

TWR - Control Tower

TVOR - Terminal Very High Frequency Omnirange Station

U

UHF - Ultra High Frequency

UNICOM - Radio communications station which provides pilots with pertinent airport information (winds, weather, etc.) at specific airports.

UTILITY RUNWAY - A runway intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight or less.

V

VASI - Visual Approach Slope Indicator providing visual glide path.

VASI-2 - Two Box Visual Approach Slope Indicator

VASI-4 - Four Box Visual Approach Slope Indicator

VECTOR - A heading issued to an aircraft to provide navigational guidance by radar.

VFR - Visual Flight Rules that govern flight procedures in good weather.

VFR AIRCRAFT - An aircraft conducting flight in accordance with Visual Flight Rules.

VHF - Very High Frequency

VISUAL APPROACH RUNWAY - A runway intended for visual approaches only.

VOR - Very High Frequency Omnirange Station. A ground-based radio (electronic) navigation aid transmitting radials in all directions in the VHF frequency spectrum; provides azimuth guidance to pilots by reception of electronic signals.

VORTAC - Co-located VOR and TACAN.

V/STOL - Vertical/Short Takeoff and Landing

VTOL - Vertical Takeoff and Landing (includes, but is not limited to, helicopters).

W

WARNING AREA - Airspace which may contain hazards to non-participating aircraft in international airspace.

WAAS - Wide Area Augmentation System

WIND CONE (WINDSOCK) - Conical wind directional indicator.

WIND TEE - A visual device used to advise pilots about wind direction at an airport.

Y

YEARLY DAY-NIGHT AVERAGE SOUND LEVEL (Ldn) - The 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of ten decibels to sound levels for the periods between 10 p.m. and 7 a.m. the following day, averaged over a span of one year.

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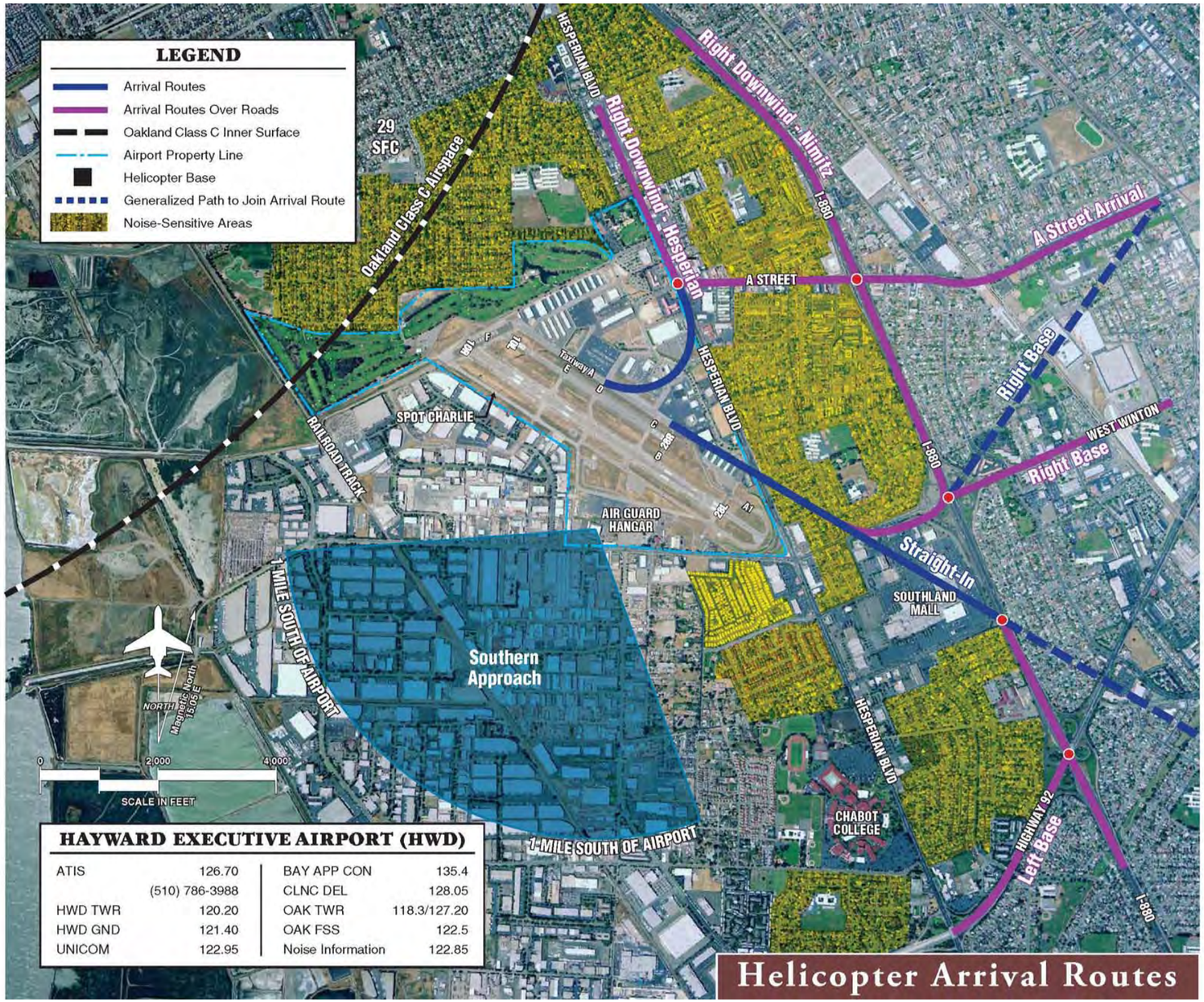
Appendix C
Pilot Information Flyers



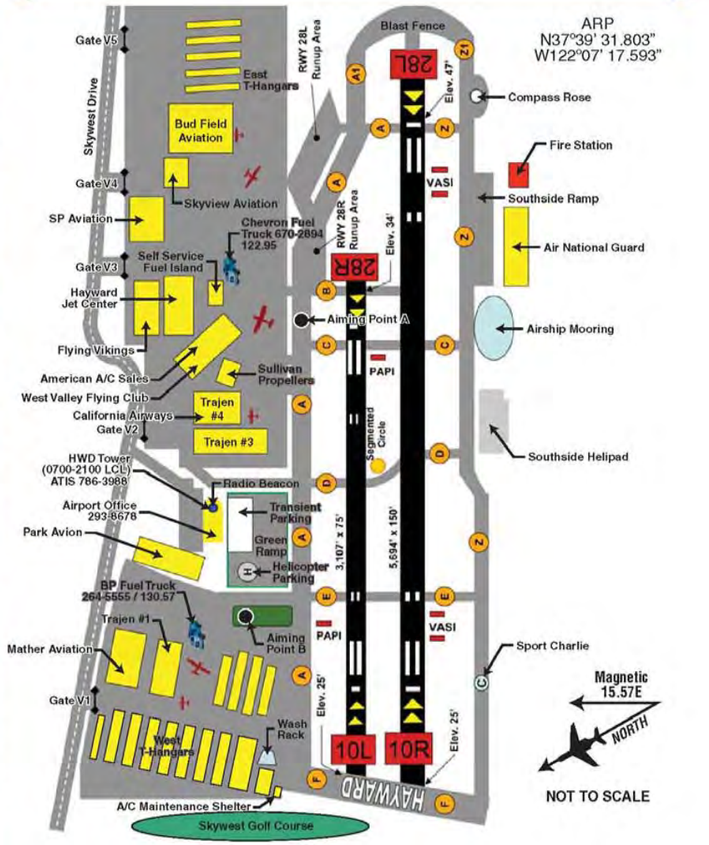
Helicopter Arrival Routes

October 2006

HAYWARD EXECUTIVE AIRPORT

Noise Abatement and Operational Procedures Guide for Helicopter Operations

The Hayward Executive Airport strives to be a good neighbor and has established a noise abatement program to assist pilots in operating their aircraft in the quietest manner possible. The noise abatement procedures detailed in this guide are intended to avoid any unnecessary overflights of residential areas. Pilots are encouraged to comply with these procedures unless deviations are made necessary by weather, air traffic control instructions, an in-flight emergency, or other safety considerations.



Helicopter Departure Routes

October 2006

HAYWARD EXECUTIVE AIRPORT (HWD)

ATIS	126.70	BAY APP CON	135.4
	(510) 786-3988	CLNC DEL	128.05
HWD TWR	120.20	OAK TWR	118.3/127.20
HWD GND	121.40	OAK FSS	122.5
UNICOM	122.95	Noise Information	122.85

LEGEND

- Departure Routes
- Departure Routes Over Roads
- Helicopter Touch & Go Pattern
- Oakland Class C Inner Surface
- Airport Property Line
- Helicopter Base
- Generalized Path to Join Departure Route
- Noise-Sensitive Areas

Safety is a priority. *These procedures are not intended to preempt the prerogative or responsibilities of the pilot-in-command for aircraft operation. The procedures are not intended to conflict with air traffic control instructions, which are the exclusive authority of the FAA.*

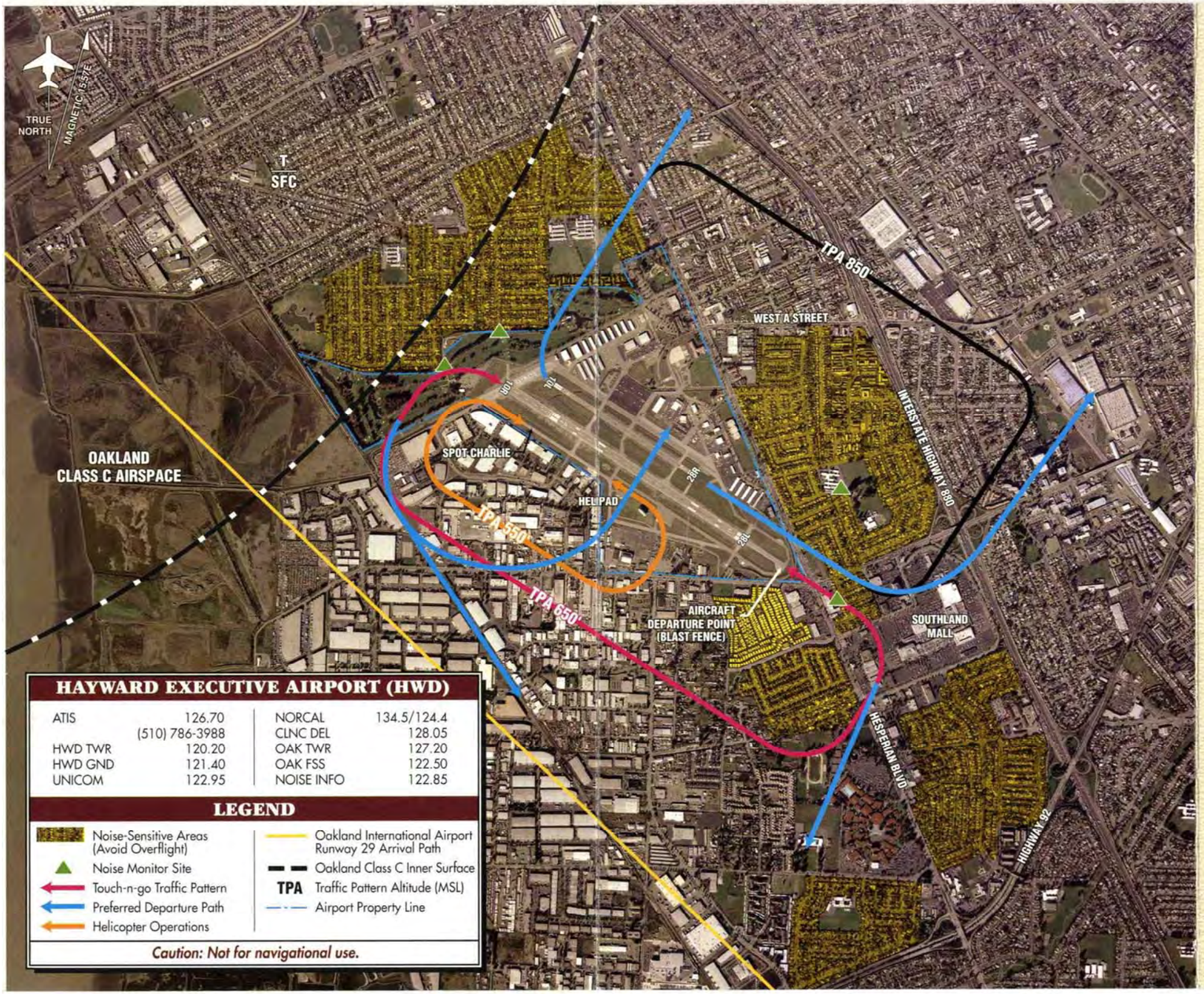
Noise Abatement Procedures:

- Pilots should be considerate of the noise impacts to resident's directly beneath their flight path.
- Avoid noise-sensitive areas when possible.
- Observe low-noise speed and descent settings.
- Avoid sharp maneuvers.
- Use high takeoff and descent profiles.
- Approach at the steepest practical glide slope.
- Minimize early morning or late night flights.

BE A GOOD NEIGHBOR . . . . . FLY QUIET

For further information, or to provide suggestions for improving Hayward Executive Airport's Noise Abatement Program, please contact:

Airport Operations • Hayward Executive Airport
20301 Skywest Drive • Hayward, California 94541-4699
(510) 293-8678 • www.haywardair.org



HAYWARD EXECUTIVE AIRPORT

Noise Abatement and Operational Procedure Guide

Runway 10L

- Closed 2100 to 0700 local hours

Please avoid prolonged flight at low altitudes over NOISE SENSITIVE AREAS (shaded in yellow), unless prevented by weather, air traffic control instructions or safety reasons.

NOISE ABATEMENT PROCEDURES AS FOLLOWS:

Runway 28R

- Closed 2100 to 0700 local hours
- No straight-out departures
- Turn right before golf course
- Single-engine aircraft operations only
- High performance single aircraft operations prohibited

Runway 28L

- No straight-out departures
- Preferred runway for Touch & Go and Stop & Go activities
- Left 270° preferred departure path
- Depart from Taxiway A1 or Z1 blast fence

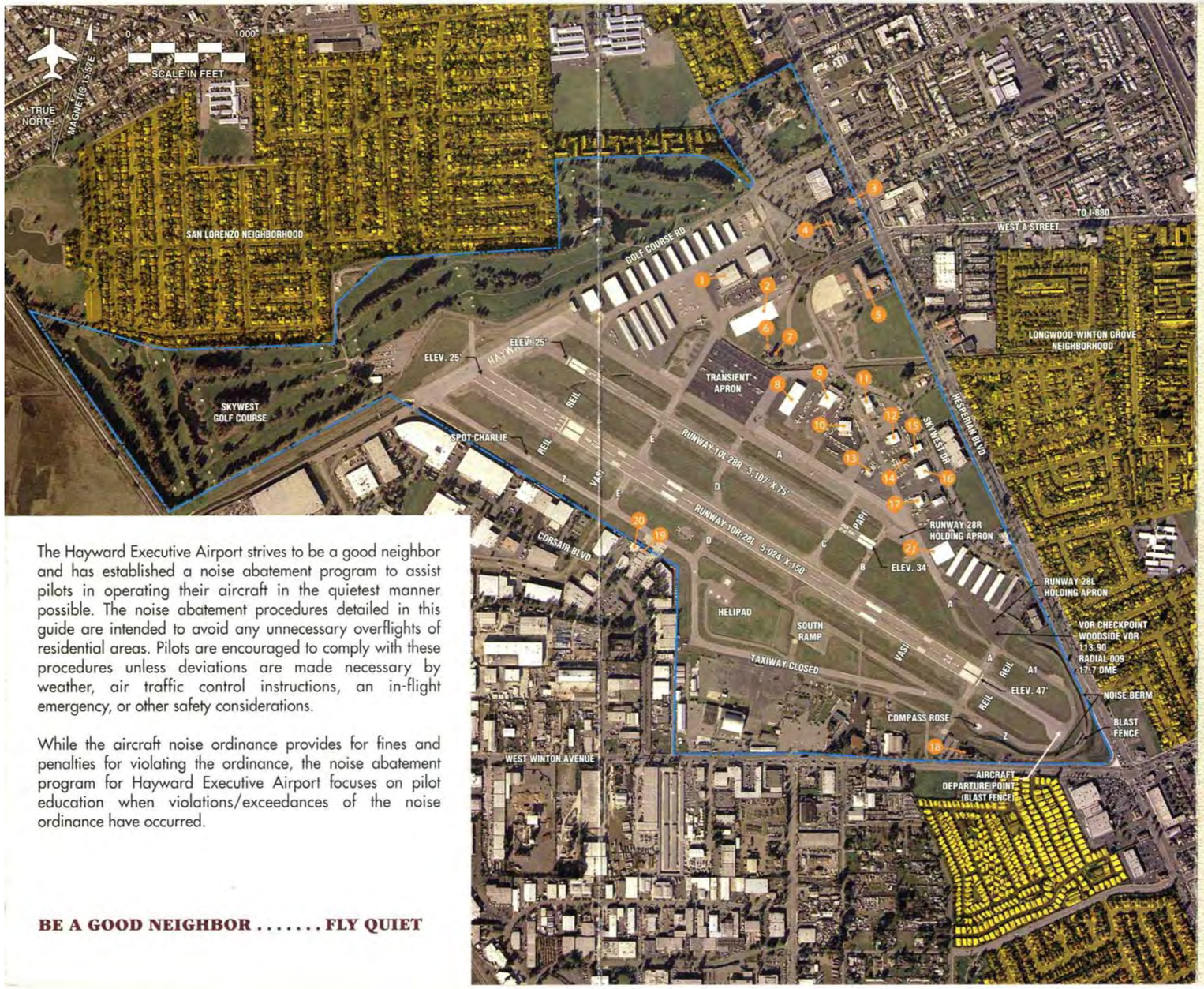
Helicopter Operations

- All operations shall be conducted from Helipad or Spot Charlie
- Maintain traffic pattern over industrial area southeast of Runway 10R-28L at or below 500′ MSL
- Use Spot Charlie for autorotation and landing training

Touch & Go and Stop & Go Operations

- **Runway 10R-28L**
  - Touch & Go and Stop & Go procedures prohibited between 2100 and 0700 hours Monday through Saturday and 2100 hours and 1000 hours on Sundays and/or holidays
- **Runway 10L-28R**
  - Touch & Go and Stop & Go procedures prohibited between 0700 and 1000 hours on Sundays and/or holidays
  - All other times not recommended

HWD



The Hayward Executive Airport strives to be a good neighbor and has established a noise abatement program to assist pilots in operating their aircraft in the quietest manner possible. The noise abatement procedures detailed in this guide are intended to avoid any unnecessary overflights of residential areas. Pilots are encouraged to comply with these procedures unless deviations are made necessary by weather, air traffic control instructions, an in-flight emergency, or other safety considerations.

While the aircraft noise ordinance provides for fines and penalties for violating the ordinance, the noise abatement program for Hayward Executive Airport focuses on pilot education when violations/exceedances of the noise ordinance have occurred.

BE A GOOD NEIGHBOR . . . . . FLY QUIET

HAYWARD EXECUTIVE AIRPORT

Noise Abatement and Operational Procedure Guide

HAYWARD EXECUTIVE AIRPORT BUSINESS

1. Trajen Flight Support
   BP Fuel Truck 510-264-5555
   American Flyers 510-782-5311
   Helinet Aviation Services 510-887-4100
   Mather Aviation, LLC 510-785-5511
   South Bay Helicopter Serrvices, Inc 510-259-1279
   Enterprise Car Rental 510-264-4300
2. Ascend 510-264-5554
3. Carrow's Restaurant 510-782-5686
   JT's Gas Station 510-784-1940
4. Vagabond Inn 510-785-5480
5. La Quinta Inn 510-732-6300 / 1-800-531-5900
6. FAA-HWD Control Tower 510-748-0122
7. Airport Administration Office 510-293-8678 / 1-800-286-5444
8. Trajen Flight Support #3 510-264-5555 / 130.57 Mhz
9. Trajen Flight Support #4
   California Airways 510-887-7686
   Creative Aviation 510-781-0165
   First Light Media 510-887-4121
   J&R Electronics 510-782-5657
   One Stop Shop Co-op 510-784-0185
   Turbine Air 510-785-5631
   Valley Air Flight Services 408-315-9221
10. Sullivan Propeller Specialists 510-782-0920
11. American Aircraft Sales 510-783-2711
    West Valley Flying Club 510-781-0101
12. Career Aviation/Hayward Jet Center 510-670-2864 / 1-800-538-7787
13. Hayward Jet Center / Chevron Fuel 510-670-2864 / 1-800-538-7787
14. Horsham Valley Airways 510-782-8967
    National Helicopter 510-887-8653
15. Flying Vikings 510-670-4719
16. SP Aviation 510-783-3584
17. International Aircraft Services 510-670-4700
    Skyview Aviation 510-785-7666
18. Raja Indian Cuisine 510-264-9300
19. Calstar EMS (Air Ambulance) 510-887-3063
20. Helicopter Components Services 510-783-9703
21. Bud Field Aviation 510-782-9063

For further information, or to provide suggestions for improving Hayward Executive Airport's Noise Abatement Program, please contact:

Airport Operations
Hayward Executive Airport
20301 Skywest Drive
Hayward, California 94541-4699
(510) 293-8678
www.hayward-ca.gov
Noise Information Line (510) 293-8692

Appendix D
Based Aircraft TAF Data – Refined CMA

Appendix D– Based Aircraft TAF Data – Refined CMA

	Single Engine		Multi-Engine		Jet		Helicopter		Other		
Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Total
Hayward											
1998	430	94.30%	15	3.29%	5	1.10%	6	1.32%	0	0.00%	456
1999	430	94.30%	15	3.29%	5	1.10%	6	1.32%	0	0.00%	456
2000	430	94.30%	15	3.29%	5	1.10%	6	1.32%	0	0.00%	456
2001	430	94.30%	15	3.29%	5	1.10%	6	1.32%	0	0.00%	456
2002	430	94.30%	15	3.29%	5	1.10%	6	1.32%	0	0.00%	456
2003	430	94.30%	15	3.29%	5	1.10%	6	1.32%	0	0.00%	456
2004	423	89.62%	24	5.08%	9	1.91%	16	3.39%	0	0.00%	472
2005	423	89.62%	24	5.08%	9	1.91%	16	3.39%	0	0.00%	472
2006	416	85.77%	18	3.71%	32	6.60%	19	3.92%	0	0.00%	485
Oakland Int'l											
1998	242	66.12%	92	25.14%	22	6.01%	10	2.73%	0	0.00%	366
1999	240	64.86%	95	25.68%	23	6.22%	12	3.24%	0	0.00%	370
2000	240	64.86%	95	25.68%	23	6.22%	12	3.24%	0	0.00%	370
2001	240	64.86%	95	25.68%	23	6.22%	12	3.24%	0	0.00%	370
2002	240	64.86%	95	25.68%	23	6.22%	12	3.24%	0	0.00%	370
2003	243	64.97%	96	25.67%	23	6.15%	12	3.21%	0	0.00%	374
2004	240	64.86%	95	25.68%	23	6.22%	12	3.24%	0	0.00%	370
2005	240	64.86%	95	25.68%	23	6.22%	12	3.24%	0	0.00%	370
2006	240	64.86%	95	25.68%	23	6.22%	12	3.24%	0	0.00%	370
San Francisco Int'l											
1998	6	24.00%	11	44.00%	8	32.00%	0	0.00%	0	0.00%	25
1999	6	24.00%	11	44.00%	8	32.00%	0	0.00%	0	0.00%	25
2000	6	24.00%	11	44.00%	8	32.00%	0	0.00%	0	0.00%	25
2001	6	24.00%	11	44.00%	8	32.00%	0	0.00%	0	0.00%	25
2002	6	24.00%	11	44.00%	8	32.00%	0	0.00%	0	0.00%	25
2003	6	24.00%	11	44.00%	8	32.00%	0	0.00%	0	0.00%	25
2004	1	5.56%	3	16.67%	12	66.67%	2	11.11%	0	0.00%	18
2005	1	5.56%	3	16.67%	12	66.67%	2	11.11%	0	0.00%	18
2006	1	5.56%	3	16.67%	12	66.67%	2	11.11%	0	0.00%	18

	Single Engine		Multi-Engine		Jet		Helicopter		Other		
Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Total
Buchanan Field											
1998	473	81.69%	74	12.78%	14	2.42%	17	2.94%	1	0.17%	579
1999	473	81.69%	74	12.78%	14	2.42%	17	2.94%	1	0.17%	579
2000	473	81.69%	74	12.78%	14	2.42%	17	2.94%	1	0.17%	579
2001	473	81.69%	74	12.78%	14	2.42%	17	2.94%	1	0.17%	579
2002	495	83.76%	74	12.52%	11	1.86%	11	1.86%	0	0.00%	591
2003	500	84.18%	74	12.46%	10	1.68%	10	1.68%	0	0.00%	594
2004	495	83.76%	74	12.52%	11	1.86%	11	1.86%	0	0.00%	591
2005	495	83.76%	74	12.52%	11	1.86%	11	1.86%	0	0.00%	591
2006	495	83.76%	74	12.52%	11	1.86%	11	1.86%	0	0.00%	591
Livermore Municipal											
1998	492	89.95%	50	9.14%	2	0.37%	3	0.55%	0	0.00%	547
1999	492	89.95%	50	9.14%	2	0.37%	3	0.55%	0	0.00%	547
2000	492	89.95%	50	9.14%	2	0.37%	3	0.55%	0	0.00%	547
2001	492	89.95%	50	9.14%	2	0.37%	3	0.55%	0	0.00%	547
2002	492	89.95%	50	9.14%	2	0.37%	3	0.55%	0	0.00%	547
2003	502	89.96%	51	9.14%	2	0.36%	3	0.54%	0	0.00%	558
2004	534	88.41%	65	10.76%	2	0.33%	3	0.50%	0	0.00%	604
2005	534	88.41%	65	10.76%	2	0.33%	3	0.50%	0	0.00%	604
2006	534	88.41%	65	10.76%	2	0.33%	3	0.50%	0	0.00%	604
San Jose Int'l											
1998	490	72.06%	160	23.53%	18	2.65%	12	1.76%	0	0.00%	680
1999	298	71.46%	78	18.71%	31	7.43%	10	2.40%	0	0.00%	417
2000	298	71.46%	78	18.71%	31	7.43%	10	2.40%	0	0.00%	417
2001	298	71.46%	78	18.71%	31	7.43%	10	2.40%	0	0.00%	417
2002	298	71.46%	78	18.71%	31	7.43%	10	2.40%	0	0.00%	417
2003	298	71.46%	78	18.71%	31	7.43%	10	2.40%	0	0.00%	417
2004	298	71.46%	78	18.71%	31	7.43%	10	2.40%	0	0.00%	417
2005	298	71.46%	78	18.71%	31	7.43%	10	2.40%	0	0.00%	417
2006	104	56.22%	26	14.05%	45	24.32%	10	5.41%	0	0.00%	185
Napa County											
1998	219	88.66%	25	10.12%	0	0.00%	3	1.21%	0	0.00%	247
1999	219	88.66%	25	10.12%	0	0.00%	3	1.21%	0	0.00%	247
2000	219	88.66%	25	10.12%	0	0.00%	3	1.21%	0	0.00%	247
2001	219	88.66%	25	10.12%	0	0.00%	3	1.21%	0	0.00%	247
2002	219	88.66%	25	10.12%	0	0.00%	3	1.21%	0	0.00%	247
2003	220	88.71%	25	10.08%	0	0.00%	3	1.21%	0	0.00%	248
2004	183	80.62%	32	14.10%	7	3.08%	3	1.32%	2	0.88%	227
2005	183	80.62%	32	14.10%	7	3.08%	3	1.32%	2	0.88%	227
2006	183	80.62%	32	14.10%	7	3.08%	3	1.32%	2	0.88%	227
Sonoma County											
1998	346	83.78%	57	13.80%	4	0.97%	5	1.21%	1	0.24%	413
1999	325	86.21%	49	13.00%	2	0.53%	0	0.00%	1	0.27%	377
2000	325	86.21%	49	13.00%	2	0.53%	0	0.00%	1	0.27%	377
2001	325	86.21%	49	13.00%	2	0.53%	0	0.00%	1	0.27%	377
2002	325	85.53%	49	12.89%	2	0.53%	3	0.79%	1	0.26%	380
2003	327	85.60%	49	12.83%	2	0.52%	3	0.79%	1	0.26%	382
2004	325	85.53%	49	12.89%	2	0.53%	3	0.79%	1	0.26%	380
2005	325	85.53%	49	12.89%	2	0.53%	3	0.79%	1	0.26%	380
2006	325	85.53%	49	12.89%	2	0.53%	3	0.79%	1	0.26%	380

Appendix E
Independent Forecasts

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Memorandum

Date: **April 8, 2009**

To: Lloyd Partin

From: Andrew Scanlon

Subject: Independent Forecasts

Distribution:

This memorandum was prepared in response to a question and comment that arose at the second Technical Advisory Committee (TAC) meeting held on February 9, 2009. The commentator was concerned that the Master Plan forecasts used as a basis for the Airport Layout Plan (ALP) update were not valid due to changes in the economic climate and market conditions. Specifically, there is difference in present day operations from what was forecasted in the 2002 Master Plan. This memorandum presents additional forecast data that validates the Master Plan forecasts.

Methodology

In order to validate the 2002 Master Plan forecasts a general aviation market area (GAMA) was defined. This market area is comprised of Bay Area general aviation airports that have airport traffic control towers. These airports are direct general aviation competitors to Hayward Executive Airport and include San Carlos, Livermore, Palo Alto, Reid-Hillview, Sonoma County, Napa County and Buchanan Field. Historical data from the FAA Terminal Area Forecast (TAF) was used to determine Hayward's historical low, average, and high percentage of market share. These percentages were then used as a basis to prepare a low, baseline, and high growth forecasts for based aircraft and operations to be used as a comparison to the 2002 Master Plan Forecast.

The low, average, and high forecasts present a reasonable envelope for planning purposes. Forecasts were prepared for the same years as found in the Master Plan: 2010, 2015, and 2020. The TAF was used to determine based aircraft and operation totals forecasted for the GAMA (see Table 1).

Table 1
TAF FORECAST DATA

	2010	2015	2020
GAMA Based Aircraft	4,192	4,419	4,636
GAMA Operations	1,398,054	1,471,322	1,562,305

Source: FAA 2007 Terminal Area Forecast.

Based Aircraft

Table 2 shows historical based aircraft of the GAMA airports from 1985 to 2006 including the Hayward's low, average, and high capture percentage of based aircraft within the GAMA. As can be seen in Table 2, Hayward

Table 2
GAMA Based Aircraft 1985 – 2006

Year	HWD	SQL	LVK	PAO	STS	APC	RHV	CCR	Total
1985	616	486	398	596	466	257	720	640	4,179
1986	661	486	451	596	466	211	754	644	4,269
1987	667	495	609	556	466	215	635	614	4,257
1988	661	495	603	556	462	215	635	605	4,232
1989	665	495	578	578	438	261	637	635	4,287
1990	560	495	578	1022	435	223	637	635	4,585
1991	586	497	578	512	379	238	551	579	3,920
1992	514	500	578	501	359	247	554	579	3,832
1993	514	500	578	501	359	247	554	579	3,832
1994	456	498	N/A	494	359	247	554	579	3,187
1995	456	498	580	494	413	247	554	579	3,821
1996	456	498	580	494	413	247	554	579	3,821
1997	456	498	547	495	413	247	554	579	3,789
1998	456	498	547	495	413	247	554	579	3,789
1999	456	498	547	495	377	247	554	579	3,753
2000	456	498	547	495	377	247	554	579	3,753
2001	456	498	547	455	377	247	554	579	3,713
2002	456	498	547	455	380	247	554	591	3,728
2003	456	503	558	458	382	248	567	594	3,766
2004	472	503	604	527	380	227	697	591	4,001
2005	472	503	604	527	380	227	697	591	4,001
2006	496	503	604	527	380	227	697	591	4,025
Percent General Aviation Market Area Based Aircraft									
1985	14.74%	11.63%	9.52%	14.26%	11.15%	6.15%	17.23%	15.31%	100.00%
1986	15.48%	11.38%	10.56%	13.96%	10.92%	4.94%	17.66%	15.09%	100.00%
1987	15.67%	11.63%	14.31%	13.06%	10.95%	5.05%	14.92%	14.42%	100.00%
1988	15.62%	11.70%	14.25%	13.14%	10.92%	5.08%	15.00%	14.30%	100.00%
1989	15.51%	11.55%	13.48%	13.48%	10.22%	6.09%	14.86%	14.81%	100.00%
1990	12.21%	10.80%	12.61%	22.29%	9.49%	4.86%	13.89%	13.85%	100.00%
1991	14.95%	12.68%	14.74%	13.06%	9.67%	6.07%	14.06%	14.77%	100.00%
1992	13.41%	13.05%	15.08%	13.07%	9.37%	6.45%	14.46%	15.11%	100.00%
1993	13.41%	13.05%	15.08%	13.07%	9.37%	6.45%	14.46%	15.11%	100.00%
1994	14.31%	15.63%	N/A	15.50%	11.26%	7.75%	17.38%	18.17%	100.00%
1995	11.93%	13.03%	15.18%	12.93%	10.81%	6.46%	14.50%	15.15%	100.00%
1996	11.93%	13.03%	15.18%	12.93%	10.81%	6.46%	14.50%	15.15%	100.00%
1997	12.03%	13.14%	14.44%	13.06%	10.90%	6.52%	14.62%	15.28%	100.00%
1998	12.03%	13.14%	14.44%	13.06%	10.90%	6.52%	14.62%	15.28%	100.00%
1999	12.15%	13.27%	14.58%	13.19%	10.05%	6.58%	14.76%	15.43%	100.00%
2000	12.15%	13.27%	14.58%	13.19%	10.05%	6.58%	14.76%	15.43%	100.00%
2001	12.28%	13.41%	14.73%	12.25%	10.15%	6.65%	14.92%	15.59%	100.00%
2002	12.23%	13.36%	14.67%	12.20%	10.19%	6.63%	14.86%	15.85%	100.00%
2003	12.11%	13.36%	14.82%	12.16%	10.14%	6.59%	15.06%	15.77%	100.00%
2004	11.80%	12.57%	15.10%	13.17%	9.50%	5.67%	17.42%	14.77%	100.00%
2005	11.80%	12.57%	15.10%	13.17%	9.50%	5.67%	17.42%	14.77%	100.00%
2006	12.32%	12.50%	15.01%	13.09%	9.44%	5.64%	17.32%	14.68%	100.00%
Average	13.19%	12.72%	13.52%	13.61%	10.26%	6.13%	15.39%	15.19%	100.00%
Low	11.80%	10.80%	9.52%	12.16%	9.37%	4.86%	13.89%	13.85%	100.00%
High	15.67%	15.63%	15.18%	22.29%	11.26%	7.75%	17.66%	18.17%	100.00%

Source: FAA 2007 Terminal Area Forecast; DMJM Aviation analysis.

has attracted an average of approximately 13 percent of GAMA based aircraft from 1985 to 2006. Hayward's lowest representation of based aircraft was just under 12 percent in 2004 and 2005 and highest representation of based aircraft was almost 16 percent in 1987. Since 1995, Hayward has averaged a fairly consistent 12 percent capture rate of based aircraft within the GAMA, which is approximately equal to Hayward's historical low market share capture rate.

While reviewing the TAF forecast data for Hayward it was noted that the FAA projects no growth at Hayward. The TAF projects 496 aircraft will be based at Hayward through the year 2025. The TAF forecast was adopted as the low growth forecast since it represents a more conservative low growth scenario, where Hayward captures approximately 10.70 percent of the GAMA based aircraft. For the baseline forecast, it was assumed that Hayward would continue to capture 12 percent of the based aircraft market, as it has consistently done for the last 14 years. This results in approximately 530 based aircraft in 2015 and 566 based aircraft in 2020. The high growth forecast projects that Hayward will transition from its current market share capture rate to its 20 year average capture rate of 13.19 percent. The high capture rate was not used as it represented a market share reached over 20 years ago and Hayward's based aircraft levels have not reached these levels since the 1980s. Therefore, the high growth forecasts approximately 554 and 611 based aircraft in years 2015 and 2020, respectively. The TAF forecast for year 2010 (496 based aircraft) was used as a starting point for all forecasts. Table 3 depicts the low, baseline, and high growth forecasts as described above, along with the 2002 Master Plan selected forecast. Figure 1 presents a graph of historical based aircraft levels at Hayward, along with the forecasts shown in Table 3.

Table 3
Hayward Based Aircraft Forecasts

			Year
Forecast	**2010**	**2015**	**2020**
Low	496	496	496
Baseline	496	530	566
High	496	554	611
Master Plan	475	497	518

Source: 2002 Master Plan;
DMJM Aviation analysis.

As noted in Table 3, the 2002 Master Plan selected forecast projects 475 based aircraft in 2010, 497 in 2015, and 518 in 2030. To account for uncertainties in forecasting, the 2002 Master Plan presented a planning envelope for based aircraft (shown on Figure 1 as dashed light blue lines). As can be seen on Figure 1, while current based aircraft levels are higher than the selected forecast, they still are within the planning envelope. The same is true for the baseline forecast presented herein; the baseline forecast projects fewer based aircraft than the planning envelope found in the 2002 Master Plan. Thus, the Master Plan forecast seems valid for future uses as it covers a wide range of based aircraft levels and includes all but the high growth levels, which represents an aggressive increase in market share from today.

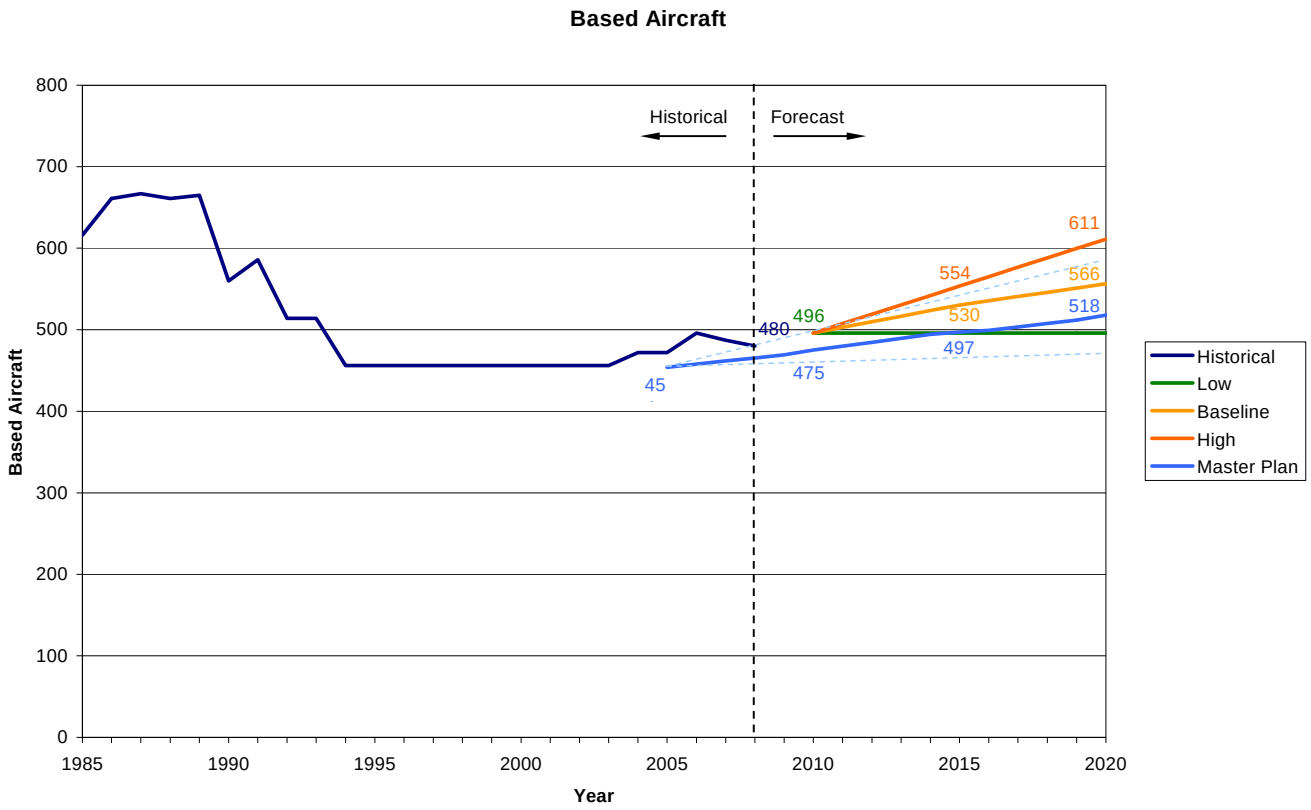

Figure 1
Hayward Based Aircraft Forecasts

Aircraft Operations

Aircraft operations at Hayward were forecasted in a similar fashion as based aircraft. Table 4 presents the historical operations data for GAMA airports for the years 1985 to 2006, along with capture rates for each year, and low, average, and high percentage of capture rates. On average, Hayward has accounted for 13 percent of the GAMA operations. Since 1992, Hayward has averaged about ten percent of GAMA operations. However, there has been a positive trend of increased operations since 2005. In fact, in 2008 Hayward recorded 153,684 operations. In 1993, Hayward accounted for approximately ten percent (historical low) and in 1986, a high of approximately 17 percent of GAMA operations were realized.

The low growth forecast assumes a straight line increase from present day operations to a point where Hayward accounts for 10.44 percent of GAMA operations. This percentage represents Hayward's lowest historical percentage of GAMA operations. Therefore, the low growth forecast projects 162,577 operations in 2015 and 163,155 operations in 2020. The baseline forecast assumes that Hayward represents its historical average percent of operations by 2020 – 12.66 percent. A total of 197,821 and 179,911 operations are forecasted in 2020 and 2015, respectively. Since the highest historical average occurred over 20 years ago, it was not used as the basis for the high growth forecast. Rather, the high growth forecast assumed that Hayward would reach 15 percent of GAMA operations, as it did in 1990. This results in 198,173 operations in 2015 and 234,346 in 2020. Table 5 shows low, baseline, and high growth operations forecasts as well as the 2007 TAF operations forecast and the three forecasts included in the 2002 Master Plan (Constant, Selected, and Increasing).

As was previously noted, Hayward has recently been experiencing an increase in operations. Operations for 2008 represented an increase of about 4,000 operations from 2007 levels. The forecasts in this memorandum reflect a starting point of 162,000 operations, which represents a similar increase (4,000 annual operations) for years 2009 and 2010.

Figure 2 depicts historical operations at Hayward, along with low, baseline, and high growth forecasts as described herein, and 2002 Master Plan forecasts.

Table 4
Hayward CMA Aircraft Operations 1985 – 2006

Year	HWD	SQL	LVK	PAO	STS	APC	RHV	CCR	Total
1985	243,198	164,261	165,070	185,923	121,578	128,389	220,691	241,004	1,470,114
1986	261,163	163,671	184,368	192,040	125,830	127,833	206,845	234,709	1,496,459
1987	273,830	189,246	200,470	216,574	142,524	137,723	198,156	234,509	1,593,032
1988	250,516	178,846	193,665	214,701	134,819	162,706	185,039	244,003	1,564,295
1989	252,334	170,336	208,084	210,486	149,234	170,103	190,607	262,972	1,614,156
1990	264,970	190,663	220,113	234,073	164,960	184,046	206,431	300,764	1,766,020
1991	204,253	197,874	230,353	230,534	155,739	183,390	194,681	285,207	1,682,031
1992	179,140	175,668	246,838	232,971	162,965	203,701	184,532	292,019	1,677,834
1993	165,094	143,477	282,782	212,303	158,127	206,086	171,227	241,777	1,580,873
1994	159,239	135,557	250,292	207,404	155,922	219,950	169,457	224,398	1,522,219
1995	153,025	123,753	226,955	187,660	151,800	202,350	154,363	222,003	1,421,909
1996	171,002	118,379	228,467	197,582	146,148	172,170	156,466	227,297	1,417,511
1997	184,564	142,473	233,320	205,311	134,732	141,922	179,855	226,082	1,448,259
1998	155,330	149,835	235,692	192,093	130,944	152,515	206,772	214,094	1,437,275
1999	181,966	163,871	252,470	205,436	136,310	159,144	215,037	225,939	1,540,173
2000	171,127	166,927	235,693	197,283	137,132	156,026	226,802	216,138	1,507,128
2001	165,318	162,129	229,366	216,483	138,767	125,571	232,795	155,713	1,426,142
2002	152,312	166,037	219,377	208,775	114,854	133,282	230,881	142,329	1,367,847
2003	149,842	169,665	192,380	212,981	117,748	124,650	219,122	124,737	1,311,125
2004	140,102	161,118	209,999	199,426	132,457	116,362	205,021	123,974	1,288,459
2005	128,184	152,118	173,399	184,794	116,305	115,515	200,487	123,299	1,194,101
2006	133,472	143,424	172,990	176,570	119,244	116,400	168,430	110,474	1,141,004
Percent General Aviation Market Area Based Aircraft									
1985	16.54%	11.17%	11.23%	12.65%	8.27%	8.73%	15.01%	16.39%	100.00%
1986	17.45%	10.94%	12.32%	12.83%	8.41%	8.54%	13.82%	15.68%	100.00%
1987	17.19%	11.88%	12.58%	13.60%	8.95%	8.65%	12.44%	14.72%	100.00%
1988	16.01%	11.43%	12.38%	13.73%	8.62%	10.40%	11.83%	15.60%	100.00%
1989	15.63%	10.55%	12.89%	13.04%	9.25%	10.54%	11.81%	16.29%	100.00%
1990	15.00%	10.80%	12.46%	13.25%	9.34%	10.42%	11.69%	17.03%	100.00%
1991	12.14%	11.76%	13.69%	13.71%	9.26%	10.90%	11.57%	16.96%	100.00%
1992	10.68%	10.47%	14.71%	13.89%	9.71%	12.14%	11.00%	17.40%	100.00%
1993	10.44%	9.08%	17.89%	13.43%	10.00%	13.04%	10.83%	15.29%	100.00%
1994	10.46%	8.91%	16.44%	13.63%	10.24%	14.45%	11.13%	14.74%	100.00%
1995	10.76%	8.70%	15.96%	13.20%	10.68%	14.23%	10.86%	15.61%	100.00%
1996	12.06%	8.35%	16.12%	13.94%	10.31%	12.15%	11.04%	16.03%	100.00%
1997	12.74%	9.84%	16.11%	14.18%	9.30%	9.80%	12.42%	15.61%	100.00%
1998	10.81%	10.42%	16.40%	13.37%	9.11%	10.61%	14.39%	14.90%	100.00%
1999	11.81%	10.64%	16.39%	13.34%	8.85%	10.33%	13.96%	14.67%	100.00%
2000	11.35%	11.08%	15.64%	13.09%	9.10%	10.35%	15.05%	14.34%	100.00%
2001	11.59%	11.37%	16.08%	15.18%	9.73%	8.80%	16.32%	10.92%	100.00%
2002	11.14%	12.14%	16.04%	15.26%	8.40%	9.74%	16.88%	10.41%	100.00%
2003	11.43%	12.94%	14.67%	16.24%	8.98%	9.51%	16.71%	9.51%	100.00%
2004	10.87%	12.50%	16.30%	15.48%	10.28%	9.03%	15.91%	9.62%	100.00%
2005	10.73%	12.74%	14.52%	15.48%	9.74%	9.67%	16.79%	10.33%	100.00%
2006	11.70%	12.57%	15.16%	15.47%	10.45%	10.20%	14.76%	9.68%	100.00%
Average	12.66%	10.92%	14.82%	14.00%	9.41%	10.56%	13.46%	14.17%	100.00%
Low	10.44%	8.35%	11.23%	12.65%	8.27%	8.54%	10.83%	9.51%	100.00%
High	17.45%	12.94%	17.89%	16.24%	10.68%	14.45%	16.88%	17.40%	100.00%

Source: FAA 2007 Terminal Area Forecast; DMJM Aviation analysis.

Table 5
Hayward Aircraft Operations Forecasts

	2010	2015	2020
Low	162,000	162,577	163,155
Baseline	162,000	179,911	197,821
High	162,000	198,173	234,346
2007 TAF	135,744	145,236	150,123
Master Plan - Constant	172,600	180,300	188,100
Master Plan - Selected	188,250	204,400	221,800
Master Plan - Increasing	203,900	228,500	255,500

Source: FAA 2007 Terminal Area Forecast; 2002 Master Plan; DMJM Aviation analysis.

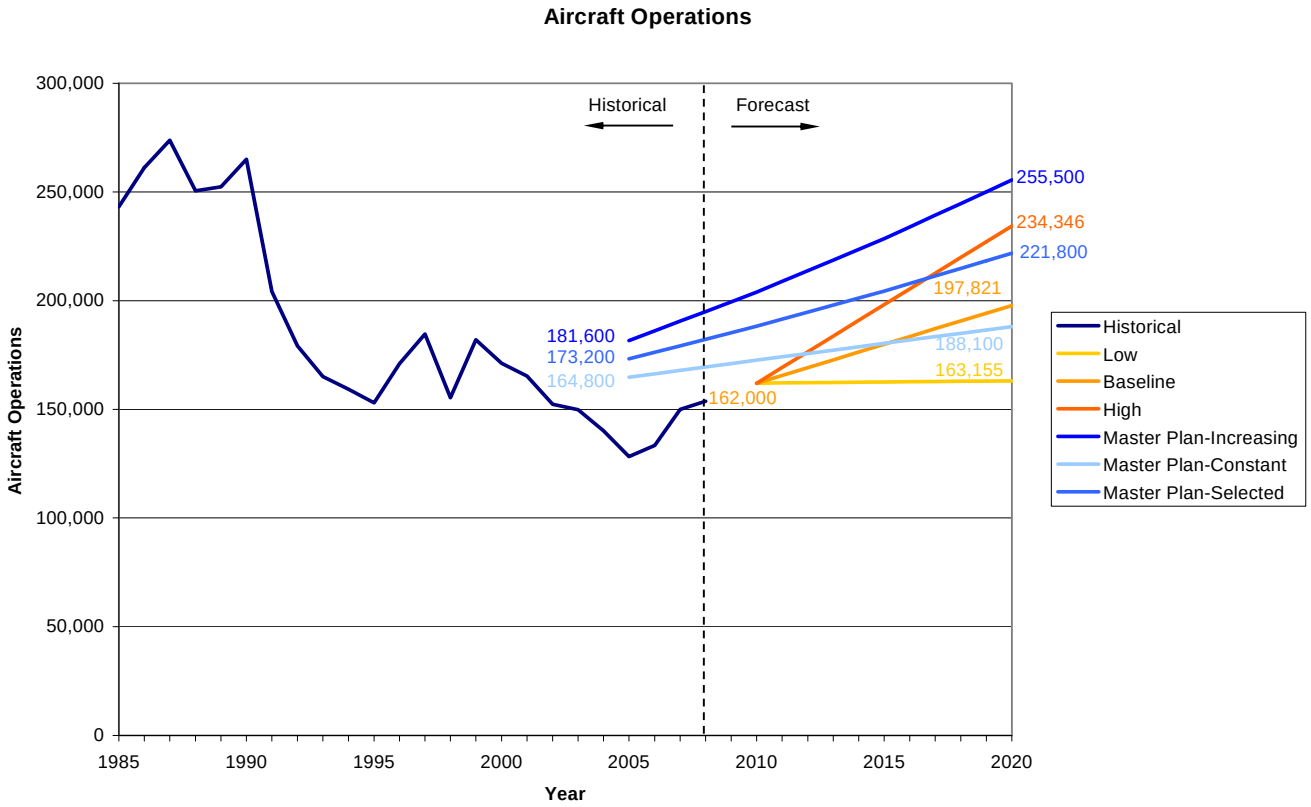

Figure 2
Hayward Aircraft Operations Forecasts

The 2002 Master Plan included three distinct forecasts for operations. Forecasts assumed varying levels of operations per based aircraft. The Master Plan–Constant forecast assumed that operations per based aircraft would remain at 1998 levels – 363 operations per based aircraft. The Master Plan–Selected and –Increasing forecasts assumed that the number of operations per based aircraft would increase based upon various factors. When comparing historical data with the 2002 Master Plan forecasts, it is apparent that operations are much lower than anticipated. Since current based aircraft levels are on the high end of the planning envelope and operations are lower than expected, it is obvious that the number of operations has significantly decreased. However, the recent increase in operations also represents an increase in operations per based aircraft.

While actual operations have deviated from forecasted levels, operations forecasted within the 2002 Master Plan are valid. Should Hayward attract increased operations, as it has historical done, annual operations will be within the 2002 Master Plan envelope.

Jet Operations

Annual jet operations are a specific concern for the Airport Layout Plan Update. Jet operations at Hayward have been increasing, largely due to an increase in based jets. As explained in the Airport Layout Plan Update Interim Narrative Report, Hayward is now classified as an Airport Reference Code C-II airport. In the last year, more than one percent of operations were jet operations. As was documented in the Interim Narrative Report the percentage of jet operations is expected to increase from present levels to 2.5 percent in 2020. The number of jet operations in the low, baseline, and high forecasts are then divided into Approach Categories B, C, and D and Airplane Design Groups I, II, and III. Jet operations were separated based upon historical operations data, as delineated in the Interim Narrative Report. Chapter 4 of the Interim Narrative Report showed that 45 percent of jet operations are Airplane Design Group I aircraft and 55 percent are Airplane Design Group II. Approach Category B aircraft accounted for 47 percent of operations, Approach Category C aircraft represented 36 percent, and Approach Category D 17 percent of jet operations.

Tables 6, 7, and 8 depict jet operations by airplane design group and approach category for the low, baseline, and high growth forecasts, respectively. The airport reference code to be used for airport planning is the airport reference code category applicable to the most demanding class of aircraft estimated to fly at least 500 annual operations at the airport. In each forecast scenario, the number of Approach Category D and Airplane Design Group II aircraft operations will exceed 500 operations by 2015. Therefore, the Airport Layout Plan Update should provide facilities for airport reference code D-II aircraft.

Table 6
Hayward Low Growth Forecast Jet Operations

Approach Category	Airplane Design Group I	II	III	Total
Year 2010				
B	236	730	0	966
C	515	241	0	756
D	183	165	4	352
Total	933	1,137	4	2,074
Year 2015				
B	350	1,082	0	1,432
C	762	358	0	1,120
D	270	244	6	521
Total	1,382	1,685	6	3,073
Year 2020				
B	463	1,437	0	1,900
C	1,012	475	0	1,487
D	359	325	7	691
Total	1,834	2,237	7	4,079

Source: DMJM Aviation analysis.

Table 7
Hayward Baseline Forecast Jet Operations

Approach Category	Airplane Design Group I	II	III	Total
Year 2010				
B	236	730	0	966
C	515	241	0	756
D	183	165	4	352
Total	933	1,137	4	2,074
Year 2015				
B	387	1,198	0	1,585
C	843	396	0	1,239
D	299	270	7	576
Total	1,529	1,864	7	3,400
Year 2020				
B	562	1,742	0	2,304
C	1,227	576	0	1,803
D	435	394	9	838
Total	2,224	2,712	9	4,946

Source: DMJM Aviation analysis.

Table 8
Hayward High Growth Forecast Jet Operations

Approach Category	Airplane Design Group I	II	III	Total
Year 2010				
B	236	730	0	966
C	515	241	0	756
D	183	165	4	352
Total	933	1,137	4	2,074
Year 2015				
B	467	1,447	0	1,914
C	1,019	479	0	1,497
D	361	327	8	696
Total	1,847	2,252	8	4,107
Year 2020				
B	774	2,401	0	3,176
C	1,691	794	0	2,486
D	600	543	12	1,155
Total	3,066	3,738	12	6,816

Source: DMJM Aviation analysis.

Conclusion

Based upon the forecasts presented herein, which were developed using historical averages at Hayward, the 2002 Master Plan forecast is valid. Based aircraft levels are within the 2002 Master Plan forecast envelope. Operations at Hayward are lower than anticipated, but can be reasonably expected to return to previous levels by 2020. However, in all situations, the increase in jet operations at the airport has prompted a change in Airport Reference Code to C-II today. Additionally, jet operations, specifically Approach Category D jet operations will require the airport to meet Airport Reference Code of D-II design standards by 2015.

Appendix F
Additional FAA Design Standards

Appendix F – Additional FAA Design Standards

TABLE F-1
AIRPORT PLANNING STANDARDS
FOR AIRPORT REFERENCE CODE B-I
(Runway 10L-28R)

Item	Existing/Ultimate
Airport Design Airplane and Airport Data	
Airport Reference Code	B-I
Reference Aircraft	Beech Baron 58
Airplane wingspan	37.8 feet
Primary Runway End (28L) approach visibility minimums	Visual
Other Runway End (10R) approach visibility minimums	Visual
Airplane undercarriage width (1.15 x main gear track)	11.02 feet
Airport elevation	52.1 feet
Airplane tail height	9.8 feet
Separation Standards	
Runway centerline to parallel runway centerline	700 feet
Runway centerline to parallel taxiway/taxilane centerline	(143.9) 150 feet
Runway centerline to edge of aircraft parking	125 feet
Runway holdline	125 feet
Taxiway centerline to parallel taxiway/taxilane centerline	(55.4) 69 feet
Taxiway centerline to fixed or movable object	(36.5) 44.5 feet
Taxilane centerline to parallel taxilane centerline	(51.6) 64 feet
Taxilane centerline to fixed or movable object	(32.7) 39.5 feet
Runway Protection Zones (Runways 10L and 28R)	
Length	1,000 feet
Width 200 feet from runway end	250 feet
Width 1,200 feet from runway end	450 feet
Threshold Siting Surfaces	
Distance out from threshold to start of surface	0 feet
Width of surface at start of trapezoidal section	250 feet
Width of surface at end of trapezoidal section	700 feet
Length of trapezoidal section	2,250 feet
Length of rectangular section	2,750 feet
Slope of surface	20:1

TABLE F-1 (continued)
AIRPORT PLANNING STANDARDS
FOR AIRPORT REFERENCE CODE B-I
(Runway 10L-28R)

Item	Existing/Ultimate
Obstacle Free Zones	
Runway obstacle free zone (OFZ) width	250 feet
Runway OFZ length beyond each runway end	200 feet
Inner-approach obstacle free zone (OFZ) width	250 feet
Inner-approach OFZ length beyond approach light system	200 feet
Inner-approach OFZ slope from 200 feet beyond threshold	50:1
Inner-transitional OFZ slope	0:1
Runway Design Standards	
Runway width	60 feet
Runway shoulder width	10 feet
Runway blast pad width	95 feet
Runway blast pad length	60 feet
Runway safety area width	120 feet
Runway safety area length beyond each runway end (or stopway, whichever is greater)	240 feet
Runway object free area width	250 feet
Runway object free area length beyond each runway end (or stopway, whichever is greater)	240 feet
Clearway width	500 feet
Stopway width	60 feet
Taxiway Design Standards	
Taxiway width	(21.0) 25 feet
Taxiway edge safety margin	5 feet
Taxiway shoulder width	10 feet
Taxiway safety area width	(37.8) 49 feet
Taxiway object free area width	(73) 89 feet
Taxilane object free area width	(65.4) 79 feet
Taxiway wingtip clearance	(17.6) 20 feet
Taxilane wingtip clearance	(13.8) 15 feet

Note: Numbers in parenthesis represent minimum dimensions for the critical aircraft.

Source: FAA Advisory Circular 150/5300-13, Airport Design, Change 13 dated June 18, 2008.

TABLE F-2
AIRPORT PLANNING STANDARDS
FOR AIRPORT REFERENCE CODE B-II

Item	Dimension
Airport Design Airplane and Airport Data	
Airport Reference Code	B-II
Reference Aircraft	Cessna Citation V
Airplane wingspan	64.3 feet
Primary Runway End (28L) approach visibility minimums	Not lower than 1 mile
Other Runway End (10R) approach visibility minimums	Not lower than 1 mile
Airplane undercarriage width (1.15 x main gear track)	12.58 feet
Airport elevation	52.1 feet
Airplane tail height	20.67 feet
Separation Standards	
Runway centerline to parallel runway centerline	700 feet
Runway centerline to parallel taxiway/taxilane centerline	(232.1) 240 feet
Runway centerline to edge of aircraft parking	250 feet
Runway holdline	200 feet
Taxiway centerline to parallel taxiway/taxilane centerline	(87.2) 105 feet
Taxiway centerline to fixed or movable object	(55.1) 65.5 feet
Taxilane centerline to parallel taxilane centerline	(80.7) 97 feet
Taxilane centerline to fixed or movable object	(48.6) 57.5 feet
Runway Protection Zones (Runways 10R and 28L)	
Length	1,000 feet
Width 200 feet from runway end	500 feet
Width 1,200 feet from runway end	700 feet
Threshold Siting Surfaces	
Distance out from threshold to start of surface	0 feet
Width of surface at start of trapezoidal section	400 feet
Width of surface at end of trapezoidal section	1,000 feet
Length of trapezoidal section	1,500 feet
Length of rectangular section	8,500 feet
Slope of surface	20:1
Obstacle Free Zones	
Runway obstacle free zone (OFZ) width	400 feet
Runway OFZ length beyond each runway end	200 feet
Inner-approach obstacle free zone (OFZ) width	400 feet
Inner-approach OFZ length beyond approach light system	200 feet
Inner-approach OFZ slope from 200 feet beyond threshold	50:1
Inner-transitional OFZ slope	0:1
Runway Design Standards	
Runway width	75 feet
Runway shoulder width	10 feet
Runway blast pad width	95 feet
Runway blast pad length	150 feet
Runway safety area width	150 feet
Runway safety area length beyond each runway end (or stopway, whichever is greater)	300 feet

TABLE F-2 (continued)
AIRPORT PLANNING STANDARDS
FOR AIRPORT REFERENCE CODE B-II

Item	Dimension
Runway Design Standards (continued)	
Runway object free area width	500 feet
Runway object free area length beyond each runway end (or stopway, whichever is greater)	300 feet
Clearway width	500 feet
Stopway width	75 feet
Taxiway Design Standards	
Taxiway width	(27.0) 35 feet
Taxiway edge safety margin	7.5 feet
Taxiway shoulder width	10 feet
Taxiway safety area width	(64.3) 79 feet
Taxiway object free area width	(110.1) 131 feet
Taxilane object free area width	(97.1) 115 feet
Taxiway wingtip clearance	(22.9) 26 feet
Taxilane wingtip clearance	(16.4) 18 feet

Note: Numbers in parenthesis represent minimum dimensions for the critical aircraft.

Source: FAA Advisory Circular 150/5300-13, Airport Design, Change 13 dated June 18, 2008.

Appendix G
Detailed Cost Information

Appendix G – *Detailed Cost Information*

INTRODUCTION

Detailed cost information, including unit costs and quantities, is included in this appendix. This information was used to create the summary table found in Chapter 8 (Table 8-2).

Table G-1
SCHEDULE OF IMPROVEMENT – DETAILED

Project		Quantity	Unit	Unit Cost	Total Cost	Timing
	Phase 1 (2010 - 2015)					
1	**Relocate Sulphur Creek into Box Culvert**					**2011**
	a. Relocate Sulphur Creek into Box Culvert	1	LS	$3,200,000.00	$3,200,000.00	
	Total Project				**$3,200,000.00**	
2	**Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas**					**2011**
	a. Rehabilitate Zipper Lane, East T-Hangar, and West T-Hangar Areas	1	LS	$325,000.00	$325,000.00	
	Total Project				**$325,000.00**	
3	**Extend Taxiway C**					**2011**
	a. Extend Taxiway C	1	LS	$1,900,000.00	$1,900,000.00	
	Total Project				**$1,900,000.00**	
4	**Bud Field Aviation - Phase 1**					**2011**
	a. Airfield AC Pavement / Striping	567,360	SF	$6.00	$3,404,160.00	
	b. Hangar / Reception Area	39,300	SF	$50.00	$1,965,000.00	
	c. Site Work / Utilities	1	LS	$491,250.00	$491,250.00	
	Sub Total				$5,860,410.00	
	d. Design and Engineering				$1,173,000.00	
	e. Construction Management / Contingency				$1,759,000.00	
	Total Project				**$8,792,410.00**	
5	**American Aircraft Sales - Hangar A**					**2011/2012**
	a. Hangar	11,990	SF	$50.00	$599,500.00	
	b. Office Space	1,600	SF	$50.00	$80,000.00	
	c. Site Work / Utilities	1	LS	$169,875.00	$169,875.00	
	Sub Total				$849,375.00	
	d. Design and Engineering				$170,000.00	
	e. Construction Management / Contingency				$255,000.00	
	Total Project				**$1,274,375.00**	
6	**Install Airport Safe Drains**					**2012**
	a. Safe Drain Inlets (All Drains)	68	EA	$2,000.00	$136,000.00	
	Sub Total				$136,000.00	
	b. Contingency				$13,600.00	
	Total Project				**$149,600.00**	
7	**Construct Terminal Building and Parking**					**2012**
	a. Terminal Facility	12,000	SF	$100.00	$1,200,000.00	
	b. Site Work / Utilities	1	LS	$180,000.00	$180,000.00	
	c. Parking Lot Pavement / Striping	14,000	SF	$5.00	$70,000.00	
	d. Earthwork	4,000	CY	$35.00	$140,000.00	
	e. Pedestrian Bridge	1	LS	$40,000.00	$40,000.00	
	f. Pedestrian Gate	1	EA	$6,000.00	$6,000.00	
	g. Storm Drain Improvements	200	LF	$200.00	$40,000.00	
	h. Lighting Improvements	160	LF	$125.00	$20,000.00	
	Sub Total				$1,696,000.00	
	i. Design and Engineering				$450,000.00	
	j. Construction Management / Contingency				$509,000.00	
	Total Project				**$2,655,000.00**	
8	**Obstruction Removal Runway 10R-28L**					**2012**
	a. Tree trimming or Removal	27	EA	$1,500.00	$40,500.00	
	Sub Total				$40,500.00	
	b. Contingency				$13,000.00	
	Total Project				**$53,500.00**	

Table G-1 (cont'd)
SCHEDULE OF IMPROVEMENT – DETAILED

Project		Quantity	Unit	Unit Cost	Total Cost	Timing
	Phase 1 (2010 - 2015)					
9	**Taxiway Z Realignment; Corsair Ramp**					**2012**
	a. AC Pavement / Striping	127,000	SF	$6.00	$762,000.00	
	b. Demolish Pavement & Misc.	117,680	SF	$2.50	$294,200.00	
	c. Apron (Corsair Ramp)	159,560	SF	$6.00	$957,360.00	
	d. Med. Intensity Twy LED lights	5,400	LF	$125.00	$675,000.00	
	e. Storm Drain Improvements	2,600	LF	$100.00	$260,000.00	
	f. Widen Twy Z1	4,690	SF	$6.00	$28,140.00	
	g. Earthwork	10,000	CY	$35.00	$350,000.00	
	Sub Total				$3,326,700.00	
	h. Design and Engineering				$350,000.00	
	i. Construction Management / Contingency				$999,000.00	
	Total Project				**$4,675,700.00**	
10	**Walter Imbrulia's Development**					**2012**
	a. Demolish Existing Hangar	7,000	SF	$5.00	$35,000.00	
	b. Demolish AC Pavement	2,000	SF	$2.50	$5,000.00	
	c. Hangar	9,000	SF	$50.00	$450,000.00	
	d. Earthwork	2,000	CY	$35.00	$70,000.00	
	e. Site Work / Utilities	1	LS	$100,000.00	$100,000.00	
	f. AC Pavement / Striping	23,000	SF	$6.00	$138,000.00	
	Sub Total				$798,000.00	
	g. Design and Engineering				$250,000.00	
	h. Construction Management / Contingency				$350,000.00	
	Total Project				**$1,398,000.00**	
11	**Airport Property Partners Development**					
	a. Hangar	16,000	SF	$50.00	$800,000.00	**2012-2013**
	b. Site Work / Utilities	1	LS	$200,000.00	$200,000.00	
	Sub Total				$1,000,000.00	
	c. Design and Engineering				$200,000.00	
	d. Construction Management / Contingency				$250,000.00	
	Total Project				**$1,450,000.00**	
12	**Construct Sound Walls and Blast Fence**					
	a. Sound Wall (12')	1,513	LF	$400.00	$605,200.00	**2013**
	c. Demo Noise Berm	29,944	CY	$15.00	$449,166.67	
	d. Blast Fence	500	LF	$300.00	$150,000.00	
	Sub Total				$1,204,366.67	
	e. Design and Engineering				$180,000.00	
	f. Construction Management / Contingency				$362,000.00	
	Total Project				**$1,746,366.67**	
13	**Taxiways C and E Pavement Rehabilitation**					
	a. Demolish Pavement & Misc (Twy C)	34,400	SF	$2.50	$86,000.00	**2013**
	b. Airfield AC Pavement / Striping (Twy C)	34,400	SF	$6.00	$206,400.00	
	c. Airfield Lighting (Twy C)	1,520	LF	$125.00	$190,000.00	
	d. Demolish Pavement & Misc (Twy E)	38,020	SF	$2.50	$95,050.00	
	e. Airfield AC Pavement / Striping (Twy E)	38,000	SF	$6.00	$228,000.00	
	f. Storm Drain Improvements	360	LF	$200.00	$72,000.00	
	g. Airfield Lighting (Twy E)	1,520	LF	$125.00	$190,000.00	
	Sub Total				$1,067,450.00	
	h. Design and Engineering				$300,000.00	
	i. Construction Management / Contingency				$321,000.00	
	Total Project				**$1,688,450.00**	

Table G-1 (cont'd)
SCHEDULE OF IMPROVEMENT – DETAILED

Project		Quantity	Unit	Unit Cost	Total Cost	Timing
	Phase 1 (2010 - 2015)					
14	**CANG Reuse Phases 2 and 3**					
	a. Hangars (large box)	120,240	SF	$50.00	$6,012,000.00	**2013**
	b. Site Work / Utilities	1	LS	$1,503,000.00	$1,503,000.00	
	Sub Total				$7,515,000.00	
	c. Design and Engineering				$1,200,000.00	
	d. Construction Management / Contingency				$2,255,000.00	
	Total Project				**$10,970,000.00**	
15	**Shorten Runway 28R**					**2013**
	a. Remove Existing Pavement Markings	20,000	SF	$3.00	$60,000.00	
	b. Acceleration Pad Fog Seal	4,000	SY	$4.00	$16,000.00	
	c. New Pavement Markings	20,000	SF	$2.00	$40,000.00	
	d. Relocate REIL	1	EA	$25,000.00	$25,000.00	
	e. Relocate PAPI	1	EA	$35,000.00	$35,000.00	
	f. Adjust Runway Edge Lights	12	EA	$3,500.00	$42,000.00	
	g. Remove Runway Edge Lights and Replace with Taxiway Edge Lights	960	LF	$75.00	$72,000.00	
	Total Project				$290,000.00	
	h. Design and Engineering				$80,000.00	
	i. Construction Management / Contingency				$120,000.00	
	Total Project				**$490,000.00**	
16	**Airfield Electrical Renovation and Improvements**					
	a. Update Airfield Wiring	34,000	LF	$15.00	$510,000.00	**2014**
	b. Upgrade Twy lights for A,B,C,D,E to LED	7,850	LF	$100.00	$785,000.00	
	c. New Rwy Lights (to LED if Certified)	8,800	LF	$100.00	$880,000.00	
	d. Renovate Electrical Vault	1	LS	$200,000.00	$200,000.00	
	Sub Total				$2,375,000.00	
	e. Design and Engineering				$475,000.00	
	f. Construction Management / Contingency				$713,000.00	
	Total Project				**$3,563,000.00**	
17	**Translate Runway, Install EMAS, and Reroute Roads and Fencing**					**2014**
	a. Runway AC Pavement Extension	6,100	SF	$6.00	$36,600.00	
	b. Earth Work	1,000	CY	$35.00	$35,000.00	
	c. Runway Striping	100,000	SF	$2.00	$200,000.00	
	d. Rwy light Lens Replacement/Light Relocate	800	LF	$125.00	$100,000.00	
	e. Relocate VASI	1	LS	$30,000.00	$30,000.00	
	f. EMAS at 10R (310'x170')	1	LS	$5,300,000.00	$5,300,000.00	
	g. Clear Way Grading	13,000	CY	$35.00	$455,000.00	
	h. Demolish Golf Course Rd Pavment & Misc	13,500	SF	$2.50	$33,750.00	
	i. Relocate Golf Course Rd Pavement/Striping	15,200	SF	$4.50	$68,400.00	
	j. Earth Work	1,500	CY	$35.00	$52,500.00	
	k. Relocate Perimeter Fence	500	LF	$35.00	$17,500.00	
	l. Modify Golf Course Hole	2	EA	$1,000,000.00	$2,000,000.00	
	m. Entrance Taxiway AC Pavement/Striping at 10R	11,700	SF	$6.00	$70,200.00	
	n. Earth Work	1,500	CY	$35.00	$52,500.00	
	o. Airfield Lighting (Entrance Taxiways at 10R)	240	LF	$125.00	$30,000.00	
	p. Entrance Taxiways AC Pavement/Striping at 28L	24,050	SF	$6.00	$144,300.00	
	q. Earth Work	3,000	CY	$35.00	$105,000.00	
	r. Storm Drain Improvements	360	LF	$200.00	$72,000.00	
	s. Airfield Lighting (Entrance Taxiways at 28L)	920	LF	$125.00	$115,000.00	
	t. Hold line striping (9 areas)	5,490	SF	$2.00	$10,980.00	
	Sub Total				$8,928,730.00	
	u. Design and Engineering				$1,786,000.00	
	v. Construction Management / Contingency				$2,679,000.00	
	Total Project				**$13,393,730.00**	

Table G-1 (cont'd)
SCHEDULE OF IMPROVEMENT – DETAILED

Project		Quantity	Unit	Unit Cost	Total Cost	Timing
	Phase 1 (2010 - 2015)					
18	**Recertify Instrument Approaches**					**2014**
	a. Recertify RNAV Y, RNAV Z Rwy 28L	1	LS	$250,000.00	$250,000.00	
	b. Recertify LOC/DME, VOR/DME or GPS-B, and VOR or GPS-A at Rwy 28L	1	LS	$250,000.00	$250,000.00	
	Sub Total				$500,000.00	
	Total Project				**$500,000.00**	
19	**Install PAPI and New REIL on Runway 28L**					
	a. Remove VASI	1	EA	$10,000.00	$10,000.00	**2015**
	b. Install PAPI	2	EA	$50,000.00	$100,000.00	
	c. Replace Rwy 28L REILS	1	EA	$30,000.00	$30,000.00	
	Sub Total				$140,000.00	
	d. Design and Engineering				$28,000.00	
	e. Construction Management / Contingency				$42,000.00	
	Total Project				**$210,000.00**	
20	**Relocate Airport Perimeter Road**					
	a. AC Pavement / Striping	136,800	SF	$4.50	$615,600.00	**2015**
	b. Earth Work	2,000	CY	$35.00	$70,000.00	
	c. Pavement Marking / Striping (zipper lane)	14,110	SF	$2.00	$28,220.50	
	Sub Total				$713,820.50	
	d. Design and Engineering				$150,000.00	
	e. Construction Management / Contingency				$215,000.00	
	Total Project				**$1,078,820.50**	
21	**Pavement Rehabilitation - Tie-Down Ramp**					
	a. Demolish Pavement & Misc	270,900	SF	$2.50	$677,250.00	**2015**
	b. AC Pavement / Striping	270,900	SF	$6.00	$1,625,400.00	
	c. Storm Drain Improvements	500	LF	$200.00	$100,000.00	
	d. Aircraft Tie-Downs	258	EA	$300.00	$77,400.00	
	Sub Total				$2,480,050.00	
	e. Design and Engineering				$350,000.00	
	f. Construction Management / Contingency				$745,000.00	
	Total Project				**$3,575,050.00**	
22	**Wildlife Management Plan**					**2015**
	a. Wildlife Management Plan	1	LS	$100,000.00	$100,000.00	
	Total Project				**$100,000.00**	
	Phase 1 Total				**$63,189,002.17**	

Table G-1 (cont'd)
SCHEDULE OF IMPROVEMENT – DETAILED

Project		Quantity	Unit	Unit Cost	Total Cost	Timing
	Phase 2 (2016 - 2020)					
23	**CANG Reuse Phases 4 and 5**					**2016**
	a. Hangar	66,000	SF	$50.00	$3,300,000.00	
	b. Site Work / Utilities	1	LS	$825,000.00	$825,000.00	
	Sub Total				$4,125,000.00	
	c. Design and Engineering				$825,000.00	
	d. Construction Management / Contingency				$1,238,000.00	
	Total Project				**$6,188,000.00**	
24	**Install REIL Runway 10L-28R**					**2016**
	a. Install REIL	2	EA	$30,000.00	$60,000.00	
	b. Lighting Conduit	4,600	LF	$50.00	$230,000.00	
	Sub Total				$230,000.00	
	c. Design and Engineering				$46,000.00	
	d. Construction Management / Contingency				$69,000.00	
	Total Project				**$345,000.00**	
25	**Runway Crown Correction (Runway 10R-28L)**					**2016**
	a. Runway Crown Correction (Runway 10R-28L)	855,000	SF	$3.00	$2,565,000.00	
	Sub Total				$2,565,000.00	
	b. Design and Engineering				$513,000.00	
	c. Construction Management / Contingency				$770,000.00	
	Total Project				**$3,848,000.00**	
26	**Corsair Hangar Construction**					**2017**
	a. Individual Hangars (Qty 24)	38,400	SF	$50.00	$1,920,000.00	
	b. Site Work / Utilities	1	LS	$480,000.00	$480,000.00	
	c. Parking AC Pavement / Striping	9,000	SF	$6.00	$54,000.00	
	d. Earthwork	5,000	CY	$35.00	$175,000.00	
	Sub Total				$2,629,000.00	
	d. Design and Engineering				$526,000.00	
	e. Construction Management / Contingency				$789,000.00	
	Total Project				**$3,944,000.00**	
27	**Rehabilitate Taxiway B; Rehabilitate and Extend Taxiway D**					**2018**
	a. Demolish Pavement & Misc (Twy B)	22,000	SF	$2.50	$55,000.00	
	b. Airfield AC Pavement / Striping (Twy B)	22,000	SF	$6.00	$132,000.00	
	c. Airfield Lighting (Twy B)	1,100	LF	$100.00	$110,000.00	
	d. Demolish Pavement & Misc (Twy D)	37,500	SF	$2.50	$93,750.00	
	e. Airfield AC Pavement / Striping (Twy D)	37,500	SF	$6.00	$225,000.00	
	f. Storm Drain Improvements	900	LF	$100.00	$90,000.00	
	g. Airfield Lighting (Twy D)	1,560	LF	$100.00	$156,000.00	
	h. Airfield AC Pavement / Striping (Twy D Ext)	29,810	SF	$6.00	$178,860.00	
	Sub Total				$1,040,610.00	
	i. Design and Engineering				$209,000.00	
	j. Construction Management / Contingency				$313,000.00	
	Total Project				**$1,562,610.00**	
28	**New Airport Traffic Control Tower (ATCT)**					**2018**
	a. ATCT	1	LS	$3,000,000.00	$3,000,000.00	
	b. Utilities (Water, Sewer, etc.)	1	LS	$750,000.00	$750,000.00	
	c. Elec., Comm.	2,300	LF	$125.00	$287,500.00	
	Sub Total				$4,037,500.00	
	d. Design and Engineering				$808,000.00	
	e. Construction Management / Contingency				$1,212,000.00	
	Total Project				**$6,057,500.00**	

Table G-1 (cont'd)
SCHEDULE OF IMPROVEMENT – DETAILED

Project		Quantity	Unit	Unit Cost	Total Cost	Timing
	Phase 2 (2016 - 2020)					
29	**American Aircraft Sales - Hangar B**					**2018**
	a. Hangar	11,990	SF	$50.00	$599,500.00	
	b. Site Work / Utilities	1	LS	$149,875.00	$150,000.00	
	Sub Total				$749,500.00	
	c. Design and Engineering				$150,000.00	
	d. Construction Management / Contingency				$188,000.00	
	Total Project				**$1,087,500.00**	
30	**Construct Runway Exit**					**2019**
	a. Airfield AC Pavement / Striping	50,710	SF	$6.00	$304,260.00	
	b. Run-up Apron AC Pavement / Striping	19,340	SF	$6.00	$116,040.00	
	c. Earthwork	1,500	CY	$35.00	$52,500.00	
	d. Storm Drain Improvements	550	LF	$200.00	$110,000.00	
	e. Airfield Lighting	1,620	LF	$125.00	$202,500.00	
	Sub Total				$785,300.00	
	f. Design and Engineering				$158,000.00	
	g. Construction Management / Contingency				$236,000.00	
	Total Project				**$1,179,300.00**	
31	**American Aircraft Sales - Hangar C**					**2020**
	a. Hangar	11,780	SF	$50.00	$589,000.00	
	b. Site Work / Utilities	1	LS	$147,250.00	$148,000.00	
	Sub Total				$737,000.00	
	c. Design and Engineering				$148,000.00	
	d. Construction Management / Contingency				$185,000.00	
	Total Project				**$1,070,000.00**	
	Phase 2 Total				**$25,281,910.00**	
	Total All Phases				**$88,505,912.17**	

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Appendix H
Sulphur Creek Restoration
Biological Assessment

SULPHUR CREEK RESTORATION
BIOLOGICAL ASSESSMENT

HAYWARD EXECUTIVE AIRPORT
HAYWARD, ALAMEDA COUNTY
CALIFORNIA

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December 2005

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1.0 INTRODUCTION

The City of Hayward proposes restoration and stabilization improvements to 1500 linear feet of Sulphur Creek (Study Area) located adjacent to the air control tower at the Hayward Executive Airport (Figure 2). The Study Area has been segmented into two sections. Section 1 encompasses the portion of Sulphur Creek that is directly adjacent to the air control tower. While, Section 2 pertains to the segment of Sulphur Creek that is located further downstream to the west of Section 1. The restoration and stabilization work of Sulphur Creek will serve as mitigation for the fill of 151 feet (0.04 acres) of a drainage ditch as part of the West A Street Extension Project and possibly a second City project.

WRA biologists conducted a site visit at the Sulphur Creek Study Area on October 25, 2005, in order to assess the biological elements contained within the Study Area. This included documentation of all existing plant and wildlife species existing within the Study Area and a characterization of the plant communities. A biological assessment provides general information on the potential presence of sensitive species or habitats. The biological assessment is not an official protocol level survey for listed species that may be required for project approval by local, state, or federal agencies. However, specific findings on the presence of potentially suitable habitat for such species or the presence of sensitive habitats may require that protocol surveys be conducted. This assessment is based on information available at the time of the study and on site conditions that were observed on the date of the site visit.

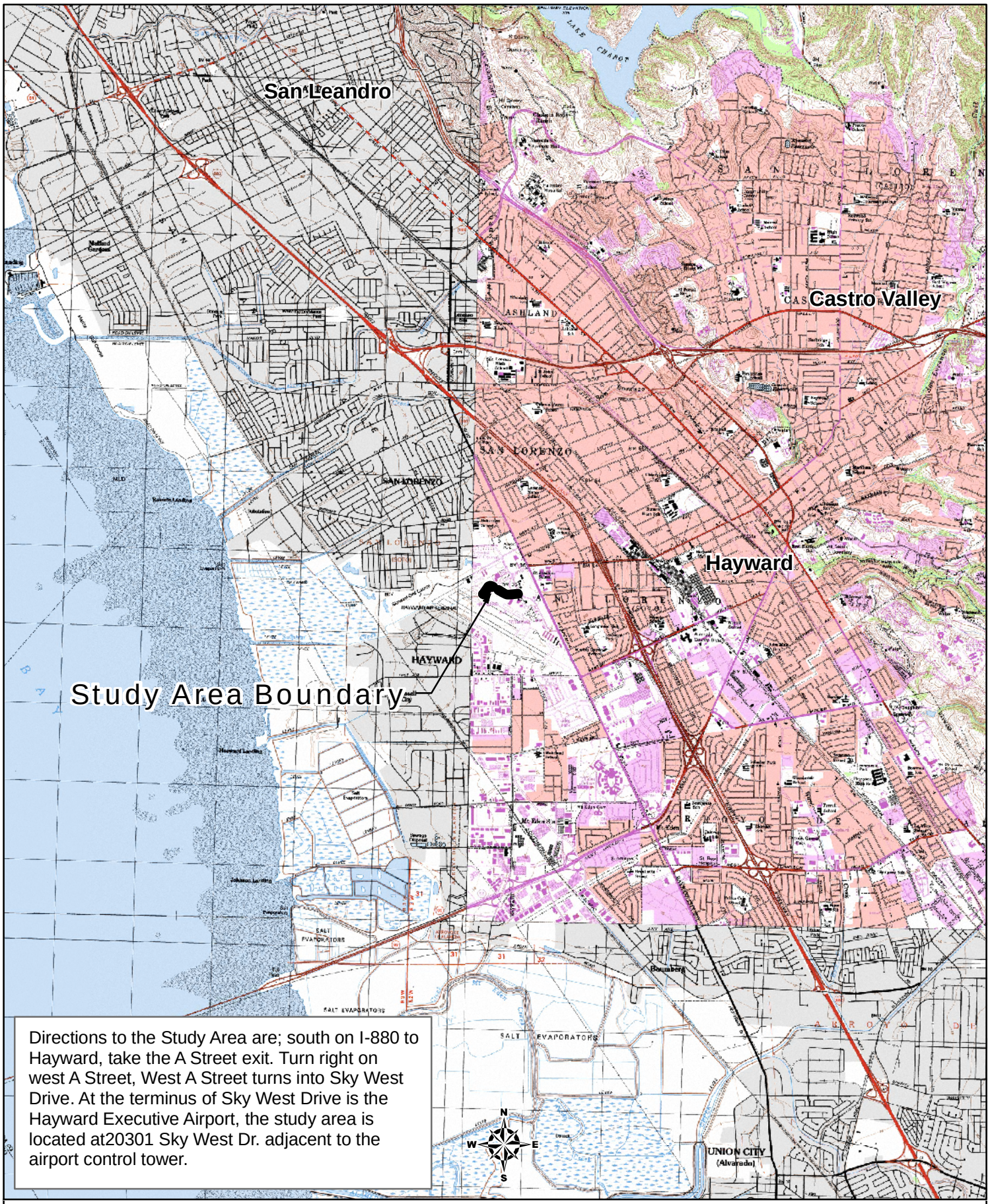
The purpose of this biological assessment was to (1) identify sensitive plant communities and aquatic features; and (2) determine the presence of potential habitat for special status plant and wildlife species known to occur in western Alameda County. This report presents the results of the biological assessment of the Study Area.

1.1 General Study Area Description

Directions to the Study Area (Figure 1) are; south on I-880 to Hayward, take the A Street exit. Turn right on West A Street, West A Street turns into Sky West Dr. At the terminus of Sky West Dr. is the Hayward Executive Airport, the Study Area is located at 20301 Sky West Dr. adjacent to the airport control tower. The Study Area is located in the Hayward 7.5 USGS quadrangle, and has township and range of T 3 S and R 2 W, with an elevation range of 24-32 feet above sea level. Sulphur Creek is an active perennial drainage that eventually flows into San Francisco Bay. The elevation of the Study Area prevents the effects of tidal movements from introducing salt water into this portion of Sulphur Creek. The dominant vegetation type resembles a freshwater marsh directly in the creek drainage with mainly non-native plant species comprising the upland banks of the creek. Immediately outside the border of the Study Area is the airport's concrete tarmac, with the surrounding land use focused on airport activities.

1.2 Regulatory Background

Federal, state, and local regulations governing sensitive biological resources that were the focus of this assessment are discussed in detail below.



Directions to the Study Area are; south on I-880 to Hayward, take the A Street exit. Turn right on west A Street, West A Street turns into Sky West Drive. At the terminus of Sky West Drive is the Hayward Executive Airport, the study area is located at20301 Sky West Dr. adjacent to the airport control tower.

Figure 1. Location Map of Sulphur Creek Study Area

Hayward, California

SCALE

1 0.5 0 1 Miles

1 inch equals 5,280 feet
1:63,360

wra
ENVIRONMENTAL CONSULTANTS

Map By: Gabe Olson
Basemap: USGS DRG, CNDDB Occurences
Filepath: I:\Acad2000\15100\gis\Arcmap\Fig2.mxd

Figure 2. Site Map of Sulphur Creek Study Area

SCALE

500 250 0 500 Feet

1 inch equals 500 feet
1:6,000

Hayward, California

wra
ENVIRONMENTAL CONSULTANTS

Map By: Gabe Olson
Basemap: USGS DRG, CNDDB Occurences
Filepath: I:\Acad2000\15100\gis\Arcmap\Fig2.mxd

1.2.1 Special Status Species

Special status species include those plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, California Department of Fish and Game (CDFG) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, and U.S. Fish and Wildlife Service (USFWS) Species of Concern are considered special status species. Although California and USFWS Species of Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulations for special status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Plant species on California Native Plant Society (CNPS) Lists 1 and 2 are also considered special status plant species. Impacts to these species are considered significant according to CEQA. The CNPS List 3 and 4 plants have little or no protection under CEQA, but are included in this analysis for completeness. (The assessment may also include species of local concern as indicated by the USFWS list for the quad/county, or as designated by a City or County).

1.2.2 Sensitive Plant Communities and Aquatic Features

Sensitive habitats include habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are regulated under federal regulations (such as the Clean Water Act), state regulations (such as the Porter-Cologne Act, the CDFG's Streambed Alteration Program, or CEQA, or local ordinances or policies (City or County Tree Ordinances, Special Habitat Management Areas or General Plan Special Land Use areas).

<u>Waters of the United States</u>

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act. "Waters of the U.S." are defined broadly as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands stated in the *Corps of Engineers Wetlands Delineation Manual* (1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water line (OHW). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into "Waters of the U.S." (including wetlands) generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

<u>Waters of the State</u>

"Waters of the State" are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The RWQCB protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be

regulated by the Corps under Section 404. "Waters of the State" are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact "Waters of the State," are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to "Waters of the State," the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by the CDFG under Sections 1600-1616 of the State Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG ESD 1994). Riparian is defined as, "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG ESD 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFG.

Sensitive Plant Communities

Sensitive plant communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFG. CDFG ranks sensitive communities as 'threatened' or 'very threatened' and keeps records of their occurrences in its Natural Diversity Database. Sensitive plant communities are also identified by CDFG on their *List of California Natural Communities Recognized by the CNDDB*. Impacts to sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFG or USFWS must be considered and evaluated under CEQA (California Code of Regulations: Title 14, Div. 6, Chap. 3, Appendix G)

2.0 METHODS

On October 25, 2005, the Study Area was traversed on foot to determine (1) plant communities present within the Study Area, (2) if existing conditions provided suitable habitat for any special status plant or wildlife species, and (3) if sensitive habitats were present. All plant and wildlife species encountered were recorded, and are summarized in Appendix B.

Prior to the site visit, the Soil Survey of Alameda County, California (U.S. Department of Agriculture (USDA) 1981) was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. The Study

Area is situated upon two different soil types. The eastern portion of Sulphur Creek, Section 1, is mapped as Danville silty clay loam, 0 to 2 percent slopes, while the western portion of Sulphur Creek, Section 2, is mapped as Clear Lake clay, 0 to 2 percent slopes, drained. These particular soil types are not significantly important to the development of sensitive plant communities.

A soil analysis was performed on three soil samples that were taken from the Study Area. The soil analyses concluded that the soil will require minor amendments in order to insure survivorship of replacement plants. A copy of the soil analyses report is included in the appendix.

2.1 Plant Communities

Plant communities were classified based on existing descriptions developed by the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). However, in some cases it is necessary to identify variants of plant community types or to describe non-vegetated areas that are not described in the literature. See Appendix C for representative site photographs of the observed plant communities.

2.2 Sensitive Plant Communities and Aquatic Features

Plant communities identified within Sulphur Creek were evaluated to determine if they are considered sensitive under federal or state regulations or policies. Special methods used to determine potential jurisdiction under these regulations and policies are given below.

2.2.1 Wetlands and Waters

The Study Area was surveyed to determine if any wetlands and "waters" potentially subject to jurisdiction by the Corps, RWQCB, or CDFG were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology or wetland soils. Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status[1] of OBL, FACW, or FAC as given on the U.S. Fish and Wildlife Service List of Plant Species that Occur in Wetlands (Reed 1988). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, algal mats and drift lines, or indirect indicators (secondary indicators), such as oxidized root channels. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined by the Corps Manual and Field Indicators of Hydric Soils in the United States (NRCS, 2002).

Collection of additional data will be necessary to prepare a delineation report suitable for submission to the Corps.

[1] OBL = Obligate, always found in wetlands (> 99% frequency of occurrence); FACW = Facultative wetland, usually found in wetlands (67-99% frequency of occurrence); FAC = Facultative, equal occurrence in wetland or non-wetlands (34-66% frequency of occurrence).

2.2.2 Riparian Habitat

An inspection was conducted to determine if the banks of this portion of Sulphur Creek supported hydrophytic or stream-dependent woody plant species (riparian species).

2.3 Special Status Species

2.3.1 Literature Review

Potential occurrence of special status species in the Study Area was evaluated by first determining which special status species occur in the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special status species included the Hayward and San Leandro 7.5 minute USGS quadrangles. The following sources were reviewed to determine which special status plant and wildlife species have been documented to occur in the vicinity of the Study Area:

- California Natural Diversity Database records (CNDDB) (CDFG 2005)
- USFWS Quadrangle Species Lists (USFWS 2005)
- CNPS Electronic Inventory records (CNPS 2005)
- CDFG publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990)
- CDFG publication "Amphibians and Reptile Species of Special Concern in California" (Jennings 1994)

2.3.2 Site Assessment

A site visit was conducted to search for suitable habitats within the Study Area for those species identified as occurring within the vicinity. Potential for special status species to occur in the Study Area was then evaluated according to the following criteria:

(1) Not Present. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

(2) Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

(3) Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

(4) High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

(5) Present. Species is observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.

Appendix A presents the special status plant and wildlife species with a potential to occur within the Study Area, their habitat requirements, and a rating of potential for occurrence. A biological assessment site visit is intended to identify potentially suitable habitat for special status species known to occur in the vicinity. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species; however, if a special status species is observed during the site visit, its presence will be recorded and discussed.

3.0 RESULTS AND DISCUSSION

The following sections present the results and discussion of the biological assessment for special status species and sensitive habitats within the Sulphur Creek Study Area.

3.1 Plant Communities

The Sulphur Creek drainage supports an assemblage of mostly wetland plants dominated by cattail *(Typha sp.)* and bulrush (*Scirpus sp.*). The vegetation in this drainage can likely be considered a coastal and valley freshwater marsh community as listed in Holland (1986). The majority of the upland portions along the creek are composed of annual non-natives and assorted weedy species. These upland portions do not fit perfectly into any specific plant community found in Holland (1986) and can be thought of as ruderal vegetation, or a disturbed site mainly comprised of non-native weedy species. The vegetation along the northern border of the Study Area can be regarded as ruderal vegetation as well. This area along Skywest Dr. is primarily composed of landscaping and ornamental components. Several of the plants located along the creek's edge could be thought of as a riparian component based on the fact that water is present. However, the majority of the species located along Sulphur Creek's banks are not dependent on the creek, as a true riparian species would be. The canopy over-story of Section 1 is comprised of non-native tree species including silver wattle (*Acacia dealbata),* noble laurel *(Laurus nobilis)*, and carob (*Ceratonia siligua)*. While, Section 2 contains several walnut trees *(Juglans sp)* as the dominant over-story species.

3.2 Sensitive Habitats

<u>Coastal and Valley Freshwater Marsh</u>

Holland (1986) describes coastal and valley freshwater marsh as occurring in quiet sites lacking significant current which are permanently flooded with fresh water and dominated by perennial emergent monocots up to five meters tall. These communities are typically dominated by bulrush (*Scirpus spp.*), cattail, tall flatsedge (*Cyperus eragrostis*), and spikerush (*Eleocharis spp.*). Coastal and valley freshwater marsh communities within the Study Area are dominated by cattail and bulrush. Coastal and valley freshwater marsh is listed as a sensitive plant community by CDFG.

3.2.1 Wetlands and Waters

Wetlands and Waters are present within the Study Area. Sulphur Creek is a perennial drainage with at least some degree of continuous flow present all year. This perennial flow promotes freshwater marsh species throughout the entire 1500 ft of Sulphur Creek that is located in the Study Area. The waters of Sulphur Creek eventually drain to San Francisco Bay, making the creek likely to be considered Section 404 Waters of the United States. Wetland indicators such as hydrophytic vegetation and frequency of inundation, also suggest that Sulphur Creek, may be

considered jurisdictional wetlands. However, collection of additional data will be necessary to prepare a delineation report suitable for submission to the U.S. Corps Of Engineers. Waters with a defined bed and bank are considered "Other Waters of the U.S." Corps jurisdiction for this feature extends to the ordinary high water mark.

3.2.2 Riparian Habitat

Several riparian trees were observed in Section 1 of the Study Area. The majority of these Oregon ashes (*Fraxinus latifolia*) were cut flush to the ground at one point, and have now generated new epicormic shoots, sprouting up from the dormant buds of the trunk. These Oregon ashes are young specimens and do not contribute much to the overall over-story canopy. There is not a strong riparian habitat component associated with Sulphur Creek's Study Area.

3.3 Special Status Species

3.3.1 Wildlife

Fifty-seven special status wildlife species of wildlife have been recorded in the vicinity of the Study Area. Appendix A summarizes the potential for occurrence for these species in the Study Area. Of these species, 48 species are not likely to ever be present, 8 wildlife species have a low potential for occurrence in the Study Area, and 1 species has a moderate potential for occurrence. There are no species with a high potential for occurrence.

For those 56 wildlife species with a low potential for occurrence or those not likely to be present, the habitat conditions with the Study Area are clearly unsuitable for breeding, rearing, and/or foraging. Human disturbance and development in the Study Area offers limited value for special status wildlife species to occur.

Special status species with a moderate potential for occurrence at the Study Area are discussed further below.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), Federal Species of Special Concern, CDFG Species of Concern. This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting. This species has a moderate potential to be present in the Study Area due to its ability to co-habitate with human disturbances, for example an airport. The habitat requirements of the Saltmarsh Common Yellowthroat allow for the possibility of presence in the Study Area, occupying the freshwater marsh element of the Study Area

Seven species of wildlife were observed in or adjacent to the Study Area during the site assessment (Appendix B). All of the wildlife observed in the Study Area are commonly found species, and many are adapted to occupying disturbed or urban areas. No special status wildlife species were observed.

3.3.2 Plants

Based upon a review of the resources and databases listed in Section 2.3.1, 14 special status plant species have been documented within the general vicinity of the Study Area. The Study Area contains suitable habitat for none of these species. Appendix A summarizes the potential plant species.

4.0 CONCLUSION AND RECOMMENDATIONS

There are no special status plant species located within the Study Area. While, only one special status wildlife species has a moderate potential to occur within the Study Area. The only sensitive plant community that was identified within the Study Area is freshwater marsh habitat. Based on the results of the biological assessment, special status species, their potential habitat, or sensitive plant communities within the Study Area may be impacted by the proposed restoration efforts. The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to these species and sensitive habitats.

4.1 Sensitive Plant Communities and Aquatic Features

4.1.1 Wetlands and Waters

The freshwater marsh plant community identified within the Study Area has the potential to be considered jurisdictional by the Corps and/or the Regional Water Quality Control Board. A formal wetland delineation following Corps procedures is recommended to determine whether these areas can be considered jurisdictional and to map their exact location and extent. The delineation may occur anytime throughout the year.

4.1.2 Riparian Habitat

The riparian plant community may meet the definitions of “riparian habitat” described in the Fish and Game Code and the California Code of Regulations and, therefore, is subject to regulation by the CDFG. Any impacts to this plant community would likely require a 1602 Streambed Alteration Agreement permit from CDFG, which generally requires the inclusion of a Mitigation Plan describing proposed mitigation through habitat replacement and monitoring.

4.2 Special Status Species

4.2.1 Wildlife

Breeding Birds

One special status bird species has been identified within the Study Area. This species is the Saltmarsh Common Yellowthroat. Disturbance resulting in abandonment or destruction of active nests is considered a significant impact under CEQA.

There are two approaches to avoid impacts to this species. The first approach is to limit construction to the time of year when birds are not nesting (September through March). The second approach is to conduct preconstruction surveys for nesting birds (a standard CEQA

requirement). The purpose of these surveys is to avoid project related impacts and establish a disturbance buffer if nests are located. A minimum buffer of 25 feet is typically required by CDFG for songbird nests, and a minimum of 200 feet for raptor nests.

4.2.2 Plants

Rare plants are unlikely to occur within the Study Area, and none were observed during the October 25 site visit. Additional surveys or mitigation measures with regard to rare plants is unnecessary.

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APPENDIX A

LIST OF POTENTIAL SPECIAL STATUS PLANT AND ANIMAL SPECIES AT SULPHUR CREEK, HAYWARD EXECUTIVE AIRPORT

Appendix A. Special status animal species that may occur, or are known to occur in habitats similar to those found in Sulphur Creek. List compiled from USFWS Species lists (USFWS 2005), and CNDDB San Leandro and Hayward quadrangle lists (2005).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
Mammals			
pallid bat *Antrozous pallidus*	CSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Not Present**. Suitable foraging habitat not present; roosting habitat not present due to urban environment.
greater western mastiff bat *Eumops perotis californicus*	FSC, CSC	Found in a wide variety of habitat. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	**Not Present**. Typical roosting and foraging habitat not present in Study Area.
long-eared myotis *Myotis evotis*	FSC	Primarily a forest associated species. Day roosts in hollow trees, under exfoliating bark, rock outcrop crevices and buildings. Other roosts include caves, mines and under bridges.	**Not Present.** Suitable forest habitat for roosting and foraging is not present in Study Area.
fringed myotis *Myotis thysanodes*	FSC	Associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/sequoia groves. Buildings, mines and large snags are important day and night roosts.	**Not Present**. Suitable coniferous forest habitat for roosting and foraging is not present in Study Area.
long-legged myotis *Myotis volans*	FSC	Generally associated with woodlands and forested habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.	**Not Present**. Typical civil roost habitat not found in Study Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
Yuma myotis *Myotis yumanensis*	FSC	Known for its ability to survive in urbanized environments. Also found in heavily forested settings. Day roosts in buildings, trees, mines, caves, bridges and rock crevices. Night roosts associated with man-made structures.	**Low potential**. Typical roosting habitat absent from Study Area. Low potential for forage habitat.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	FSC, CSC	Occurs in forest habitats of moderate canopy and moderate to dense understory. Also found in chaparral habitats. Feeds mainly on woody plants: live oak, maple, coffeeberry, alder, and elderberry	**Not Present**. Typical habitat not found in Study Area. Insufficient cover for habitat.
salt-marsh harvest mouse *Reithrodontomys raviventris*	FE, SE	Primary habitat in pickleweed-dominated saline emergent marshes of San Francisco Bay. Require adjacent upland areas for escape from high tides.	**Not Present**. Typical pickle weed habitat is not present.
salt-marsh vagrant shrew *Sorex vagrans halicoetes*	FSC, CSC	Found in salt marshes of the South Arm of San Francisco Bay. Prefer medium to high marsh 6-8ft above sea level.	**Not Present**. Typical pickle weed habitat is not present. Species not observed during site visit.
American badger *Taxidea taxus*	CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils & open, uncultivated ground. Prey on burrowing rodents. Dig burrows.	**Not Present**. Isolated site unsuitable for prey base. Typical habitat not found in Study Area.
Birds			
Sharp-shinned Hawk *Accipiter striatus*	CSC	Usually associated with woodlands and forests in the breeding season; may occur in most habitats in winter and migration.	**Low Potential**. Possible rare winter visitor.
Cooper's Hawk *Accipiter cooperii*	CSC	For breeding, they prefer broken woodlands, especially riparian woodlands in canyons and floodplains.	**Low Potential**. Possible rare winter visitor. Prefers oak and conifer habitats.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
Tricolored Blackbird *Agelaius tricolor*	FSC, CSC	Usually nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs.	**Not Present**. Suitable nesting habitat is not present. Limited nearby forage habitat.
Bell's Sage Sparrow *Amphispiza belli*	FSC, CSC	Prefers dense chaparral and scrub habitats in breeding season. Found in more open habitats in winter.	**Not Present**. Suitable chamise scrub habitat for foraging and nesting is not present in Study Area.
Golden Eagle *Aquila chrysaetos*	CSC, CFP	Found in rolling foothill and mountain areas, sage-juniper flats, dessert. Cliff-walled canyons provide nesting habitat in most parts of range.	**Not Present**. Typical nesting and foraging habitat is not present in Study Area.
Western Burrowing Owl *Athene cunicularia hypugea*	FSC, CSC	Frequents open grasslands and shrublands with perches and burrows. Preys upon insects, small mammals, reptiles, birds, and carrion. Nests and roosts in old burrows of small mammals.	**Low Potential**. No burrowing habitat observed in the Study Area.
Ferruginous Hawk *Buteo regalis*	FSC, CSC	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys and fringes of pinyon-juniper habitats.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Red Knot *Calidris canutus*	FSC	Fall and spring migrant in coastal estuarine habitats. Prefers estuarine sand or mud flats.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Costa's Hummingbird *Calypte costae*	FSC	Occurs in arid habitats such as desert washes, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis.	**Not Present**. Typical arid scrub habitat for foraging and nesting is not present in Study Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
Lawrence's Goldfinch *Carduelis lawrencei*	FSC	Inhabits oak woodlands, chaparral, riparian woodlands, pinyon-juniper associations, and weedy areas near water during the breeding season.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Vaux's Swift *Chaetura vauxi*	FSC, CSC	Forages high in the air over most terrain and habitats but prefers rivers/lakes. Requires large hollow trees for nesting.	**Not Present**. Suitable nesting habitat is not present in Study Area.
Western Snowy Plover *Charadrius alexandrinus nivosus*	FT, CSC	Found on sandy beaches, salt pond levees and shores of large alkali lakes. Need sandy gravelly or friable soils for nesting.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Black Swift *Cypseloides niger*	FSC, CSC	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above surf. Forages widely.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Yellow Warbler *Dendroica petechia brewsteri*	CSC	Nests in riparian stands of willows, cottonwoods, aspens, sycamores, and alders. Also nests in montane shrubbery in open conifer forests.	**Low Potential**. May occur during migration, Aug-Sept. Requires a more extensive riparian habitat for nesting.
White-tailed Kite *Elanus leucurus*	FSC, CFP	Year-long resident of coastal and valley lowlands; rarely found away from agricultural areas. Preys on small diurnal mammals and occasional birds, insects, reptiles, and amphibians.	**Low Potential**. May rarely forage in Study Area's open grassland. Generally does not inhabit human disturbed sites.
American Peregrine Falcon *Falco peregrinus anatum*	SE, CFP	Winters throughout Central Valley. Requires protected cliffs and ledges for cover. Feeds on a variety of birds, and some mammals, insects, and fish.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
Saltmarsh Common Yellowthroat *Geothlypis trichas sinuosa*	FSC, CSC	Frequents low, dense vegetation near water including fresh to saline emergent wetlands. Brushy habitats used in migration. Forages among wetland herbs and shrubs for insects primarily.	**Moderate Potential**. May live close to human disturbances. Found in freshwater areas. Suggested that work avoid breeding season.
Bald Eagle *Haliaeetus leucocephalus*	FT, SE	Requires large bodies of water, or free-flowing rivers with abundant fish adjacent snags or other perches. Nests in large, old-growth, or dominant live tree with open branchwork.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Loggerhead Shrike *Lanius ludovicianus*	FSC, CSC	Prefers open habitats with scattered shrubs, trees, pots, utility lines from which to forage for large insects. Nest well concealed above ground in densely-foliaged shrub or tree.	**Low Potential**. Limited foraging habitat present in Study Area.
California Black Rail *Laterallus jamaicensis coturniculus*	ST	Rarely seen resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay Area. Nest in dense stands of pickleweed	**Not Present**. Usually associated with tidal habitats in San Francisco Bay Area.
Marbled Godwit *Limosa fedoa*	FSC	Migrant and winter visitor along California Coast. Most common on estuarine mudflats but also occurs on sandy beaches, open shores, saline emergent wetlands, and adjacent wet upland fields.	**Not Present**. Suitable foraging habitat is not present in Study Area.
Lewis's Woodpecker *Melanerpes lewis*	FSC	Uncommon winter resident occurring on open oak savannahs, broken deciduous and coniferous habitats.	**Not Present**. Suitable oak woodland, and savannah habitat is not present in Study Area.
Alameda (South Bay) Song Sparrow *Melospiza melodia pusillula*	FSC, CSC	Found in saline emergent wetlands of the south bay. Require low, dense vegetation for cover and nesting.	**Not Present**. Usually found in tidal habitats.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
Long-billed Curlew *Numenius americanus*	FSC, CSC	Winters in large coastal estuaries, upland herbaceous areas, and croplands. Breeds in northeastern California in wet meadow habitat.	**Not Present**. Suitable foraging habitat is not present in Study Area.
California Brown Pelican *Pelecanus occidentalis californicus*	FE, SE	Found in estuarine, marine subtidal, and marine pelagic waters along the coast. Nest on rocky or low brushy slopes of undisturbed islands.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
California Clapper Rail *Rallus longirostris obsoletus*	FE, SE	Found in tidal salt marshes of the San Francisco Bay. Require mudlfats for foraging and dense vegetation on higher ground for nesting.	**Not Present**. Usually associated with saline tidal habitats.
Bank Swallow *Riparia riparia*	ST	Migrant in riparian and other lowland habitats in western California. Nests in riparian areas with vertical cliffs and bands with fine-textured or sandy soils in which to nest.	**Not Present**. Suitable nesting habitat is not present in Study Area.
Black Skimmer *Rynchops niger*	FSC,CSC	Nests on gravel bars, low islets, and sandy beaches in unvegetated sites.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Rufous Hummingbird *Selasphorus rufus*	FSC	Found in a wide variety of habitats that provide nectar-producing flowers. A common migrant and uncommon summer resident of California.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
Allen's Hummingbird *Selasphorus sasin*	FSC	Breeds in sparse and open woodlands, coastal redwoods, and sparse to dense scrub habitats. Distribution highly dependent on abundance of nectar sources.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.
California Least Tern *Sterna antillarum browni*	FE, SE	Breeding colonies in San Francisco Bay found in abandoned salt ponds and along estuarine shores. Nests on barren to sparsely vegetated site near water.	**Not Present**. Suitable foraging and nesting habitat is not present in Study Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
Reptiles and Amphibians			
California tiger salamander *Ambystoma californiense*	FT, CSC	Inhabits annual grass habitat and mammal burrows. Seasonal ponds and vernal pools crucial to breeding	**Not Present**. Study Area is not included in the known distribution range.
western pond turtle *Clemmys marmorata*	CSC	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nests sites may be found up to 0.5 km from water.	**Not Present**. Insufficient nesting habitat available in Study Area.
coast horned lizard *Phrynosoma coronatum frontale*	FSC, CSC	Occurs in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress juniper and annual grass habitats. Prefers sand areas, washes, flood plains and wind-blown deposits.	**Not Present.** Study Area is not included in the known distribution range.
California red-legged frog *Rana aurora draytonii*	FT, CSC	Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains.	**Not Present**. Study Area has barriers to dispersal. Isolated site with limited species introduction.
foothill yellow-legged frog *Rana boylii*	FSC, CSC	Found in or near rocky streams in a variety of habitats. Feed on both aquatic and terrestrial invertebrates.	**Not Present**. Suitable stream habitat is not present in Study Area.
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE, SE, CFP	Found in the vicinity of freshwater marshes, ponds and slow moving streams. Prefers dense cover and water depths of at least one foot. Upland areas important.	**Not Present**. Study Area is not included in the known distribution range.
Invertebrates			
vernal pool fairy shrimp *Branchinecta lynchi*	FT	Inhabit small, clear-water sandstone-depression pools, grassy swales, slumps, or basalt-flow depression pools.	**Not Present**. Suitable vernal pool habitat is not present in Study Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE
California linderiella *Linderiella occidentalis*	FSC	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity and conductivity.	**Not Present**. Suitable vernal pool habitat is not present in Study Area.
Ricksecker's water scavenger beetle *Hydrochara ricksecker*i	FSC	Aquatic, known from the San Francisco Bay Area.	**Low Potential**. Usually found in pond habitats. Study Area is isolated from ponds that support habitat requirements.
Fishes			
tidewater goby *Eucyclogobius newberryi*	FE	Found in the brackish waters of coastal lagoons, marshes, creeks, and estuaries. Unique among fishes of the Pacific coast, gobies are restricted to waters of low salinity in coastal wetlands. They feed along the bottom, preferring clean, shallow, slow-moving waters.	**Not Present**. Suitable lagoon habitat not present in Study Area.
delta smelt *Hypomesus transpacificus*	FT	Live in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet.	**Not Present**. Study Area does not represent typical habitat.
Coho salmon-central CA coast *Oncorhynchus kisutch*	FT	State listing is limited to Coho south of San Francisco Bay. The Federal listing is limited to naturally spawning populations in streams between Punta Gorda, Humboldt County and the San Lorenzo River, Santa Cruz County. Spawn in coastal streams at temps. from 4-14C. Prefer beds of loose, silt-free, coarse gravel and cover nearby for adults.	**Not Present**. Suitable spawning and rearing habitats are not present in Study Area.

SPECIES	STATUS*		HABITAT	POTENTIAL FOR OCCURRENCE
steelhead-central CA coast ESU *Oncorhynchus mykiss*	FT		From Russian River south to Soquel Creek and Pajaro River. Also San Francisco and San Pablo Bay Basins.	**Not Present**. Suitable spawning and rearing habitats are not present in Study Area.
Central Valley fall/late fall-run chinook salmon *Oncorhynchus tshawytscha*	FC		Population spawning in the Sacramento & San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**Not Present**. Suitable spawning and rearing habitats are not present in Study Area.
Sacramento splittail *Pogonichthys macrolepidotus*	FT, CSC		Endemic to the lakes and rivers of the central valley, now confined to the delta, Suisun Bay and associated marshes. Found in slow moving river sections and dead end sloughs. Require flooded vegetation for spawning and foraging of young.	**Not Present**. Suitable aquatic habitat not present in Study Area.
longfin smelt *Spirinchus thaleichthys*	FSC, CSC		Pelagic species that mature in freshwater areas of the Sacramento-San Joaquin estuary and river system.	**Not Present**. Suitable aquatic habitat not present in Study Area.
Plants				
alkali milk vetch *Astragalus tener* var. *tener*	FSC, List 1B	Blooms March-June	Alkali playa, adobe clay in valley and foothill grassland, vernal pools, alkali flats and flooded lands. 1-60 m. Blooms March-June.	**Not Present**. Study Area does not contain suitable habitat.
big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	FSLC, List 1B	Blooms March-June	Chaparral, cismontane woodland, valley and foothill grassland. Sometimes on serpentine soil. 90-1400 m.	**Not Present**. Study Area is lower than the elevation range requirement and also lacks suitable habitat.

SPECIES	STATUS*		HABITAT	POTENTIAL FOR OCCURRENCE
salt marsh owl's clover *Castilleja ambigua ssp. ambigua*	SLC	Blooms May-Aug	Coastal bluffs, grasslands; < 100m	**Not Present**. Study Area does not contain suitable habitat.
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	FSC, List 1B	Blooms June-Nov.	Alkaline soils in valley and foothill grassland. 1-230m.	**Not Present**. Study area does not contain alkaline soils.
robust spineflower *Chorizanthe robusta* var. *robusta*	FE, List 1B	Blooms April-Sept.	Cismontane woodland, coastal dunes, coastal scrub. Sandy terraces and bluffs, loose or gravelly sand. 3-120 m.	**Not Present**. Study Area does not contain suitable habitat.
Point Reyes bird's-beak *Cordylanthus maritimus* ssp. *palustris*	FSC, List 1B	Blooms June-Oct.	Marshes and swamps with coastal salt influence. 0-10 m	**Not Present**. Study Area does not contain salt/tidal influence.
western leatherwood *Dirca occidentalis*	FSLC List 1B	Blooms January - April.	Mesic soils in broad-leaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest and woodland. 50-395 m.	**Not Present**. Study Area is located below the elevation range of the species.
fragrant fritillary *Fritillaria liliacea*	FSC, List 1B	Blooms February-April.	Coastal scrub, valley and foothill grassland, coastal prairie. Often in serpentine; various soils reported though usually clay, in grassland. 3-410 m.	**Not Present**. Study Area does not contain habitat for this species.
Diablo helianthella *Helianthella castanea*	FSC, List 1B	Blooms April-June.	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. 25-1300 m.	**Not Present**. No oak, chaparral, valley or grassland habitats in the Study Area.

SPECIES	STATUS*		HABITAT	POTENTIAL FOR OCCURRENCE
Kellogg's horkelia *Horkelia cuneata s sp. sericea*	FSC, List 1B	Blooms Feb-Sept	Closed-cone coniferous forest, coastal scrub, chaparral (old dunes, coastal sand-hills, openings). 10-200m.	**Not Present**. No conifer forest, coastal scrub or chaparral located in the Study Area.
Lasthenia conjugens Contra Costa goldfields	FE, List 1B	Blooms March-June	Mesic sites in valley and foothill grassland, vernal pools, playas, swales, low depressions, open grassy areas, cismontane woodland. 0-470 m.	**Not Present**. No vernal pool, playa, or cismontane habitats located in the Study Area.
robust monardella *Monardella villosa* ssp. *globosa*	FSC, List 1B	Blooms June-July.	Openings in broadleaved upland forest, cismontane woodland, chaparral, valley and foothill grassland. 30-300 m.	**Not Present**. Study Area is located below the elevation range of the species.
Pacific cordgrass *Spartina foliosa*	SLC	Identifiable all year	Salt marshes, mudflats, shores, salt tolerant	**Not Present**. Study Area does not contain salt influences.
California seablite *Suaeda californica*	SE, List 1B	Blooms July-Oct	Marshes and swamps (coastal salt). 0-5m.	**Not Present**. Study Area does not contain a salt/tidal influence.
Plant Communities				
Northern Coastal Salt Marsh			Usually found along sheltered inland margins of bays, lagoons, and estuaries. These hydric soils are subject to regular tidal inundation by salt water for at least part of the year. **Indicator species**; *Cuscuta salina, Distichlis spicata, Eleocharis parvula, Frankenia grandifolia, Grindelia paludosa, Jaumea carnosa, Juncus lesueurii, Limonium californicum, Plantago maritima, Potentilla egedii, Salicornia virginica, Spartina foliosa, Triglochin maritima.*	Not Present. The elevation of the Study Area precludes it from having a tidal salt influence.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE

*** Key to status codes:**

FE Federal Endangered
FT Federal Threatened
FC Federal Candidate
FSC United States Fish and Wildlife Service Federal Species of Concern
FSLC United States Fish and Wildlife Service Federal Species of Local Concern
SE State Endangered
ST State Threatened
CFP CDFG Fully Protected Animal
CSC CDFG Species of Special Concern

List 1A CNPS 1A List: Plants presumed extinct in California
List 1B CNPS 1B List: Plants endangered, threatened, or rare in California and elsewhere
List 2 CNPS List 2: Plants rare, threatened, or endangered in California, but more common elsewhere

Potential species presence definitions:

(1) Not Present. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime). The species has an extremely low probability of being found on the site.

(2) Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species has a low probability of being found on the site.

(3) Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

(4) High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

(5) Present. Species is observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.

APPENDIX B

LIST OF OBSERVED PLANT AND ANIMAL SPECIES

Appendix B. List of plant and animal species found in the Sulphur Creek Study Area on October 25, 2005.

SCIENTIFIC NAME	COMMON NAME
Plants	
Bamboo sp.	landscaped bamboo
Acacia dealbata	silver wattle
Agapanthus sp.	African lily
Aloe sp.	aloe vera
Avena sp.	wild oat
Baccharis pilularis	coyote brush
Betula papyrifera	paper bark birch
Bromus catharticus	rescue grass
Ceratonia siliqua	carob
Conium maculatum	poison hemlock
Conyza canadensis	Canadian horseweed
Cortaderia jubata	pampas grass
Cynodon dactylon	Bermuda grass
Cyperus eragrostis	tall flatsedge
Echinochloa crus-gali	barnyard grass
Epilobium ciliatum	willow herb
Fraxinus latifolia	Oregon ash
Foeniculum vulgare	fennel
Galium aparine	catchweed bedstraw
Geranium dissectum	cut-leaf geranium
Hedera helix	English ivy
Holcus mollis	creeping velvet grass
Juglans californica	southern California black walnut
Juniperus sp.	landscaped juniper
Laurus nobilis	noble laurel

Lemma sp.	duckweed
SCIENTIFIC NAME	**COMMON NAME**
Ligustrum sp.	privet
Lolium multiflorum	Italian ryegrass
Lotus corniculatus	bird-foot trefoil
Malus fusca	crab apple
Malva parviflora	cheese weed
Maytenus boaria	maytens
Picris echioides	bristly ox tongue
Plantago lanceolata	English plantain
Prunus americana	plum
Prunus dulcis	almond
Pseudotsuga menziesii	Douglas fir
Pyrocanthus sp.	pyrocanthus
Quercus sp.	non-native landscape evergreen oak
Raphanus sativus	wild radish
Rubus discolor	Himalayan blackberry
Rumex crispus	curly dock
Salsola soda	alkali Russian thistle
Scirpus acutus	common tule
Scirpus macrocarpus	small fruited bulrush
Silybum marianum	milk thistle
Typha sp.	cattail
Ulmus parviflora	Chines elm
Vicia sp.	vetch
Washingtonia filifera	California fan palm
Wisteria sp.	wisteria
Wildlife	
Birds	

Anas platyrhynchos	Mallard Duck
Ardea herodias	Great Blue Heron
Calypte anna	Anna’s Hummingbird
Corvis brachyrhynchos	American Crow
Mammals	
Sciurus niger	Eastern Fox Squirrel
Thomomys sp.	Pocket Gopher
Butterflies	
Danaus plexippus	Monarch Butterfly

APPENDIX C

STUDY AREA PHOTOGRAPHS

Above: Sulphur Creek as seen looking east from the terminus of Segment 2

Below: Sulphur Creek as seen looking east from the middle of Segment 2

Photographs taken October 25, 2005.

wra
ENVIRONMENTAL CONSULTANTS

Above: Sulphur Creek as seen looking east from the center of Segment 1

Below: Sulphur Creek as seen looking north from the beginning of Segment 1

Photographs taken October 25, 2005.

wra
ENVIRONMENTAL CONSULTANTS

Appendix I
Noise Study

DRAFT AIRCRAFT NOISE ANALYSIS

Hayward Executive Airport

Introduction

This Noise Analysis has been prepared to identify the noise exposure surrounding Hayward Executive Airport (HWD) with the implementation of the year 2020 recommended development concept identified in the HWD Airport Layout Plan Update Technical Report. The recommended development plan proposes translating Runway 10R-28L 196 feet to the west as well as installing an Engineering Materials Arresting System (EMAS) for Runway 28L.

Methodology

Integrated Noise Model

The Integrated Noise Model (INM), Version 7.0a, has been used to quantify aircraft noise exposure in the vicinity of the HWD. The INM is the Federal Aviation Administration (FAA) approved noise model for quantifying aircraft noise. The model input requires information specific to the airport including the total number of aircraft operations, the flight paths used to access the airport, the specific aircraft types, and the times of day at which the operations occurred.

The INM works by defining a network of grid points at ground level. It then selects the shortest distance from each grid point to each flight track and computes the noise exposure generated by each aircraft operation, along each flight track. Corrections are applied for atmospheric acoustical attenuation, acoustical shielding of the engines by the aircraft itself, and speed variations. The noise exposure levels for each operation are then summed at each grid location. The cumulative noise exposure levels at all grid points are then used to develop Community Noise Equivalent Level (CNEL) contours for selected values (e.g. 65 dB CNEL). Using the results of the grid point analysis, noise contours of equal noise exposure can then be plotted on an aerial photo or land use map.

Community Noise Equivalent Level

Title 21 of the California State Aeronautics Regulations specifies the use of the CNEL metric for quantifying cumulative aircraft noise exposure. CNEL is the 24-hour average sound level in decibels with an additional weighting placed on evening and nighttime operations to account for the increased sensitivity people have to noise events during these hours. Thus, the CNEL uses

three distinct time periods: daytime (7:00:00 am to 6:59:59 pm), evening (7:00:00 pm to 9:59:59 pm), and nighttime (10:00:00 pm – 6:59:59 am). Evening operations are multiplied by three and nighttime operations by ten, which results in a 4.77 and 10 decibel penalty for each event during these periods, respectively.

Aircraft Operations

Aircraft Operations and Fleet

Aircraft operations by aircraft category were based on the forecast data contained in the HWD Airport Layout Plan Update Technical Report. The breakdown of operations by aircraft category is identified in **Table 1**.

Table 1
2020 Forecast Annual Operations

Aircraft Category	Operations
Single Engine Piston	177,150
Multi-Engine	29,560
Jet	11,000
Helicopter	4,090
Total	221,800

Source: HWD Airport Layout Plan Update Interim Narrative Report

As shown in Table 1, approximately 80 percent of the aircraft operations forecast to be operating at HWD in 2020 are single engine piston aircraft, averaging 485 operations per day. Overall, the airport is forecast to average 608 operations per day by 2020.

Aircraft operations are identified as local and itinerant. An itinerant operation is defined as an aircraft take-off where the aircraft leaves the local airspace or an aircraft landing where the aircraft has arrived from outside the local airspace.

For modeling purposes in this analysis, local operations are those aircraft conducting touch-and-go operations within the training pattern at HWD. These aircraft remain within the local airspace and often make numerous circuits.

The percent of the itinerant and local operations forecast to occur in 2020 is based on the percentages identified in the 2002 HWD Airport Master Plan. The 2020 forecast itinerant and local operations are shown in **Tables 2** and **3**.

Table 2
2020 Forecast Annual Itinerant Aircraft Operations

Category	Annual Operations
Single Engine Piston	74,403
Multi-Engine	24,830
Jet	11,000
Helicopter	1,022
Total	111,255

Source: 2002 Hayward Executive Airport Master Plan; HWD Airport Layout Plan Update Interim Narrative Report

Table 3
2020 Forecast Annual Local Aircraft Operations

Category	Annual Operations
Single Engine Piston	102,747
Multi-Engine	4,730
Helicopter	3,067
Total	110,544

Source: 2002 Hayward Executive Airport Master Plan; HWD Airport Layout Plan Update Interim Narrative Report

Aircraft Fleet Mix

The specific aircraft types that comprise the aircraft categories were determined using multiple sources. The general aviation jet fleet was based on the analysis included in the HWD Airport Layout Plan Update. The jet fleet mix identified in the Update included operations by noise Stage 2 aircraft including the Learjet 25 and Gulfstream III. While these aircraft operated at HWD in 2007, given the age of the aircraft, it has been assumed that they will not likely be operating in the year 2020. Therefore, the general aviation jet fleet mix identified in the Update was modified for the noise analysis by removing the noise Stage 2 aircraft from the mix. The operations by these aircraft types were assigned to a noise Stage 3 aircraft (Learjet35).

The City currently maintains an Airport Noise and Operations Monitoring System (ANOMS©). ANOMS© is a computer system that maintains aircraft radar flight tracks, identifies specific aircraft types, runway use and the time of day in which a particular aircraft operation occurred. Data over a 12-month period from May 2007 through April 2008 was obtained and used for a number of INM inputs. The single engine piston, multi-engine, and helicopter fleet was based the ANOMS data. The aircraft fleet mix for itinerant and local operations are shown in **Tables 4** and **5**.

Table 4
2020 Forecast Itinerant Aircraft Fleet Mix

Category	INM Aircraft Type	Annual Operations	Average Daily Operations
Single Engine Piston	CNA172	52,082	142.7
	CNA20T	10,416	28.5
	GASEPF	1488	4.1
	GASEPV	10,416	28.5
Total		74,403	203.8
Multi-Engine	BEC58P	7,697	21.1
	PA31	4,718	12.9
	CNA441	2,980	8.2
	DHC6	8,442	23.1
	SD330	993	2.7
Total		24,830	68.1
Jet	LEAR35	3,712	10.2
	FAL50	234	0.6
	MU3001	2,745	7.5
	IA1125	193	0.5
	CIT3	688	1.9
	CNA500	1,193	3.3
	CNA750	563	1.5
	CL601	776	2.1
	GIV	875	2.4
	GV	21	0.1
Total		11,000	30.1
Helicopters	A109	61	0.2
	B206L	388	1.1
	EC130	31	0.1
	H500D	72	0.2
	SA350D	245	0.7
	R22	225	0.6
Total		1.022	2.8
TOTAL		**111,255**	**304.8**

Note: Numbers may not sum due to rounding
Source: ESA Airports Analysis; ANOMS©

Table 5
2020 Forecast Local Aircraft Fleet Mix

Category	INM Aircraft Type	Annual Operations	Average Daily Operations
Single Engine	CNA172	25,687	70.4
	CNA20T	20,549	56.3
	GASEPF	10,275	28.2
	GASEPV	46,236	126.7
Total		102,747	281.5
Multi-Engine	BEC58P	4,730	13.0
Total		4,730	13.0
Helicopter	H500D	153	0.4
	R22	1,687	4.6
	SA350D	1,227	3.4
Total		3,067	3.4
TOTAL		**110,544**	**302.9**

Note: Numbers may not sum due to rounding
Source: ESA Airports Analysis; ANOMS©

Time of Day

As noted previously, the separation of aircraft operations into daytime (7:00:00 am to 6:59:59 pm) evening (7:00:00 pm to 9:59:59 pm) and nighttime (10:00:00 pm – 6:59:59 am) is important because the INM includes an additional weighting during the evening and nighttime hours to account for the increased sensitivity people have to noise events during these hours. Evening operations are multiplied by three and nighttime operations by ten, which results in a 4.77 and 10 decibel penalty for each event during these periods, respectively.

The times of day that the operations occurred was based on the ANOMS© data. The time of day percentages by aircraft category that occurred in 2008 were applied to the corresponding aircraft category within the 2020 forecast. The times of day for the itinerant aircraft operations are identified in **Table 6**.

Table 6
Itinerant Aircraft Operation By Time of Day

Category	Arrivals			Departures		
	Day	Evening	Night	Day	Evening	Night
Single Engine Piston	87.6%	11.2%	1.2%	86.7%	9.3%	3.9%
Multi-Engine	87.6%	11.2%	1.2%	86.7%	9.3%	3.9%
Jet	77.8%	17.5%	4.7%	86.9%	5.0%	8.2%
Helicopter	92.7%	6.3%	1.0%	93.7%	4.6%	1.7%

Source: ESA Airports Analysis; ANOMS

The local touch-and-go operations for fixed wing aircraft and helicopter operations were also based on the ANOMS© data. The fixed wing aircraft were modeled at 95.6 percent during the daytime and 4.4 percent during the evening hours. The helicopter operations were modeled at 98 percent during the daytime and 2 percent during the evening hours.

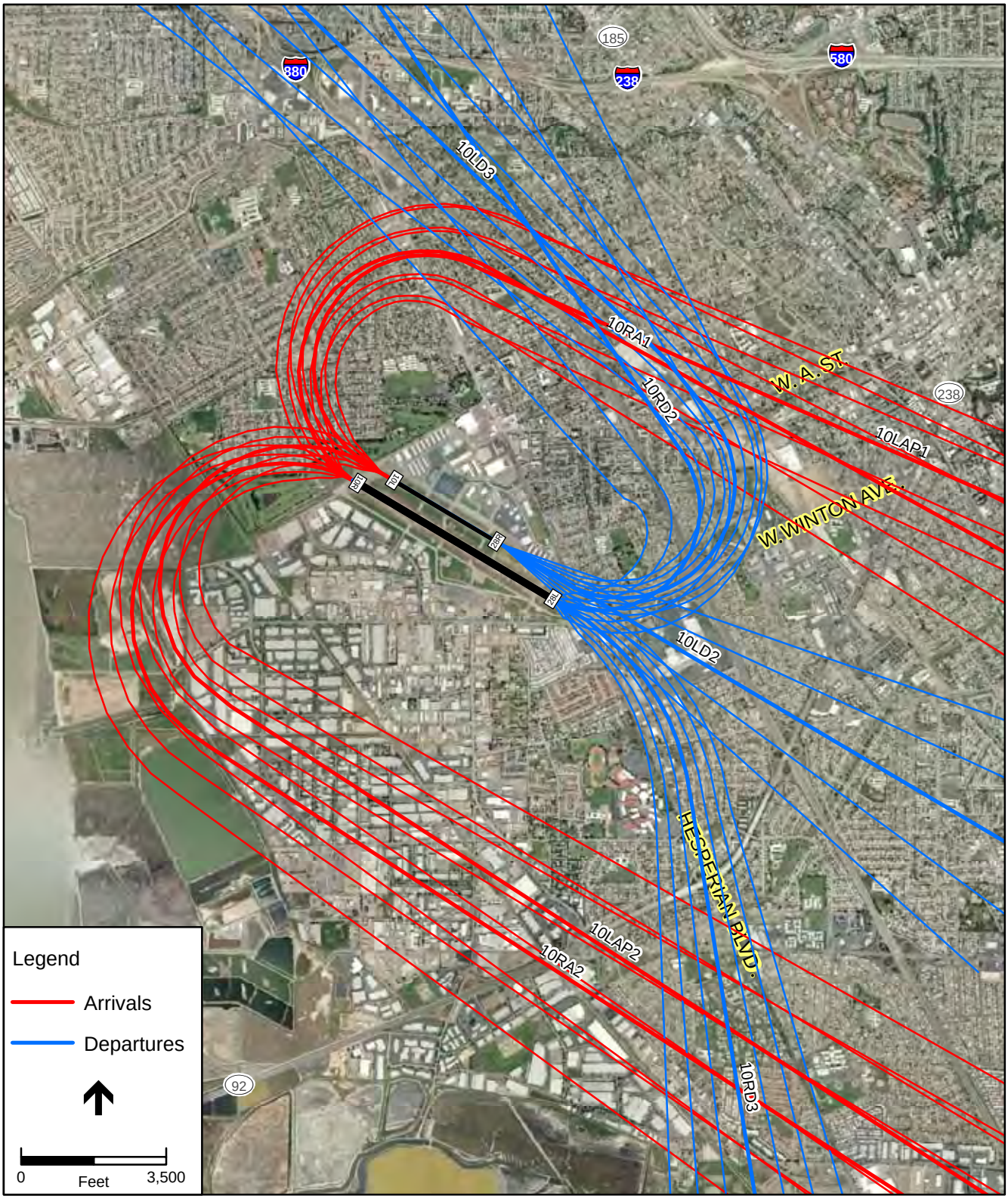
Runway Use and Aircraft Flight Tracks

Runway use and the location of aircraft flight tracks are important factors in determining the geographic distribution of noise on the ground. Runway use has been identified for northwest flow, aircraft operating on Runways 28L and 28R, and for southeast flow, aircraft operating on Runways 10L and 10R. The runway use and location of aircraft flight tracks was based on ANOMS© data and Airport Management. Radar tracks generated from the ANOMS© were incorporated into the INM. The INM aircraft flight tracks are shown on **Figures 1** through **4**. The runway use by aircraft category is identified in **Table 7** and the flight track use by aircraft category is shown in **Tables 8** through **10**.

Table 7
Runway Use Percentages By Times Of Day

		Departures			Arrivals			Touch-and-Go		
Category	**Runway**	**Day**	**Evening**	**Night**	**Day**	**Evening**	**Night**	**Day**	**Evening**	**Night**
Single Engine Piston	10R	2%	2%	19%	1%	1%	3%	2%	-	-
	28L	46%	56%	81%	34%	40%	97%	45%	100%	-
	10L	3%	1%	-	1%	1%	-	3%	-	-
	28R	49%	41%	-	64%	58%	-	50%	-	-
Total		**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**-**
Multi-Engine	10R	5%	3%	19%	2%	2%	3%	5%	-	-
	28L	95%	97%	81%	98%	98%	97%	95%	100%	-
	10L	-	-	-	-	-	-	-	-	-
	28R	-	-	-	-	-	-	-	-	-
Total		**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**-**
Jet	10R	9%	11%	12%	5%	4%	2%	-	-	-
	28L	91%	89%	88%	95%	96%	98%	-	-	-
	10L	-	-	-	-	-	-	-	-	-
	28R	-	-	-	-	-	-	-	-	-
Total		**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**-**	**-**	**-**

Source: ESA Airports Analysis; ANOMS©

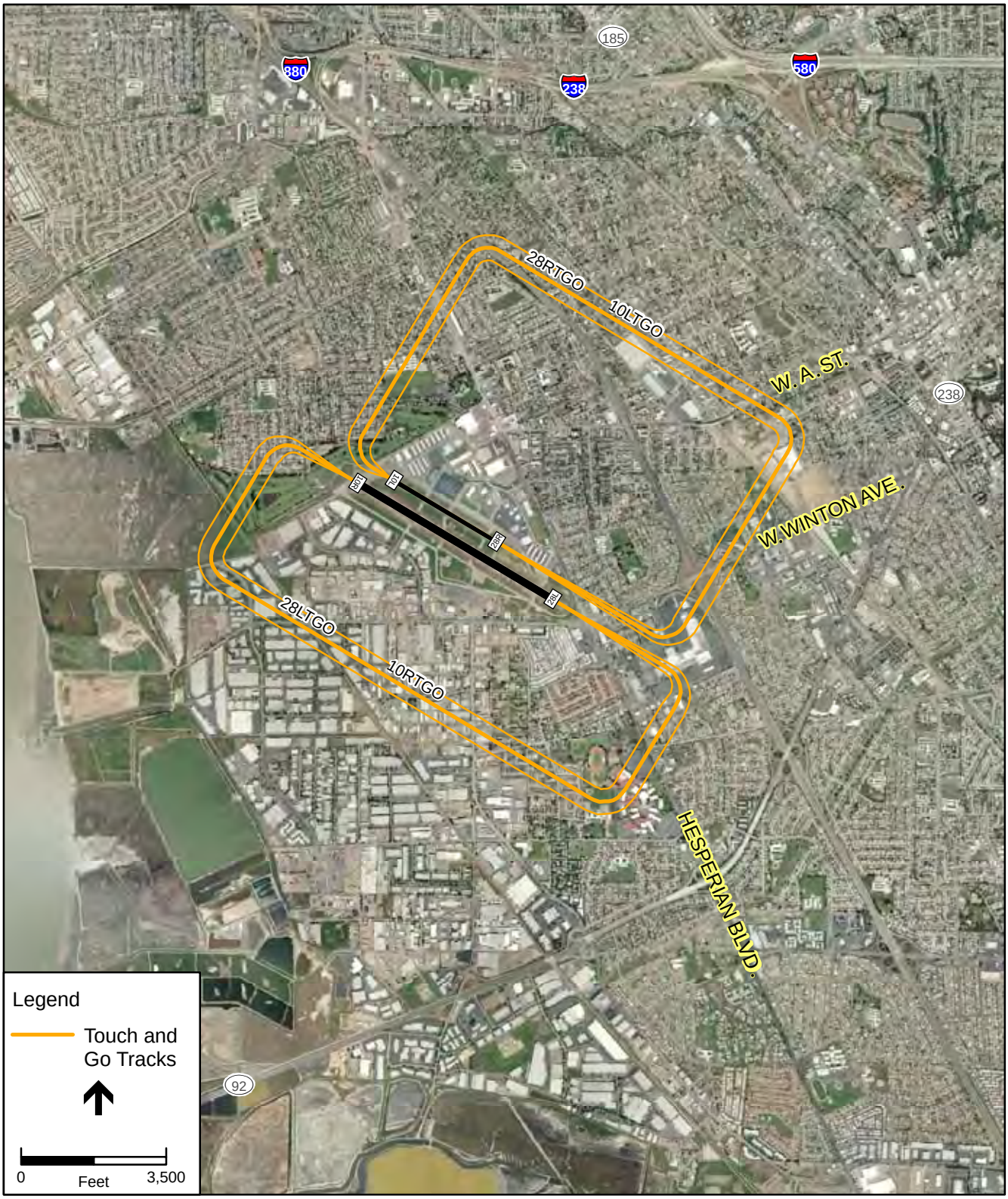


Hayward Executive Airport Layout Plan Update . 208129

SOURCE:ESA Airports, 2009; INM 7.0a; ESRI; Digital Globe, 2007-04-01

Figure 1

Draft South Flow Fixed-Wing Itinerant Flight Tracks

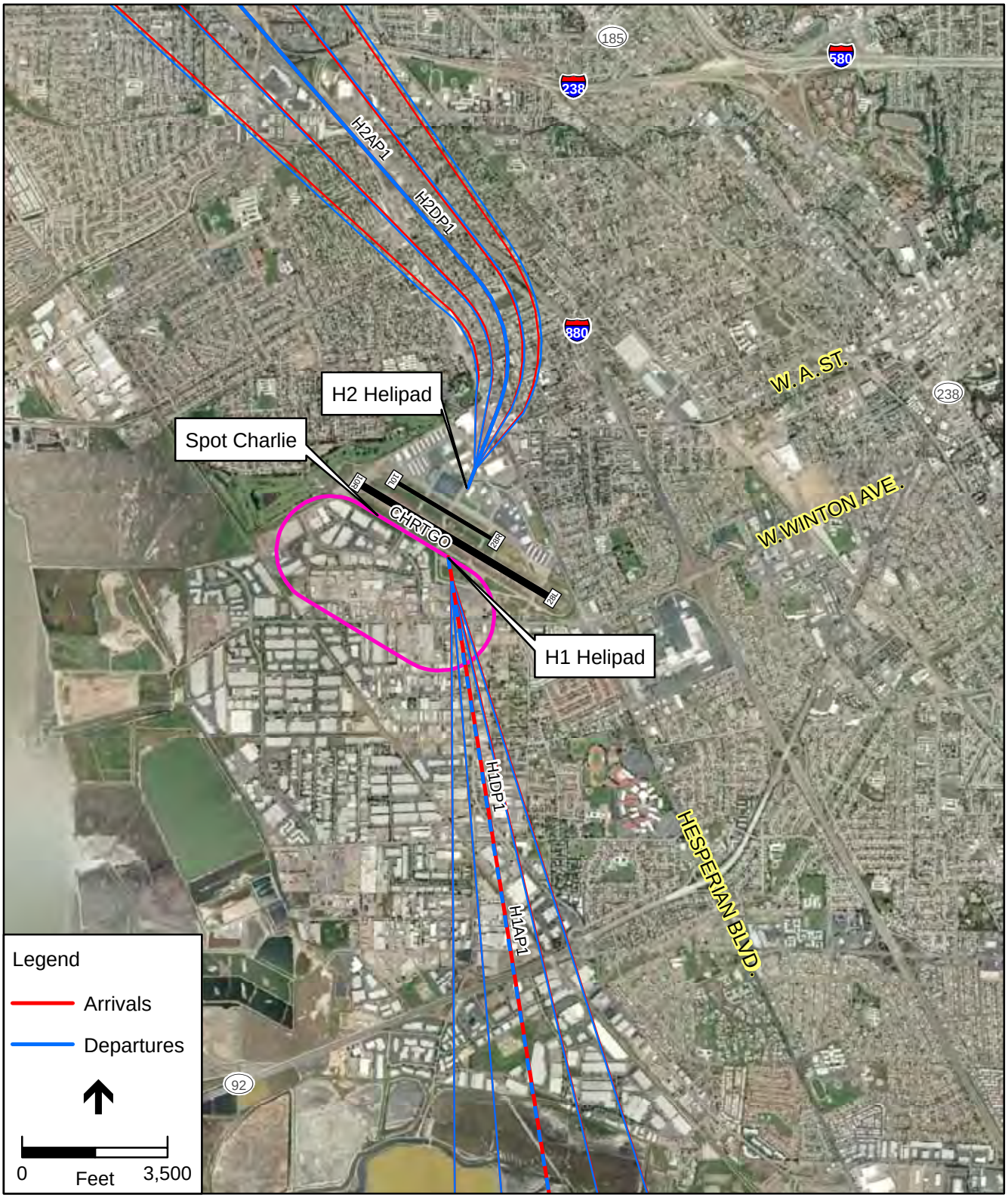


SOURCE:ESA Airports, 2009; INM 7.0a; ESRI; Digital Globe, 2007-04-01

Hayward Executive Airport Layout Plan Update . 208129

Figure 2

Draft Fixed-Wing Local Flight Tracks

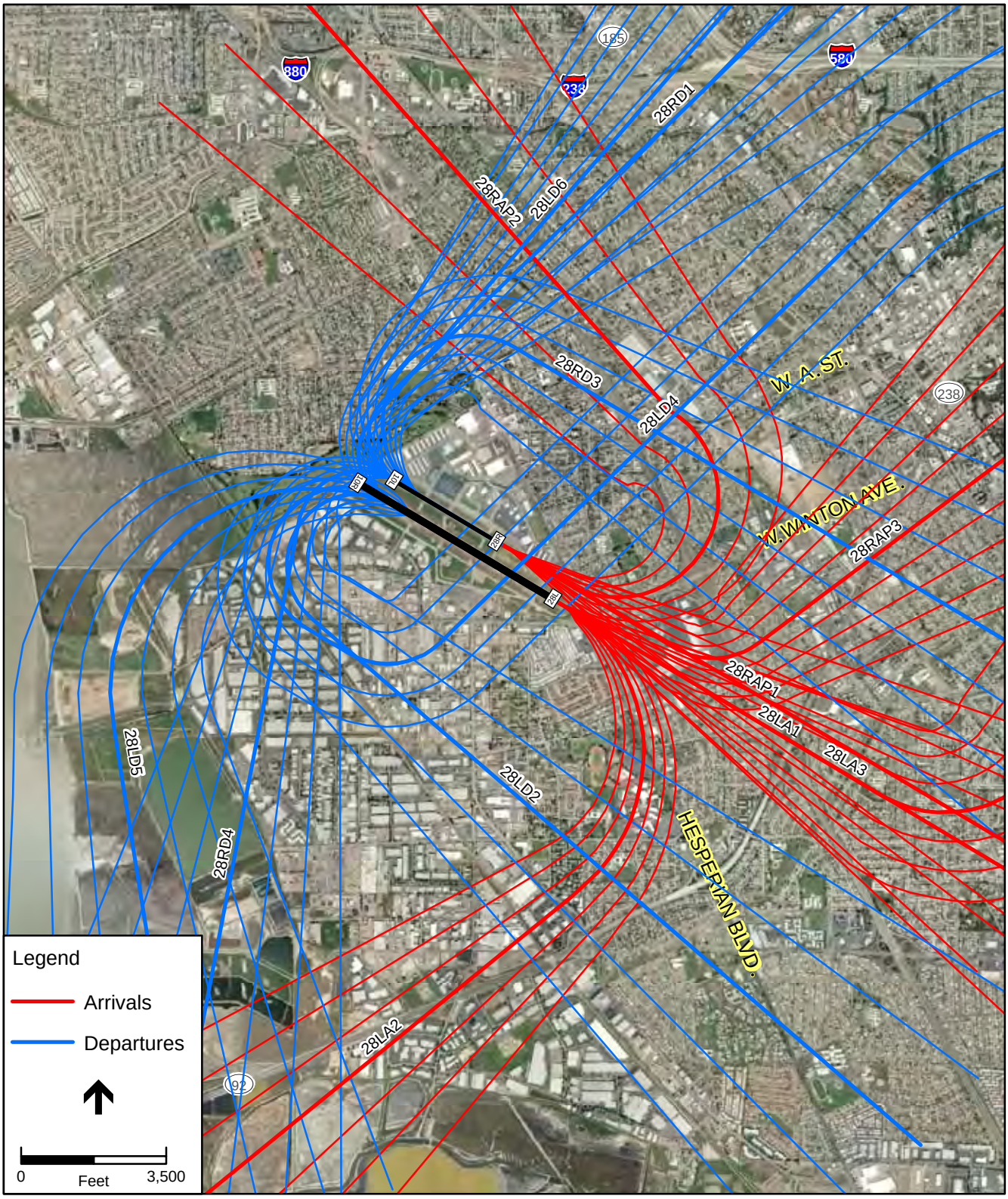


Hayward Executive Airport Layout Plan Update . 208129

SOURCE:ESA Airports, 2009; INM 7.0a; ESRI; Digital Globe, 2007-04-01

Figure 3

Draft Helicopter Flight Tracks



SOURCE:ESA Airports, 2009; INM 7.0a; ESRI; Digital Globe, 2007-04-01

Hayward Executive Airport Layout Plan Update. 208129

Figure 4

Draft North Flow Fixed-Wing Itinerant Flight Tracks

Table 8
Single Engine Piston and Multi-Engine Aircraft Flight Track Use Percentages

Operation	Runway	Flight Track	Day	Evening	Night
Departures	10R	10RD2	36%	36%	36%
		10RD3	64%	64%	64%
	28L	28LD2	16%	16%	16%
		28LD4	31%	31%	31%
		28LD5	30%	30%	30%
		28LD6	23%	23%	23%
	10L	10LD2	13%	13%	13%
		10LD3	87%	87%	87%
	28R	28RD1	64%	64%	64%
		28RD3	18%	18%	18%
		28RD4	18%	18%	18%
Arrivals	10R	10RA1	12%	12%	12%
		10RA2	88%	88%	88%
	28L	28LA1	59%	59%	59%
		28LA2	9%	9%	9%
		28LA3	32%	32%	32%
	10L	10LA1	67%	67%	67%
		10LA2	33%	33%	33%
	28R	28RA1	39%	39%	39%
		28RA2	25%	25%	25%
		28RA3	36%	36%	36%
Touch-and-Go	10R	10RTGO	100%	100%	100%
	28L	28LTGO	100%	100%	100%
	10L	10LTGO	100%	100%	100%
	28R	28RTGO	100%	100%	100%

Source: ESA Airports Analysis; ANOMS©

Table 9
Jet Aircraft Flight Track Use Percentages

Operation	Runway	Flight Track	Day	Evening	Night
Departures	10R	10RD2	36%	36%	36%
		10RD3	64%	64%	64%
	28L	28LD2	16%	16%	16%
		28LD4	43%	43%	43%
		28LD5	41%	41%	41%
	10L	10LD2	13%	13%	13%
		10LD3	87%	87%	87%
	28R	28RD1	64%	64%	64%
		28RD3	18%	18%	18%
		28RD4	18%	18%	18%
Arrivals	10R	10RA1	12%	12%	12%
		10RA2	88%	88%	88%
	28L	28LA1	59%	59%	59%
		28LA2	9%	9%	9%
		28LA3	32%	32%	32%
	10L	10LA1	67%	67%	67%
		10LA2	33%	33%	33%
	28R	28RA1	39%	39%	39%
		28RA2	25%	25%	25%
		28RA3	36%	36%	36%

Source: ESA Airports Analysis; ANOMS©

Table 10
Helicopter Flight Track Use Percentages

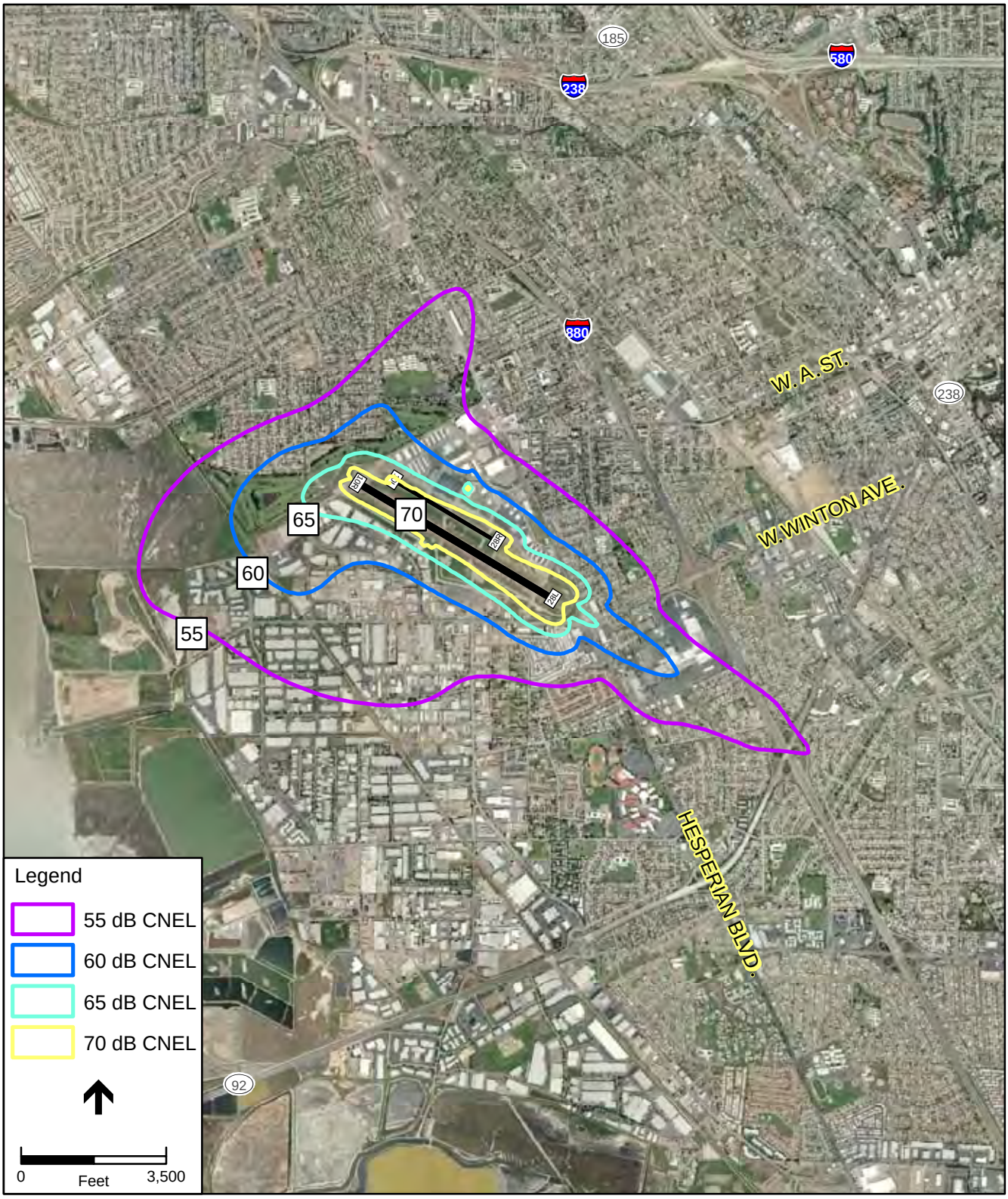
Operation	Runway	Flight Track	Day	Evening	Night
Departures	H1	H1D1	100%	100%	100%
	H2	H2D1	100%	100%	100%
Arrivals	H1	H1A1	100%	100%	100%
	H2	H2A1	100%	100%	100%
Touch and Go	Charlie	CHRTGO	100%	100%	100%

Source: ESA Airports Analysis; ANOMS©

CNEL Contours

The 2020 recommended development concept CNEL contours are presented on **Figure 5**. The contours are the largest to the west of the airport. The larger contour in this area is a result of two primary factors including the airport operating in northwest flow approximately 96 percent of the time (the noise levels from the aircraft operating at HWD are typically louder on departure than on arrival), and nearly all of the aircraft departing from Runway 28L execute a left turn shortly after departure (to avoid conflicts with Oakland International Airport operations). The smaller and narrower shape of the contour southeast of the airport results from the sound levels and altitudes of aircraft during arrival. Aircraft are at a much lower power setting during an approach and are lower to the ground when compared the same point being exposed to aircraft departures. The lower power setting results in a smaller contour and the lower altitude results in a narrower contour as the sound is propagated over a smaller area.

The 65 dB CNEL extends off-airport property south and east of the Runway 28L threshold. The shape of the contours in this area is primarily a result of the sound levels being generated from aircraft beginning their take-off roll from the Runway 28L threshold. Based on a review of aerial photography of this area, it is estimated that 55 residences are located within the 2020 65 dB CNEL contour. According to year 2000 census data, 3.08 persons reside within each household in city limits of Hayward, resulting in approximately 170 persons within the limits of the 2020 recommended development program 65 dB CNEL contour.



Hayward Executive Airport Layout Plan Update . 208129

SOURCE:ESA Airports, 2009; INM 7.0a; ESRI; Digital Globe, 2007-04-01

Figure 5

Draft 2020 CNEL Contours

Appendix J
EDR Report

Hayward Executive Airport
20301 Skywest Dr.
Hayward, CA 94545

Inquiry Number: 2344395.2s
October 21, 2008

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

20301 SKYWEST DR.
HAYWARD, CA 94545

COORDINATES

Latitude (North):	37.660480 - 37° 39' 37.7''
Longitude (West):	122.122410 - 122° 7' 20.7''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	577406.6
UTM Y (Meters):	4168303.0
Elevation:	30 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	37122-F2 SAN LEANDRO, CA
Most Recent Revision:	1980
East Map:	37122-F1 HAYWARD, CA
Most Recent Revision:	1980

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 6 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
HAYWARD AIR TERMINAL 20301 SKYWEST DRIVE HAYWARD, CA 0	CA WDS	N/A
CITY OF HAYWARD-HAYWARD EXEC AIRP 20301 SKYWEST DR HAYWARD, CA 94541	HAZNET	N/A
HAYWARD ARMY AIRFIELD 20301 SKYWEST DR HAYWARD, CA 94541	ENVIROSTOR Facility Status: Inactive - Action Required HIST Cal-Sites	N/A
HAYWARD AIR TERMINAL 20301 SKYWEST DR. HAYWARD, CA 94541	AST	N/A
HAYWARD ATCT 20301 SKYWEST DR HAYWARD, CA 94541	HIST UST	N/A

EXECUTIVE SUMMARY

AIR TRAFFIC CONTROL TOWER/FEDERAL 20301 SKYWEST DR HAYWARD, CA 94541	HAZNET Cortese CA FID UST SWEEPS UST	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System

RAATS RCRA Administrative Action Tracking System
SCRD DRYCLEANERS State Coalition for Redediation of Drycleaners Listing

STATE AND LOCAL RECORDS

CA BOND EXP. PLAN Bond Expenditure Plan
SCH School Property Evaluation Program
Toxic Pits Toxic Pits Cleanup Act Sites
SWF/LF Solid Waste Information System
WMUDS/SWAT Waste Management Unit Database
SWRCY Recycler Database
UST Active UST Facilities
LIENS Environmental Liens Listing
CHMIRS California Hazardous Material Incident Report System
DEED Deed Restriction Listing
VCP Voluntary Cleanup Program Properties
DRYCLEANERS Cleaner Facilities
WIP Well Investigation Program Case List
CDL Clandestine Drug Labs
EMI Emissions Inventory Data
HAULERS Registered Waste Tire Haulers Listing

TRIBAL RECORDS

INDIAN RESERV Indian Reservations
INDIAN ODI Report on the Status of Open Dumps on Indian Lands
INDIAN LUST Leaking Underground Storage Tanks on Indian Land
INDIAN UST Underground Storage Tanks on Indian Land
INDIAN VCP Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

Manufactured Gas Plants EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations EDR Proprietary Historic Gas Stations
EDR Historical Cleaners EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL RECORDS

CERC-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 12/03/2007 has revealed that there is 1 CERC-NFRAP site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CONTAINER MNGMT SVCS LLC	***21301 CLOUD WAY***	***SSW 1/4 - 1/2 (0.409 mi.)***	***F23***	***47***

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 12/31/2007 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
HAYWARD ARMY AIRFIELD		W 1/4 - 1/2 (0.279 mi.)	15	34

STATE AND LOCAL RECORDS

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
USANG CA HAYWARD BASE	***1525 WEST WINTON AVE***	***S 1/2 - 1 (0.505 mi.)***	***38***	***90***

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

A review of the Cortese list, as provided by EDR, and dated 04/01/2001 has revealed that there are 15 Cortese sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HAYWARD AIR TERMINAL	***20511 SKYWEST DR***	***NE 1/8 - 1/4 (0.219 mi.)***	***B8***	***15***
BEECHCRAFT WEST TANK FARM	***19990 SKYWEST DR***	***NNE 1/4 - 1/2 (0.266 mi.)***	***D13***	***27***
UNOCAL	***20501 HESPERIAN BLVD***	***NE 1/4 - 1/2 (0.418 mi.)***	***G25***	***56***
TEXACO EXXON	***20499 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.422 mi.)***	***G26***	***59***
SHELL	***20500 HESPERIAN BLVD***	***NE 1/4 - 1/2 (0.430 mi.)***	***G29***	***68***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AIRPORT ALLIANCE	***20450 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.444 mi.)***	***I30***	***72***
WEBER AUTO SUPPLY, INC.	***20372 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.451 mi.)***	***I32***	***78***
ARCO	***20200 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.465 mi.)***	***34***	***78***

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORMER BAR S FACILITY	***20725 CORSAIR BLVD***	***SW 1/4 - 1/2 (0.294 mi.)***	***E16***	***35***
HAYWARD CITY OF MICR CENT	20699 CORSAIR	SW 1/4 - 1/2 (0.303 mi.)	E18	37
BANK OF AMERICA	***20609 CORSAIR BLVD***	***WSW 1/4 - 1/2 (0.357 mi.)***	***20***	***39***
LAMBERTSON INDUSTRIES	***1750 SABRE ST***	***SW 1/4 - 1/2 (0.449 mi.)***	***J31***	***76***
CORSAIR PROPERTY	20275 CORSAIR	W 1/4 - 1/2 (0.461 mi.)	33	78
EKC TECHNOLOGY INC.	***1739 SABRE STREET***	***SW 1/4 - 1/2 (0.466 mi.)***	***J36***	***83***
HIGH VACUUM APPARATUS MFG INC	***1763 SABRE ST***	***WSW 1/4 - 1/2 (0.498 mi.)***	***37***	***87***

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 07/03/2008 has revealed that there are 17 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FAA HAYWARD ATCT Facility Status: Leak being confirmed	20305 SKYWEST DR	NE 1/8 - 1/4 (0.199 mi.)	7	14
HAYWARD AIR TERMINAL Facility Status: Case Closed Facility Status: Case Closed	***20511 SKYWEST DR***	***NE 1/8 - 1/4 (0.219 mi.)***	***B8***	***15***
AMERICAN AIRCRAFT SALES CO./CI Facility Status: Leak being confirmed	***21015 SKYWEST DR***	***ENE 1/8 - 1/4 (0.247 mi.)***	***C11***	***22***
BEECHCRAFT WEST TANK FARM Facility Status: Case Closed	***19990 SKYWEST DR***	***NNE 1/4 - 1/2 (0.266 mi.)***	***D13***	***27***
HAYWARD JET CENTER Facility Status: Remedial action (cleanup) Underway	21889 SKYWEST DR	E 1/4 - 1/2 (0.319 mi.)	19	38
HOME DEPOT Facility Status: Case Closed	***21787 HESPERIAN BLVD***	***E 1/4 - 1/2 (0.385 mi.)***	***21***	***42***
UNOCAL Facility Status: Case Closed	***20501 HESPERIAN BLVD***	***NE 1/4 - 1/2 (0.418 mi.)***	***G25***	***56***
TEXACO EXXON Facility Status: Case Closed	***20499 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.422 mi.)***	***G26***	***59***
SHELL Facility Status: Case Closed	***20500 HESPERIAN BLVD***	***NE 1/4 - 1/2 (0.430 mi.)***	***G29***	***68***
AIRPORT ALLIANCE Facility Status: Remedial action (cleanup) Underway	***20450 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.444 mi.)***	***I30***	***72***
ARCO Facility Status: Post remedial action monitoring	***20200 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.465 mi.)***	***34***	***78***

Lower Elevation	Address	Direction / Distance	Map ID	Page
BAR S FACILITY Facility Status: Case Closed	20725 CORSAIR BLVD	SW 1/4 - 1/2 (0.294 mi.)	E17	36

Lower Elevation	Address	Direction / Distance	Map ID	Page
BANK OF AMERICA	***20609 CORSAIR BLVD***	***WSW 1/4 - 1/2 (0.357 mi.)***	***20***	***39***
Facility Status: Case Closed				
GORDON EVERETT PROPERTY	1693 SABRE ST	SW 1/4 - 1/2 (0.403 mi.)	22	46
Facility Status: Leak being confirmed				
LAMBERTSON INDUSTRIES	***1750 SABRE ST***	***SW 1/4 - 1/2 (0.449 mi.)***	***J31***	***76***
Facility Status: Leak being confirmed				
EKC TECHNOLOGY	1739 SABRE ST	SW 1/4 - 1/2 (0.466 mi.)	J35	82
Facility Status: Case Closed				
EKC TECHNOLOGY INC.	***1739 SABRE STREET***	***SW 1/4 - 1/2 (0.466 mi.)***	***J36***	***83***

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HAYWARD AIR TERMINAL	***20511 SKYWEST DR***	***NE 1/8 - 1/4 (0.219 mi.)***	***B8***	***15***
AMERICAN AIRCRAFT SALES CO./CI	***21015 SKYWEST DR***	***ENE 1/8 - 1/4 (0.247 mi.)***	***C11***	***22***

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 07/03/2008 has revealed that there are 4 SLIC sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HAYWARD AIR TERMINAL	***20511 SKYWEST DR***	***NE 1/8 - 1/4 (0.219 mi.)***	***B8***	***15***
Facility Status: Case Closed				
FLIGHTCRAFT INC	***19990 SKYWEST BLVD***	***NNE 1/4 - 1/2 (0.266 mi.)***	***D14***	***33***
Facility Status: Case Closed				

Lower Elevation	Address	Direction / Distance	Map ID	Page
AC TRANSIT	***1758 SABRE ST***	***SW 1/4 - 1/2 (0.424 mi.)***	***H28***	***68***
Facility Status: Verification Monitoring Underway				
EKC TECHNOLOGY INC.	***1739 SABRE STREET***	***SW 1/4 - 1/2 (0.466 mi.)***	***J36***	***83***

CS: A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

A review of the CS list, as provided by EDR, and dated 08/21/2008 has revealed that there are 3 CS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AIRPORT ALLIANCE	***20450 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.444 mi.)***	***I30***	***72***
ARCO	***20200 HESPERIAN BLVD***	***NNE 1/4 - 1/2 (0.465 mi.)***	***34***	***78***

Lower Elevation	Address	Direction / Distance	Map ID	Page
AC TRANSIT	***1758 SABRE STREET***	***SW 1/4 - 1/2 (0.424 mi.)***	***H27***	***62***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EXECUTIVE AIR	20511 SKYWEST DR	NE 1/8 - 1/4 (0.219 mi.)	B9	21
EXECUTIVE AIR OF HAYWARD	20511 SKYWEST DR	NE 1/8 - 1/4 (0.219 mi.)	B10	21
AMERICAN AIRCRAFT SALES CO.	21015 SKYWEST DR	ENE 1/8 - 1/4 (0.247 mi.)	C12	26

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HAYWARD AIR TERMINAL	***20511 SKYWEST DR***	***NE 1/8 - 1/4 (0.219 mi.)***	***B8***	***15***
AMERICAN AIRCRAFT SALES CO./CI	***21015 SKYWEST DR***	***ENE 1/8 - 1/4 (0.247 mi.)***	***C11***	***22***

Notify 65: Notify 65 records contain facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk. The data come from the State Water Resources Control Board's Proposition 65 database.

A review of the Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there is 1 Notify 65 site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CLERKS BUILDING MATERIALS	23040 CLAWITER ROAD	S 1/2 - 1 (0.668 mi.)	40	113

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, and dated 08/25/2008 has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
USANG CA HAYWARD BASE	***1525 WEST WINTON AVE***	***S 1/2 - 1 (0.505 mi.)***	***38***	***90***

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where

environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 08/25/2008 has revealed that there are 6 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
USANG CA HAYWARD BASE Facility Status: Active	***1525 WEST WINTON AVE***	***S 1/2 - 1 (0.505 mi.)***	***38***	***90***
LAVISTA LLC Facility Status: Certified / Operation & Maintenance	***22958 SAKLAN ROAD***	***SSE 1/2 - 1 (0.635 mi.)***	***39***	***104***
TRIDENT TRUCK LINE INC Facility Status: Refer: RWQCB	***23724 SAKLAN RD***	***SSE 1/2 - 1 (0.901 mi.)***	***42***	***114***

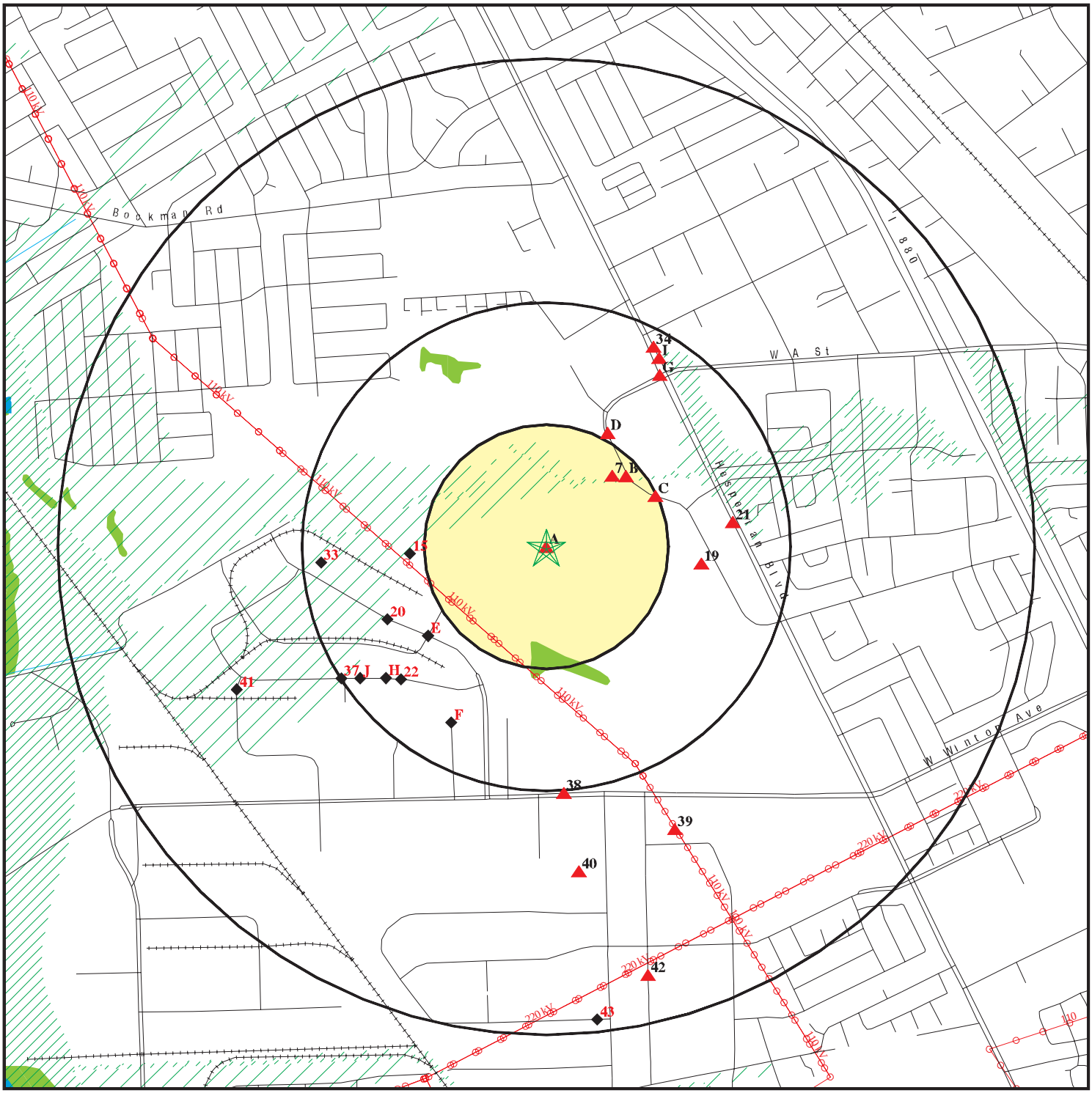
Lower Elevation	Address	Direction / Distance	Map ID	Page
WESTERN DRUMS, INC. Facility Status: Inactive - Needs Evaluation	21301 CLOUD WAY	SSW 1/4 - 1/2 (0.409 mi.)	F24	55
A C TRANSIT - HAYWARD TRAINING Facility Status: Refer: RWQCB	20234 MACK STREET	WSW 1/2 - 1 (0.698 mi.)	41	113
DOUBLE O2 Facility Status: Refer: RWQCB	2034 AMERICAN AVENUE	S 1/2 - 1 (0.974 mi.)	43	118

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CITY OF HAYWARD OLIVER PROPERTY	CS
CITY OF HAYWARD/FIRE STATION NO. 4	SWEEPS UST
CITY OF HAYWARD	SWEEPS UST
HAYWARD SISTERS HOSPITAL DBA	SWEEPS UST
FAA HAYWARD ATCT	Cortese
EDEN ROCK PROPS	CERC-NFRAP
ARDEN ROAD PROPERTY	CERC-NFRAP
BAY CITIES RUBBISH DSPL CO	CERC-NFRAP
CITY OF HAYWARD MARATHON PUMP STATION	LUST
COH - SKYWEST PUMP STATION	UST
ESCO AVIATION	HIST UST
CITY OF HAYWARD	HAZNET
NORTH HAYWARD CORP CENTER ASSOC	HAZNET
SM / HAYWARD BRIDGE	RCRA-SQG
BETWEEN HAYWARD AND SAN JOSE, MP 22.7	ERNS
HAYWARD LANE	ERNS
HAYWARD (UNKNOWN EXACT LOCATION)	ERNS
MISSION & FREEWAY, HAYWARD	ERNS
MISSION & FAIRWAY, HAYWARD	ERNS
NR:CORSAIR ST/HAYWARD CA	ERNS
SOUTHERN PACIFIC HAYWARD LINE, COAST SUBDIVISION, ROSEVILLE	ERNS
CITY OF HAYWARD OLIVER PROPERTY	SLIC
AMERICAN STORES - HAYWARD	SLIC
BURBANK E.S./HAYWARD JOINT USE PARK	SCH, ENVIROSTOR

OVERVIEW MAP - 2344395.2s

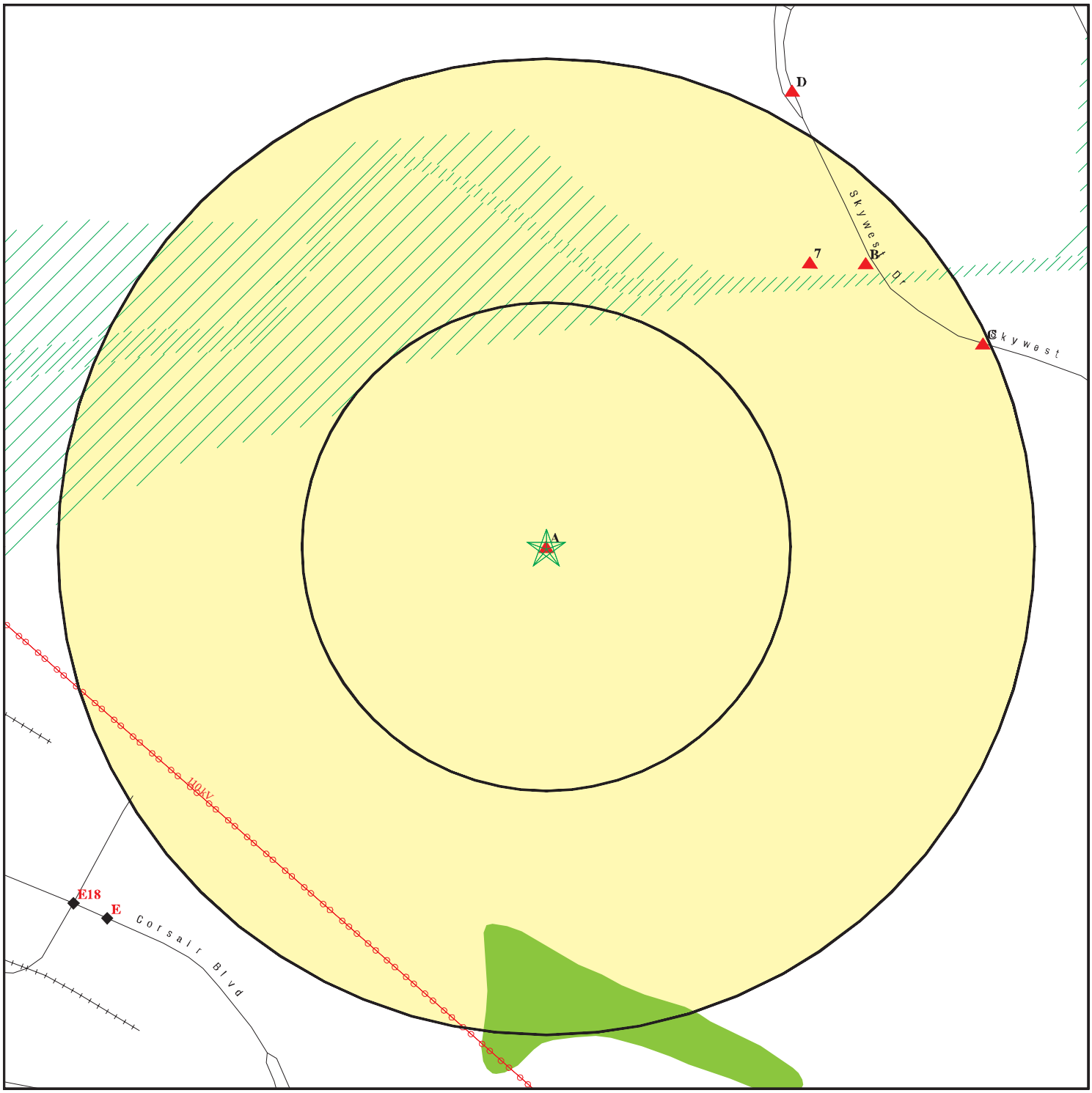


- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hayward Executive Airport	CLIENT: Environmental Science Assoc.
ADDRESS: 20301 Skywest Dr.	CONTACT: Phil Wade
Hayward CA 94545	INQUIRY #: 2344395.2s
LAT/LONG: 37.6605 / 122.1224	DATE: October 21, 2008 2:47 pm

DETAIL MAP - 2344395.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hayward Executive Airport	CLIENT: Environmental Science Assoc.
ADDRESS: 20301 Skywest Dr. Hayward CA 94545	CONTACT: Phil Wade
LAT/LONG: 37.6605 / 122.1224	INQUIRY #: 2344395.2s
	DATE: October 21, 2008 2:47 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	1	NR	NR	1
LIENS 2		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA-TSDF		0.500	0	0	0	NR	NR	0
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
RCRA-NonGen		0.250	0	0	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
US CDL		TP	NR	NR	NR	NR	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	1	0	NR	1
LUCIS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
STATE AND LOCAL RECORDS								
HIST Cal-Sites	X	1.000	0	0	0	1	NR	1
CA BOND EXP. PLAN		1.000	0	0	0	0	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SWF/LF		0.500	0	0	0	NR	NR	0
CA WDS	X	TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
Cortese	X	0.500	0	1	14	NR	NR	15
SWRCY		0.500	0	0	0	NR	NR	0
LUST		0.500	0	3	14	NR	NR	17
CA FID UST	X	0.250	0	2	NR	NR	NR	2
SLIC		0.500	0	1	3	NR	NR	4
CS		0.500	0	0	3	NR	NR	3
UST		0.250	0	0	NR	NR	NR	0
HIST UST	X	0.250	0	3	NR	NR	NR	3
AST	X	0.250	0	0	NR	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
SWEEPS UST	X	0.250	0	2	NR	NR	NR	2
CHMIRS		TP	NR	NR	NR	NR	NR	0
Notify 65		1.000	0	0	0	1	NR	1
DEED		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
RESPONSE		1.000	0	0	0	1	NR	1
HAZNET	X	TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
ENVIROSTOR	X	1.000	0	0	1	5	NR	6
HAULERS		TP	NR	NR	NR	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0
EDR Historical Auto Stations		0.250	0	0	NR	NR	NR	0
EDR Historical Cleaners		0.250	0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **HAYWARD AIR TERMINAL** **CA WDS** **S106101620**
Target **20301 SKYWEST DRIVE** **N/A**
Property **HAYWARD, CA 0**

Site 1 of 6 in cluster A

Actual:
30 ft.

CA WDS:

Facility ID:	San Francisco Bay 01I001978
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	2
Facility Telephone:	Not reported
Facility Contact:	Not reported
Agency Name:	HAYWARD AIR TERMINAL
Agency Address:	Not reported
Agency City,St,Zip:	0
Agency Contact:	Not reported
Agency Telephone:	Not reported
Agency Type:	City
SIC Code:	4581
SIC Code 2:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

A2 **CITY OF HAYWARD-HAYWARD EXEC AIRPORT** **HAZNET** **S103956980**
Target **20301 SKYWEST DR** **N/A**
Property **HAYWARD, CA 94541**

Site 2 of 6 in cluster A

Actual:
30 ft.

HAZNET:

Gepaid:	CAL000123388
Contact:	CITY OF HAYWARD-HAYWARD EXEC
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	777 B ST
Mailing City,St,Zip:	HAYWARD, CA 945415007
Gen County:	1
TSD EPA ID:	CAD009452657
TSD County:	San Mateo
Waste Category:	Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
Disposal Method:	Recycler
Tons:	.4587
Facility County:	1

Gepaid:	CAL000123388
Contact:	CITY OF HAYWARD-HAYWARD EXEC
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	777 B ST
Mailing City,St,Zip:	HAYWARD, CA 945415007
Gen County:	1
TSD EPA ID:	CAD059494310
TSD County:	Santa Clara
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Disposal, Other
Tons:	.2500
Facility County:	1

Gepaid:	CAL000123388
Contact:	CITY OF HAYWARD-HAYWARD EXEC
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	777 B ST
Mailing City,St,Zip:	HAYWARD, CA 945415007
Gen County:	1
TSD EPA ID:	CAL000027741
TSD County:	5
Waste Category:	Asbestos-containing waste
Disposal Method:	Disposal, Land Fill
Tons:	1.4749
Facility County:	1

Gepaid:	CAL000123388
Contact:	D ZENK AIRPORT OPERATIONS MGR
Telephone:	5102938678
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	20301 SKYWEST DRIVE
Mailing City,St,Zip:	HAYWARD, CA 945415007

CITY OF HAYWARD-HAYWARD EXEC AIRPORT (Continued) **S103956980**

Gen County:	Alameda
TSD EPA ID:	Not reported
TSD County:	San Mateo
Waste Category:	Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
Disposal Method:	Recycler
Tons:	0.45
Facility County:	Not reported

Gepaid:	CAL000123388
Contact:	D ZENK AIRPORT OPERATIONS MGR
Telephone:	5102938678
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	20301 SKYWEST DRIVE
Mailing City,St,Zip:	HAYWARD, CA 945415007
Gen County:	Alameda
TSD EPA ID:	Not reported
TSD County:	Santa Clara
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Transfer Station
Tons:	0.3
Facility County:	Not reported

Click this hyperlink while viewing on your computer to access
11 additional CA_HAZNET: record(s) in the EDR Site Report.

A3 **HAYWARD ARMY AIRFIELD** **ENVIROSTOR** **S101661365**
Target **20301 SKYWEST DR** **HIST Cal-Sites** **N/A**
Property **HAYWARD, CA 94541**

Site 3 of 6 in cluster A

Actual:
30 ft.

ENVIROSTOR:

Site Type:	Military Evaluation
Site Type Detailed:	FUDS
Acres:	727
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	LANCE MCMAHAN
Supervisor:	Donn Diebert
Division Branch:	Sacramento
Facility ID:	01970008
Site Code:	200635
Assembly:	18
Senate:	10
Special Program:	Not reported
Status:	Inactive - Action Required
Status Date:	2005-12-19 00:00:00
Restricted Use:	NO
Funding:	DERA
Latitude:	37.6627944444444
Longitude:	-122.120452777778
Alias Name:	HAYWARD AIR TERMINAL
Alias Type:	Alternate Name
Alias Name:	16924
Alias Type:	RB-PCA
Alias Name:	200635

HAYWARD ARMY AIRFIELD (Continued) **S101661365**

Alias Type: Project Code (Site Code)
Alias Name: 01970008
Alias Type: Envirostor ID Number
Alias Name: HAYWARD ARMY AIRFIEL
Alias Type: Alternate Name

APN: NONE SPECIFIED
APN Description: Not reported
Comments: Not reported

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported

Confirmed: NONE SPECIFIED
Confirmed Description: Not reported
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Preliminary Endangerment Assessment Report
Future Due Date: 2010
Media Affected: 10009
Media Affected Desc: Not reported

Management:
Management Required: NONE SPECIFIED
Management Required Desc: Not reported
Potential: SOIL
Potenital Description: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported
PastUse: FIRE TRAINING AREAS, FUEL - AIRCRAFT STORAGE/ REFUELING, FUEL - VEHICLE STORAGE/ REFUELING

HISTORICAL CAL-SITES:
Facility ID: 01970008
Region: 1
Region Name: SACRAMENTO
Branch: NO
Branch Name: OMF-NORTHERN CALIF
File Name: HAYWARD ARMY AIRFIELD
State Senate District: 08171995
Status: AWP - ANNUAL WORKPLAN (AWP) - ACTIVE SITE
Status Name: ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency: DTSC
Lead Agency: DEPT OF TOXIC SUBSTANCES CONTROL
Facility Type: OPEN
Type Name: OPEN MILITARY BASE
NPL: Not Listed
SIC Code: 97
SIC Name: NATIONAL SECURITY/INTERNATIONAL AFFAIRS
Access: Controlled
Cortese: Not reported
Hazardous Ranking Score: Not reported

HAYWARD ARMY AIRFIELD (Continued) **S101661365**

Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Suspected
Staff Member Responsible for Site:	LMCMAHA1
Supervisor Responsible for Site:	Not reported
Region Water Control Board:	SF
Region Water Control Board Name:	SAN FRANCISCO BAY
Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	Not reported
State Assembly District Code:	18
State Senate District Code:	10
Facility ID:	01970008
Activity:	PEA
Activity Name:	PRELIMINARY ENDANGERMENT ASSESSMENT
AWP Code:	BASWD
Proposed Budget:	0
AWP Completion Date:	03312010
Revised Due Date:	Not reported
Comments Date:	Not reported
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Alternate Address:	1525 WEST WINSTON AVE.
Alternate City,St,Zip:	HAYWARD, CA 94545
Alternate Address:	20301 SKYWEST DR
Alternate City,St,Zip:	HAYWARD, CA 94541
Alternate Address:	20301 SKYWEST DRIVE
Alternate City,St,Zip:	HAYWARD, CA 94545
Background Info:	Hayward Army Airfield came into operation in the early 1940s, wit h the entry of the United States into World War II. The airfield had two runways, and at least 4 areas where planes were defueled. One of the defueling areas is located on the Hayward Air Nationa l Guard Station, which is currently active. Three burn areas are also known to have been present on the site. *** OPERABLE UNIT/ SITE DESCRIPTIONS *** BA01 - Burn Area 1: COCs: Unknown BA02 - Burn Area 2: COCs: Unknown BA03 - Burn Area 3: COCs: Unkno wn DEF01 - Defueling Area 1: COCs Unknown DEF02 - Defueling A rea 2: COCs Unknown DEF03 - Defueling Area 3: COCs: Unknown * ** Commitment Description *** BASWD - Basewide activity; meanin g it should cover the area of the former Hayward Army Airfield.
Comments Date:	Not reported
Comments:	Not reported
ID Name:	Not reported

HAYWARD ARMY AIRFIELD (Continued) **S101661365**

ID Value: Not reported
Alternate Name: HAYWARD AIR TERMINALHAYWARD ARMY AIRFIELDHayward Army Airfield
Special Programs Code: DSMOA
Special Programs Name: DEFENSE MEMORANDUM OF AGREEMENT

A4 **HAYWARD AIR TERMINAL** **AST** **A100306843**
Target **20301 SKYWEST DR.** **N/A**
Property **HAYWARD, CA 94541**

Site 4 of 6 in cluster A

Actual:
30 ft.

AST:
Owner: CITY OF HAYWARD
Total Gallons: 1000

A5 **HAYWARD ATCT** **HIST UST** **U001597024**
Target **20301 SKYWEST DR** **N/A**
Property **HAYWARD, CA 94541**

Site 5 of 6 in cluster A

Actual:
30 ft.

HIST UST:
Region: STATE
Facility ID: 00000060261
Facility Type: Other
Other Type: Not reported
Total Tanks: 0001
Contact Name: BOB NELSON
Telephone: 4152736239
Owner Name: FED. AVIATION ADMIN.
Owner Address: 333 HEGENBERGER SUITE 802
Owner City,St,Zip: OAKLAND, CA 94621

Tank Num: 001
Container Num: 12
Year Installed: Not reported
Tank Capacity: 00000530
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Visual

A6 **AIR TRAFFIC CONTROL TOWER/FEDERAL AVIATION ADMIN** **HAZNET** **S101580454**
Target **20301 SKYWEST DR** **Cortese** **N/A**
Property **HAYWARD, CA 94541** **CA FID UST**
SWEEPS UST

Site 6 of 6 in cluster A

Actual:
30 ft.

HAZNET:
Gepaid: CAL000123388
Contact: R DUBARRY, AIRPORT OPTNS MGR
Telephone: 5102938678
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 20301 SKYWEST DR

AIR TRAFFIC CONTROL TOWER/FEDERAL AVIATION ADMIN (Continued) **S101580454**

Mailing City,St,Zip: HAYWARD, CA 945414699
Gen County: Alameda
TSD EPA ID: AZ0000337360
TSD County: 99
Waste Category: Polychlorinated biphenyls and material containing PCB's
Disposal Method: Recycler
Tons: 0.2
Facility County: Not reported

Gepaid: CAL000123388
Contact: R DUBARRY, AIRPORT OPTNS MGR
Telephone: 5102938678
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 20301 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945414699
Gen County: Alameda
TSD EPA ID: CAD009452657
TSD County: San Mateo
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Tons: 1.61
Facility County: 1

Gepaid: CAL000123388
Contact: J DONNELLEY, ACTING AIRPORT
Telephone: 5102938678
Facility Addr2: Not reported
Mailing Name: ALEX AMERI DIR OF PUBLIC WORKS
Mailing Address: 20301 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945414699
Gen County: Alameda
TSD EPA ID: CA0000084517
TSD County: Alameda
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Transfer Station
Tons: 0.04
Facility County: 1

Gepaid: CAL000123388
Contact: J DONNELLEY, ACTING AIRPORT
Telephone: 5102938678
Facility Addr2: Not reported
Mailing Name: ALEX AMERI DIR OF PUBLIC WORKS
Mailing Address: 20301 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945414699
Gen County: Alameda
TSD EPA ID: CAD009452657
TSD County: Alameda
Waste Category: Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
Disposal Method: Recycler
Tons: 0.91
Facility County: 1

Gepaid: CAL000123388
Contact: R DUBARRY, AIRPORT OPTNS MGR
Telephone: 5102938678

AIR TRAFFIC CONTROL TOWER/FEDERAL AVIATION ADMIN (Continued) **S101580454**

Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 20301 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945414699
Gen County: Alameda
TSD EPA ID: AZ0000337360
TSD County: 99
Waste Category: Polychlorinated biphenyls and material containing PCB's
Disposal Method: Recycler
Tons: 0.2
Facility County: Not reported

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

Cortese:
Region: CORTESE
Facility Addr2: Not reported

CA FID UST:
Facility ID: 01002916
Regulated By: UTNKA
Regulated ID: 00060261
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 5107833522
Mail To: Not reported
Mailing Address: 21615 HESPERIAN
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94541
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

SWEEPS UST:
Status: A
Comp Number: 60261
Number: 7
Board Of Equalization: 44-000943
Ref Date: 07-08-93
Act Date: 03-24-94
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 12
Swrcb Tank Id: 01-003-060261-000001
Actv Date: 03-12-92
Capacity: 500
Tank Use: PETROLEUM
Stg: P
Content: REGULAR UNLE
Number Of Tanks: 1

7
NE
1/8-1/4
0.199 mi.
1049 ft.

FAA HAYWARD ATCT
20305 SKYWEST DR
HAYWARD, CA 94545

LUST **S104890963**
N/A

Relative:
Higher

Actual:
33 ft.

LUST:

Region:	STATE
Status:	Leak being confirmed
Case Number:	01-2233
Local Case #:	01-2233
Chemical:	Gasoline
Qty Leaked:	Not reported
Abate Method:	Not reported
Release Date:	1997-06-17 00:00:00
Discover Date:	1997-06-17 00:00:00
Report Date:	Not reported
Enforcement Dt:	Not reported
Review Date:	2001-04-05 00:00:00
Enter Date:	1997-06-17 00:00:00
Stop Date:	1995-10-05 00:00:00
Confirm Leak:	1997-06-17 00:00:00
Case Type:	Other ground water affected
Cross Street:	Not reported
Enf Type:	F
Funding:	Not reported
How Discovered:	Subsurface Monitoring
How Stopped:	Not reported
Leak Cause:	UNK
Leak Source:	Tank
Global Id:	T0600102050
Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	1996-04-16 00:00:00
MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Max MTBE GW ppb:	Not reported
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported
Reg Board:	San Francisco Bay Region
Contact Person:	Not reported
Responsible Party:	MICHAEL G. WALTERMIRE
RP Address:	506 SOUTH ISIS AVENUE
Interim:	Not reported
Oversight Prgm:	LUST
MTBE Class:	*
MTBE Conc:	0
MTBE Fuel:	1
MTBE Tested:	MTBE Detected. Site tested for MTBE and MTBE detected
Staff:	Not reported
Staff Initials:	DMG
Lead Agency:	Local Agency
Local Agency:	01003
Hydr Basin #:	Alameda East Bay (2-

FAA HAYWARD ATCT (Continued) **S104890963**

Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: Not reported

LUST:
Region: 2
Facility Id: 01-2233
Facility Status: Leak being confirmed
Case Number: 01-2233
How Discovered: Subsurface Monitoring
Leak Cause: UNK
Leak Source: Tank
Date Leak Confirmed: 6/17/1997
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

B8 **HAYWARD AIR TERMINAL** **HAZNET** **S101580441**
NE **20511 SKYWEST DR** **LUST** **N/A**
1/8-1/4 **HAYWARD, CA 94541** **Cortese**
0.219 mi. **SLIC**
1155 ft. **Site 1 of 3 in cluster B** **CA FID UST**
SWEEPS UST

Relative:
Higher

Actual:
33 ft.

HAZNET:
Gepaid: CAC001164432
Contact: LARRY HUNT & JOHN MYERS
Telephone: 2097236363
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 1735 E BAYSHORE RD
Mailing City,St,Zip: REDWOOD CITY, CA 940630000
Gen County: 1
TSD EPA ID: CAD009466392
TSD County: 7
Waste Category: Other empty containers 30 gallons or more
Disposal Method: Disposal, Other
Tons: 7.1450
Facility County: 1

Gepaid: CAC001164432
Contact: LARRY HUNT & JOHN MYERS
Telephone: 2097236363
Facility Addr2: Not reported
Mailing Name: Not reported

HAYWARD AIR TERMINAL (Continued) **S101580441**

Mailing Address: 1735 E BAYSHORE RD
Mailing City,St,Zip: REDWOOD CITY, CA 940630000
Gen County: 1
TSD EPA ID: CAD009452657
TSD County: San Mateo
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Recycler
Tons: 5.5210
Facility County: 1

LUST:
Region: STATE
Status: Case Closed
Case Number: 01-2101
Local Case #: 01-2101
Chemical: Gasoline
Qty Leaked: Not reported
Abate Method: Excavate and Dispose - remove contaminated soil and dispose in approved site, Excavate and Treat - remove contaminated soil and treat (includes spreading or land farming), Enhanced Biodegradation - use of any available technology to promote bacterial decomposition of contaminants, Pump and Treat Ground Water - generally employed to remove dissolved contaminants, Remove Free Product - remove floating product from water table
Release Date: 1995-08-09 00:00:00
Discover Date: 1995-08-09 00:00:00
Report Date: 1998-11-30 00:00:00
Enforcement Dt: Not reported
Review Date: 1998-12-04 00:00:00
Enter Date: 1995-08-09 00:00:00
Stop Date: 1995-08-09 00:00:00
Confirm Leak: 1995-08-09 00:00:00
Case Type: Other ground water affected
Cross Street: Not reported
Enf Type: F
Funding: Not reported
How Discovered: Tank Closure
How Stopped: Not reported
Leak Cause: Structure Failure
Leak Source: Tank
Global Id: T0600101930
Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
MTBE Date: 1965-01-02 00:00:00
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: 320
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP

HAYWARD AIR TERMINAL (Continued) **S101580441**

RP Address: Not reported
Interim: Yes
Oversight Prgm: LUST
MTBE Class: Not reported
MTBE Conc: 1
MTBE Fuel: 1
MTBE Tested: MTBE Detected. Site tested for MTBE and MTBE detected
Staff: Not reported
Staff Initials: DMG
Lead Agency: Regional Board
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: ARCHIVED 12/5/00 CONTROL NO 312-001 SRC 1085463

Region: STATE
Status: Case Closed
Case Number: 01S0197
Local Case #: 01S0197
Chemical: Solvents
Qty Leaked: 0
Abate Method: Not reported
Release Date: 1996-11-30 00:00:00
Discover Date: Not reported
Report Date: 1998-11-30 00:00:00
Enforcement Dt: Not reported
Review Date: Not reported
Enter Date: Not reported
Stop Date: Not reported
Confirm Leak: Not reported
Case Type: Other ground water affected
Cross Street: Not reported
Enf Type: Not reported
Funding: Not reported
How Discovered: Tank Closure
How Stopped: Not reported
Leak Cause: UNK
Leak Source: UNK
Global Id: T0600191513
Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported

HAYWARD AIR TERMINAL (Continued) **S101580441**

Max MTBE GW ppb: Not reported
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP
RP Address: Not reported
Interim: Not reported
Oversight Prgm: Spills, Leaks, Investigations and Cleanup UST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 0
MTBE Tested: Not Required to be Tested.
Staff: Not reported
Staff Initials: DMG
Lead Agency: Regional Board
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: Not reported

LUST:
Region: 2
Facility Id: 01-2101
Facility Status: Case Closed
Case Number: 01-2101
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 8/9/1995
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 20511 SKY WEST DR

SLIC:
Region: STATE
Global Id: T0600191513
Assigned Name: MAINSITE

HAYWARD AIR TERMINAL (Continued) **S101580441**

Lead Agency Contact: SAN FRANCSICO BAY RWQCB
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number: 01S0197
Responsible Party: Not reported
Recent DTW: Not reported
Substance Released: 13
Facility Status: Case Closed

SLIC:
Region: 2
Facility ID: 01S0197
Facility Status: Case Closed
Date Closed: 11/30/1998
Local Case #: 01S0197
How Discovered: Tank Closure
Leak Cause: UNK
Leak Source: UNK
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

CA FID UST:
Facility ID: 01002867
Regulated By: UTNKA
Regulated ID: 00008899
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 5108741946
Mail To: Not reported
Mailing Address: 21893 SKYWEST DR
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94541
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

SWEEPS UST:
Status: A
Comp Number: 8899
Number: 1
Board Of Equalization: Not reported
Ref Date: 07-08-93
Act Date: 07-08-93
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-008899-000001
Actv Date: 06-30-93

HAYWARD AIR TERMINAL (Continued) **S101580441**

Capacity:	12000
Tank Use:	M.V. FUEL
Stg:	P
Content:	AVIA. GAS
Number Of Tanks:	3
Status:	A
Comp Number:	8899
Number:	1
Board Of Equalization:	Not reported
Ref Date:	07-08-93
Act Date:	07-08-93
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-008899-000002
Actv Date:	06-30-93
Capacity:	12000
Tank Use:	PETROLEUM
Stg:	P
Content:	JET FUEL
Number Of Tanks:	Not reported
Status:	A
Comp Number:	8899
Number:	1
Board Of Equalization:	Not reported
Ref Date:	07-08-93
Act Date:	07-08-93
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-008899-000003
Actv Date:	06-30-93
Capacity:	12000
Tank Use:	PETROLEUM
Stg:	P
Content:	JET FUEL
Number Of Tanks:	Not reported
Status:	Not reported
Comp Number:	8899
Number:	Not reported
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-008899-000004
Actv Date:	Not reported
Capacity:	350
Tank Use:	OIL
Stg:	WASTE
Content:	WASTE OIL
Number Of Tanks:	1

B9 **EXECUTIVE AIR** **HIST UST** **U001596982**
NE **20511 SKYWEST DR** **N/A**
1/8-1/4 **HAYWARD, CA 94541**
0.219 mi.
1155 ft. **Site 2 of 3 in cluster B**

Relative:
Higher

Actual:
33 ft.

HIST UST:

Region:	STATE
Facility ID:	00000056425
Facility Type:	Gas Station
Other Type:	Not reported
Total Tanks:	0003
Contact Name:	JERRY JASON
Telephone:	4157854501
Owner Name:	ESCO AVIATION
Owner Address:	20511 SKYWEST DRIVE
Owner City,St,Zip:	HAYWARD, CA 94541
Tank Num:	001
Container Num:	1
Year Installed:	1979
Tank Capacity:	00100000
Tank Used for:	PRODUCT
Type of Fuel:	06
Tank Construction:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	002
Container Num:	2
Year Installed:	1979
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	06
Tank Construction:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	003
Container Num:	3
Year Installed:	1979
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	06
Tank Construction:	Not reported
Leak Detection:	Stock Inventor

B10 **EXECUTIVE AIR OF HAYWARD** **HIST UST** **U001596983**
NE **20511 SKYWEST DR** **N/A**
1/8-1/4 **HAYWARD, CA 94541**
0.219 mi.
1155 ft. **Site 3 of 3 in cluster B**

Relative:
Higher

Actual:
33 ft.

HIST UST:

Region:	STATE
Facility ID:	00000008899
Facility Type:	Gas Station
Other Type:	Not reported
Total Tanks:	0003
Contact Name:	VERNON L. ETTER, PRESIDENT
Telephone:	4157854501
Owner Name:	VOLANS, INC.

EXECUTIVE AIR OF HAYWARD (Continued) **U001596983**

Owner Address: 20511 SKYWEST DRIVE
Owner City,St,Zip: HAYWARD, CA 94541

Tank Num: 001
Container Num: 100 AVGAS
Year Installed: Not reported
Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor, Pressure Test

Tank Num: 002
Container Num: 80 AVGAS #
Year Installed: Not reported
Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor, Pressure Test

Tank Num: 003
Container Num: JET A #3
Year Installed: Not reported
Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor, Pressure Test

C11 **AMERICAN AIRCRAFT SALES CO./CITY OF HAYWARD** **LUST** **S101623649**
ENE **21015 SKYWEST DR** **CA FID UST** **N/A**
1/8-1/4 **HAYWARD, CA 94541** **CA WDS**
0.247 mi. **SWEEPS UST**
1303 ft. **Site 1 of 2 in cluster C**

Relative:
Higher

Actual:
36 ft.

LUST:
Region: STATE
Status: Leak being confirmed
Case Number: 01-3509
Local Case #: 01-3509
Chemical: 1
Qty Leaked: Not reported
Abate Method: Not reported
Release Date: 1999-05-17 00:00:00
Discover Date: 1999-04-01 00:00:00
Report Date: Not reported
Enforcement Dt: Not reported
Review Date: Not reported
Enter Date: Not reported
Stop Date: 1999-04-01 00:00:00
Confirm Leak: 1999-09-03 00:00:00
Case Type: Other ground water affected
Cross Street: A ST. WEST
Enf Type: Not reported
Funding: Not reported
How Discovered: Tank Closure
How Stopped: Close Tank

AMERICAN AIRCRAFT SALES CO./CITY OF HAYWARD (Continued) **S101623649**

Leak Cause: UNK
Leak Source: Tank
Global Id: T0600165641
Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: Not reported
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: MICHAEL COUTCHES
RP Address: 4673 RICHMOND AVE.
Interim: Not reported
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 0
MTBE Tested: Not Required to be Tested.
Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Not reported
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: Not reported
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: RESPONSIBLE PARTY HAS NOT ACCEPTED FULL RESPONSIBILITY AND HAS MAINTAINED THAT RELEASE HAPPENED DURING TANK REMOVAL AND WAS DIRECTLY CAUSED BY THE CONTRACTOR WHO REMOVED THE TANK.

CA FID UST:
Facility ID: 01002895
Regulated By: UTNKA
Regulated ID: 00041943
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 4157832711
Mail To: Not reported
Mailing Address: 21015 SKYWEST DR
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94541
Contact: Not reported

AMERICAN AIRCRAFT SALES CO./CITY OF HAYWARD (Continued) **S101623649**

Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CA WDS:
Facility ID: San Francisco Bay 01I004082
Facility Type: Not reported
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 2
Facility Telephone: Not reported
Facility Contact: Not reported
Agency Name: FRANCES A. COUTCHES
Agency Address: Not reported
Agency City,St,Zip: 0
Agency Contact: Not reported
Agency Telephone: Not reported
Agency Type: Not reported
SIC Code: 0
SIC Code 2: Not reported
Primary Waste: Not reported
Primary Waste Type: Not reported
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Design Flow: 0
Baseline Flow: 0
Reclamation: Not reported
POTW: Not reported
Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

SWEEPS UST:
Status: A
Comp Number: 41943
Number: 2
Board Of Equalization: 44-419430
Ref Date: 07-08-93
Act Date: 03-24-94
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 1

AMERICAN AIRCRAFT SALES CO./CITY OF HAYWARD (Continued) **S101623649**

Swrcb Tank Id: 01-003-041943-000001
Actv Date: 04-08-93
Capacity: 10000
Tank Use: M.V. FUEL
Stg: P
Content: AVIA. GAS
Number Of Tanks: 5

Status: A
Comp Number: 41943
Number: 2
Board Of Equalization: 44-419430
Ref Date: 07-08-93
Act Date: 03-24-94
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 2
Swrcb Tank Id: 01-003-041943-000002
Actv Date: 04-08-93
Capacity: 8000
Tank Use: M.V. FUEL
Stg: P
Content: JET FUEL
Number Of Tanks: Not reported

Status: A
Comp Number: 41943
Number: 2
Board Of Equalization: 44-419430
Ref Date: 07-08-93
Act Date: 03-24-94
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 3
Swrcb Tank Id: 01-003-041943-000003
Actv Date: 04-08-93
Capacity: 8000
Tank Use: M.V. FUEL
Stg: P
Content: JET FUEL
Number Of Tanks: Not reported

Status: A
Comp Number: 41943
Number: 2
Board Of Equalization: 44-419430
Ref Date: 07-08-93
Act Date: 03-24-94
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 4
Swrcb Tank Id: 01-003-041943-000004
Actv Date: 04-08-93
Capacity: 5000
Tank Use: M.V. FUEL
Stg: P
Content: JET FUEL

AMERICAN AIRCRAFT SALES CO./CITY OF HAYWARD (Continued) **S101623649**

Number Of Tanks: Not reported

Status: A
Comp Number: 41943
Number: 2
Board Of Equalization: 44-419430
Ref Date: 07-08-93
Act Date: 03-24-94
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: 5
Swrcb Tank Id: 01-003-041943-000005
Actv Date: 04-08-93
Capacity: 2000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: Not reported

C12 **AMERICAN AIRCRAFT SALES CO.** **HIST UST** **U001596973**
ENE **21015 SKYWEST DR** **N/A**
1/8-1/4 **HAYWARD, CA 94541**
0.247 mi.
1303 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
36 ft.

HIST UST:
Region: STATE
Facility ID: 00000041943
Facility Type: Other
Other Type: AIRCRAFT SALES
Total Tanks: 0005
Contact Name: Not reported
Telephone: 4157832711
Owner Name: MICHAEL E. COUTCHES
Owner Address: 21015 SKYWEST DR.
Owner City,St,Zip: HAYWARD, CA 94541

Tank Num: 001
Container Num: 1
Year Installed: 1981
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/2 inches
Leak Detection: Groundwater Monitoring Well

Tank Num: 002
Container Num: 2
Year Installed: 1981
Tank Capacity: 00008000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/2 inches
Leak Detection: Groundwater Monitoring Well

Tank Num: 003
Container Num: 3
Year Installed: 1981

AMERICAN AIRCRAFT SALES CO. (Continued) **U001596973**

Tank Capacity: 00008000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/2 inches
Leak Detection: Groundwater Monitoring Well

Tank Num: 004
Container Num: 4
Year Installed: 1981
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/2 inches
Leak Detection: Groundwater Monitoring Well

Tank Num: 005
Container Num: 5
Year Installed: 1981
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: 1/2 inches
Leak Detection: Groundwater Monitoring Well

D13
NNE
1/4-1/2
0.266 mi.
1402 ft.

Relative:
Higher

Actual:
38 ft.

BEECHCRAFT WEST TANK FARM
19990 SKYWEST DR
HAYWARD, CA 94541

Site 1 of 2 in cluster D

HAZNET **S101579966**
LUST **N/A**
Cortese
CA FID UST
CA WDS
SWEEPS UST

HAZNET:
Gepaid: CAL000078405
Contact: THE PAPE GROUP INC
Telephone: 5413413344
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 19990 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945414601
Gen County: 1
TSD EPA ID: CAD009452657
TSD County: San Mateo
Waste Category: Liquids with lead > 500 mg/l
Disposal Method: Recycler
Tons: .7935
Facility County: 1

Gepaid: CAL000078405
Contact: THE PAPE GROUP INC
Telephone: 5413413344
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 19990 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945414601
Gen County: 1
TSD EPA ID: CAD980887418
TSD County: 1
Waste Category: Waste oil and mixed oil

BEECHCRAFT WEST TANK FARM (Continued) **S101579966**

Disposal Method: Recycler
Tons: .6255
Facility County: 1

Gepaid: CAL000231864
Contact: MIKE WILDMAN/PARTS
Telephone: 5102645569
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 19990 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945410000
Gen County: Alameda
TSD EPA ID: CAL000161743
TSD County: Santa Clara
Waste Category: Other organic solids
Disposal Method: Not reported
Tons: 0.02
Facility County: Not reported

Gepaid: CAL000231864
Contact: MIKE WILDMAN/PARTS
Telephone: 5102645569
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 19990 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945410000
Gen County: Alameda
TSD EPA ID: CAL000161743
TSD County: Santa Clara
Waste Category: Other organic solids
Disposal Method: Transfer Station
Tons: 0.07
Facility County: 1

Gepaid: CAL000078405
Contact: THE PAPE GROUP INC
Telephone: 5413413344
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 19990 SKYWEST DR
Mailing City,St,Zip: HAYWARD, CA 945414601
Gen County: 1
TSD EPA ID: CAD980887418
TSD County: 1
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Tons: 1.1050
Facility County: 1

Click this hyperlink while viewing on your computer to access
26 additional CA_HAZNET: record(s) in the EDR Site Report.

LUST:
Region: STATE
Status: Case Closed
Case Number: 01-0179
Local Case #: 01-0179

BEECHCRAFT WEST TANK FARM (Continued) **S101579966**

Chemical:	Diesel
Qty Leaked:	Not reported
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site
Release Date:	1985-08-07 00:00:00
Discover Date:	1985-08-07 00:00:00
Report Date:	1997-10-01 00:00:00
Enforcement Dt:	Not reported
Review Date:	1997-10-01 00:00:00
Enter Date:	1985-08-07 00:00:00
Stop Date:	1985-08-07 00:00:00
Confirm Leak:	Not reported
Case Type:	Other ground water affected
Cross Street:	Not reported
Enf Type:	F
Funding:	Not reported
How Discovered:	Tank Closure
How Stopped:	Not reported
Leak Cause:	Structure Failure
Leak Source:	Tank
Global Id:	T0600100166
Workplan:	Not reported
Prelim Assess:	1985-07-18 00:00:00
Pollution Char:	1990-10-10 00:00:00
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Max MTBE GW ppb:	Not reported
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported
Reg Board:	San Francisco Bay Region
Contact Person:	Not reported
Responsible Party:	BLANK RP
RP Address:	Not reported
Interim:	Yes
Oversight Prgm:	LUST
MTBE Class:	*
MTBE Conc:	0
MTBE Fuel:	0
MTBE Tested:	Not Required to be Tested.
Staff:	Not reported
Staff Initials:	DMG
Lead Agency:	Local Agency
Local Agency:	01003
Hydr Basin #:	Alameda East Bay (2-
Beneficial:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	No
Operator:	Not reported
Water System Name:	Not reported
Well Name:	Not reported
Distance To Lust:	0

BEECHCRAFT WEST TANK FARM (Continued) **S101579966**

Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: CLOSED 2/19/97

LUST:
Region: 2
Facility Id: 01-0179
Facility Status: Case Closed
Case Number: 01-0179
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 7/18/1985
Pollution Characterization Began: 10/10/1990
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 19990 SKYWEST DR

CA FID UST:
Facility ID: 01000300
Regulated By: UTNKA
Regulated ID: 00057438
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: P O BOX
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94541
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CA WDS:
Facility ID: San Francisco Bay 01I015964
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7

BEECHCRAFT WEST TANK FARM (Continued) **S101579966**

	are assigned by the Regional Board
Subregion:	2
Facility Telephone:	5102645555
Facility Contact:	KELLY R LINN
Agency Name:	TRAJEN INC
Agency Address:	3131 Briarcrest Dr Ste 100
Agency City,St,Zip:	Bryan 778023052
Agency Contact:	DONNIE WILLIS
Agency Telephone:	9792604000
Agency Type:	Private
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

SWEEPS UST:

Status:	A
Comp Number:	57438
Number:	1
Board Of Equalization:	44-000933
Ref Date:	07-08-93
Act Date:	03-24-94
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	5
Swrcb Tank Id:	01-003-057438-000005
Actv Date:	01-15-93
Capacity:	20000
Tank Use:	PETROLEUM
Stg:	P
Content:	AVIATION GAS
Number Of Tanks:	3

Status:	A
Comp Number:	57438
Number:	1
Board Of Equalization:	44-000933
Ref Date:	07-08-93
Act Date:	03-24-94

BEECHCRAFT WEST TANK FARM (Continued) **S101579966**

Created Date: 02-29-88
Tank Status: A
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-057438-000006
Actv Date: 01-15-93
Capacity: 2000
Tank Use: M.V. FUEL
Stg: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: A
Comp Number: 57438
Number: 1
Board Of Equalization: 44-000933
Ref Date: 07-08-93
Act Date: 03-24-94
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-057438-000007
Actv Date: 01-15-93
Capacity: 20000
Tank Use: PETROLEUM
Stg: P
Content: JET FUEL
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 57438
Number: Not reported
Board Of Equalization: 44-000933
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-057438-000001
Actv Date: Not reported
Capacity: 20000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: AVIA. GAS
Number Of Tanks: 4

Status: Not reported
Comp Number: 57438
Number: Not reported
Board Of Equalization: 44-000933
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-057438-000002
Actv Date: Not reported
Capacity: 20000

BEECHCRAFT WEST TANK FARM (Continued) **S101579966**

Tank Use: M.V. FUEL
Stg: PRODUCT
Content: AVIA. GAS
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 57438
Number: Not reported
Board Of Equalization: 44-000933
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-057438-000003
Actv Date: Not reported
Capacity: 20000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: JET FUEL
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 57438
Number: Not reported
Board Of Equalization: 44-000933
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-057438-000004
Actv Date: Not reported
Capacity: 2000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

D14 **FLIGHTCRAFT INC** **FINDS 1004440640**
NNE **19990 SKYWEST BLVD** **SLIC 110001184263**
1/4-1/2 **HAYWARD, CA 94541**
0.266 mi.
1402 ft. **Site 2 of 2 in cluster D**

Relative:
Higher

Actual:
38 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

SLIC:
Region: STATE
Global Id: SL1824H1152
Assigned Name: SLICSITE

FLIGHTCRAFT INC (Continued) **1004440640**

Lead Agency Contact: SAN FRANCSICO BAY RWQCB
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number: 01S0546
Responsible Party: FORMER FLIGHTCRAFT PROPERTY
Recent DTW: Not reported
Substance Released: Not reported
Facility Status: Case Closed

SLIC:
Region: 2
Facility ID: 01S0546
Facility Status: Case Closed
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

15
West
1/4-1/2
0.279 mi.
1472 ft.

Relative:
Lower

Actual:
25 ft.

HAYWARD ARMY AIRFIELD **FUDS** **1007211948**
N/A

HAYWARD, CA

FUDS:
Federal Facility ID: CA9799F5762
FUDS #: J09CA0827
Facility Name: Hayward Army Airfield
City: Hayward
State: CA
EPA Region: 9
County: ALAMEDA
Congressional District: 13
US Army District: Sacramento District (SPK)
Fiscal Year: 2007
Telephone: 916-557-7461
NPL Status: Not Listed
RAB: Not reported
CTC: 14346.95737
Current Owner: CITY; OTHER

FUDS Description Details:

The site is located in Alameda County, 2 miles west of Hayward. The site consisted of 727.125 acres. The property is now occupied by the Hayward Airport, Air National Guard, Skywest Golf Course, and several businesses. Very little of the original co
onstruction remains at the site. The northeast portion of the property is rented by businesses. All property is well maintained. The only visible remnants of the original construction are 2 runways, several taxi ways, and two 25-ft diameter concrete
pads.

HAYWARD ARMY AIRFIELD (Continued) **1007211948**

FUDS History Details:

The site consisted of 727.125 acres and was acquired by direct purchase or Declaration of Taking. The site was used as a sub-base of Hamilton Fighter Base, and as a military reservation. Improvements consisted of housing, barracks, day room, mess hal
ll, dispensary, lavatories, club house, school, shops, fire station, guard shelter, beacon tower, storehouse, paint shop, four 25,000-gal. gasoline USTs, runways, taxi apron, incinerator, siren and tower sheds, and fuel pits.

FUDS Current Program Details:

No activities conducted due to lack of funding.

FUDS Future Program Details:

No activities scheduled until the HTRW SI in 2038 due to funding constraints.

E16 **FORMER BAR S FACILITY** **Cortese** **S101580050**
SW **20725 CORSAIR BLVD** **CA FID UST** **N/A**
1/4-1/2 **HAYWARD, CA 94545** **SWEEPS UST**
0.294 mi.
1554 ft. **Site 1 of 3 in cluster E**

Relative:
Lower

Actual:
24 ft.

Cortese:
Region: CORTESE
Facility Addr2: 20725 CORSAIR BLVD

CA FID UST:
Facility ID: 01000779
Regulated By: UTNKI
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: 2550 ROUND HILL DRIVE
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94545
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

SWEEPS UST:
Status: Not reported
Comp Number: 126
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported

FORMER BAR S FACILITY (Continued) **S101580050**

Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-000126-000001
Actv Date:	Not reported
Capacity:	8000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	DIESEL
Number Of Tanks:	1

E17 **BAR S FACILITY** **LUST** **S102424933**
SW **20725 CORSAIR BLVD** **N/A**
1/4-1/2 **HAYWARD, CA 94545**
0.294 mi.
1554 ft. **Site 2 of 3 in cluster E**

Relative:
Lower

Actual:
24 ft.

LUST:

Region:	STATE
Status:	Case Closed
Case Number:	01-0654
Local Case #:	01-0654
Chemical:	Gasoline
Qty Leaked:	Not reported
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site
Release Date:	1991-08-06 00:00:00
Discover Date:	1991-08-06 00:00:00
Report Date:	1996-04-09 00:00:00
Enforcement Dt:	Not reported
Review Date:	1994-04-21 00:00:00
Enter Date:	1991-10-07 00:00:00
Stop Date:	1991-08-06 00:00:00
Confirm Leak:	1991-10-07 00:00:00
Case Type:	Other ground water affected
Cross Street:	Not reported
Enf Type:	F
Funding:	Not reported
How Discovered:	Tank Closure
How Stopped:	Not reported
Leak Cause:	Structure Failure
Leak Source:	Tank
Global Id:	T0600100604
Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	Not reported
Remed Plan:	1994-04-21 00:00:00
Remed Action:	Not reported
Monitoring:	Not reported
MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Max MTBE GW ppb:	Not reported
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported
Reg Board:	San Francisco Bay Region
Contact Person:	Not reported
Responsible Party:	BLANK RP
RP Address:	Not reported

BAR S FACILITY (Continued) **S102424933**

Interim: Yes
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 1
MTBE Tested: Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: ARCHIVED 11/1/96 CONTROL NO 120-101 SRC 0904751

LUST:
Region: 2
Facility Id: 01-0654
Facility Status: Case Closed
Case Number: 01-0654
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 10/7/1991
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: 4/21/1994
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

E18 **HAYWARD CITY OF MICR CENT** **Cortese** **S102427990**
SW **20699 CORSAIR** **N/A**
1/4-1/2 **HAYWARD, CA**
0.303 mi.
1600 ft. **Site 3 of 3 in cluster E**

Relative:
Lower

Actual:
23 ft.

Cortese:
Region: CORTESE
Facility Addr2: Not reported

19
East
1/4-1/2
0.319 mi.
1686 ft.

HAYWARD JET CENTER
21889 SKYWEST DR
HAYWARD, CA 94544

LUST **U003776544**
N/A

Relative:
Higher

Actual:
39 ft.

LUST:

Region:	STATE
Status:	Remedial action (cleanup) Underway
Case Number:	01-2536
Local Case #:	01-2536
Chemical:	Jet Fuel
Qty Leaked:	Not reported
Abate Method:	Not reported
Release Date:	2001-04-10 00:00:00
Discover Date:	Not reported
Report Date:	Not reported
Enforcement Dt:	Not reported
Review Date:	Not reported
Enter Date:	Not reported
Stop Date:	2001-04-10 00:00:00
Confirm Leak:	Not reported
Case Type:	Other ground water affected
Cross Street:	A ST
Enf Type:	Not reported
Funding:	Not reported
How Discovered:	FI
How Stopped:	Not reported
Leak Cause:	Other Cause
Leak Source:	Piping
Global Id:	T060014747
Workplan:	Not reported
Prelim Assess:	2001-04-30 00:00:00
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	2006-12-01 00:00:00
Monitoring:	2002-01-24 00:00:00
MTBE Date:	2002-01-24 00:00:00
GW Qualifier:	=
Soil Qualifier:	Not reported
Max MTBE GW ppb:	42
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported
Reg Board:	San Francisco Bay Region
Contact Person:	Not reported
Responsible Party:	ROBERT KITAY
RP Address:	21889 SKYWEST DRIVE
Interim:	Not reported
Oversight Prgm:	LUST
MTBE Class:	C
MTBE Conc:	1
MTBE Fuel:	0
MTBE Tested:	MTBE Detected. Site tested for MTBE and MTBE detected
Staff:	CCM
Staff Initials:	DMG
Lead Agency:	Local Agency
Local Agency:	01003
Hydr Basin #:	Alameda East Bay (2-

HAYWARD JET CENTER (Continued) **U003776544**

Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: Not reported
Operator: ERIC GAILLARD
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: Haz Mat incident report filed

LUST:
Region: 2
Facility Id: 01-2536
Facility Status: Preliminary site assessment underway
Case Number: 01-2536
How Discovered: FI
Leak Cause: Other Cause
Leak Source: Piping
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 12/4/2001
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

20
WSW
1/4-1/2
0.357 mi.
1886 ft.

BANK OF AMERICA
20609 CORSAIR BLVD
HAYWARD, CA 94545

HAZNET **S101293548**
LUST **N/A**
Cortese
SWEEPS UST

Relative:
Lower

Actual:
22 ft.

HAZNET:
Gepaid: CAC000950744
Contact: BANK OF AMERICA ENV SERV #4122
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 555 ANTON BLVD, #1025
Mailing City,St,Zip: COSTA MESA, CA 926260000
Gen County: 1
TSD EPA ID: CAD004771168
TSD County: San Francisco
Waste Category: Empty containers less than 30 gallons
Disposal Method: Recycler
Tons: .0500
Facility County: 1

Gepaid: CAC000950744
Contact: BANK OF AMERICA ENV SERV #4122
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 555 ANTON BLVD, #1025

BANK OF AMERICA (Continued) **S101293548**

Mailing City,St,Zip: COSTA MESA, CA 926260000
Gen County: 1
TSD EPA ID: CAD004771168
TSD County: San Francisco
Waste Category: Other empty containers 30 gallons or more
Disposal Method: Recycler
Tons: 1.2500
Facility County: 1

LUST:
Region: STATE
Status: Case Closed
Case Number: 01-0285
Local Case #: 01-0285
Chemical: Diesel
Qty Leaked: Not reported
Abate Method: No Action Taken - no action has as yet been taken at the site
Release Date: 1993-02-19 00:00:00
Discover Date: 1993-02-19 00:00:00
Report Date: 1995-09-28 00:00:00
Enforcement Dt: Not reported
Review Date: 1994-08-01 00:00:00
Enter Date: 1993-02-23 00:00:00
Stop Date: 1993-02-19 00:00:00
Confirm Leak: 1993-03-03 00:00:00
Case Type: Undefined
Cross Street: Not reported
Enf Type: F
Funding: Not reported
How Discovered: OM
How Stopped: Not reported
Leak Cause: Overfill
Leak Source: Other Source
Global Id: T0600100265
Workplan: 1994-10-25 00:00:00
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: Not reported
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP
RP Address: Not reported
Interim: No
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 0
MTBE Tested: Not Required to be Tested.

BANK OF AMERICA (Continued) **S101293548**

Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: ARCHIVED 6/6/96 CONTROL NO 120-074 SRC 0904724

LUST:
Region: 2
Facility Id: 01-0285
Facility Status: Case Closed
Case Number: 01-0285
How Discovered: OM
Leak Cause: Overfill
Leak Source: Other Source
Date Leak Confirmed: 3/3/1993
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: 10/25/1994
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 20609 CORSAIR BLVD

SWEEPS UST:
Status: Not reported
Comp Number: 1251
Number: Not reported
Board Of Equalization: 44-023830
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-001251-000001
Actv Date: Not reported
Capacity: 2500
Tank Use: PETROLEUM
Stg: PRODUCT
Content: DIESEL
Number Of Tanks: 1

21
East
1/4-1/2
0.385 mi.
2035 ft.

HOME DEPOT
21787 HESPERIAN BLVD
HAYWARD, CA 94541

HAZNET **S105194668**
LUST **N/A**
EMI

Relative:
Higher

Actual:
40 ft.

HAZNET:

Gepaid:	CAL000240050
Contact:	DONNA SOUTHARD/ENV COORD
Telephone:	7606028700
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1905 Aston Ave Ste 100
Mailing City,St,Zip:	Carlsbad, CA 92008
Gen County:	Alameda
TSD EPA ID:	IND000646943
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Not reported
Tons:	Not reported
Facility County:	Not reported

Gepaid:	CAL000240050
Contact:	DONNA SOUTHARD/ENV COORD
Telephone:	7606028700
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1905 Aston Ave Ste 100
Mailing City,St,Zip:	Carlsbad, CA 92008
Gen County:	Alameda
TSD EPA ID:	NVD980895338
TSD County:	99
Waste Category:	Alkaline solution without metals (pH > 12.5)
Disposal Method:	Treatment, Incineration
Tons:	0.01
Facility County:	1

Gepaid:	CAL000240050
Contact:	3E COMPANY
Telephone:	7606028700
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1905 Aston Ave Ste 100
Mailing City,St,Zip:	Carlsbad, CA 92008
Gen County:	Alameda
TSD EPA ID:	Not reported
TSD County:	San Mateo
Waste Category:	Laboratory waste chemicals
Disposal Method:	Treatment, Incineration
Tons:	0.12
Facility County:	Not reported

Gepaid:	CAL000240050
Contact:	3E COMPANY
Telephone:	7606028700
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1905 Aston Ave Ste 100
Mailing City,St,Zip:	Carlsbad, CA 92008

HOME DEPOT (Continued) **S105194668**

Gen County: Alameda
TSD EPA ID: Not reported
TSD County: Sacramento
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Disposal, Other
Tons: 0.75
Facility County: Not reported

Gepaid: CAL000240050
Contact: 3E COMPANY
Telephone: 7606028700
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 1905 Aston Ave Ste 100
Mailing City,St,Zip: Carlsbad, CA 92008
Gen County: Alameda
TSD EPA ID: IND000646943
TSD County: Alameda
Waste Category: Unspecified organic liquid mixture
Disposal Method: Recycler
Tons: 0.22
Facility County: 1

Click this hyperlink while viewing on your computer to access
2 additional CA_HAZNET: record(s) in the EDR Site Report.

LUST:
Region: STATE
Status: Case Closed
Case Number: 01-2522
Local Case #: 01-2522
Chemical: Gasoline
Qty Leaked: Not reported
Abate Method: Not reported
Release Date: 2001-02-22 00:00:00
Discover Date: 2001-12-15 00:00:00
Report Date: 2001-04-13 00:00:00
Enforcement Dt: Not reported
Review Date: 2001-04-16 00:00:00
Enter Date: 2001-04-12 00:00:00
Stop Date: 2001-12-15 00:00:00
Confirm Leak: 2001-04-12 00:00:00
Case Type: Undefined
Cross Street: SUEIRRO RD
Enf Type: Not reported
Funding: Not reported
How Discovered: Tank Closure
How Stopped: Not reported
Leak Cause: UNK
Leak Source: UNK
Global Id: T0600191847
Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported

HOME DEPOT (Continued) **S105194668**

MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: Not reported
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP
RP Address: Not reported
Interim: Not reported
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 1
MTBE Tested: Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: UNKNOWN, UNREGISTERED TANK DISCOVERED DURING SITE DEVELOPMENT. THE RP IS CITY OF HAYWARD, THIS IS THE PLANNED HOME DEPOT SITE. TENTATIVE CLOSURE 4/13/01, AWAITING CTH APPROVAL, CASE CLOSED 4/13/01 PER CTH.

LUST:
Region: 2
Facility Id: 01-2522
Facility Status: Case Closed
Case Number: 01-2522
How Discovered: Tank Closure
Leak Cause: UNK
Leak Source: UNK
Date Leak Confirmed: 4/12/2001
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

EMI:
Year: 2003
County Code: 1

HOME DEPOT (Continued) **S105194668**

Air Basin:	SF
Facility ID:	13226
Air District Name:	BA
SIC Code:	5211
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2004
County Code:	1
Air Basin:	SF
Facility ID:	13226
Air District Name:	BA
SIC Code:	5211
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.003
Reactive Organic Gases Tons/Yr:	0.0025101
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0.001
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2005
County Code:	1
Air Basin:	SF
Facility ID:	13226
Air District Name:	BA
SIC Code:	5211
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.003
Reactive Organic Gases Tons/Yr:	.0025101
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	.001
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

22
SW
1/4-1/2
0.403 mi.
2126 ft.

GORDON EVERETT PROPERTY
1693 SABRE ST
HAYWARD, CA 94545

LUST **S107863225**
N/A

Relative:
Lower

Actual:
22 ft.

LUST:

Region:	STATE
Status:	Leak being confirmed
Case Number:	01-3537
Local Case #:	01-3537
Chemical:	12034,800661
Qty Leaked:	Not reported
Abate Method:	Not reported
Release Date:	2005-09-28 00:00:00
Discover Date:	2005-09-13 00:00:00
Report Date:	Not reported
Enforcement Dt:	Not reported
Review Date:	Not reported
Enter Date:	Not reported
Stop Date:	Not reported
Confirm Leak:	2006-05-22 00:00:00
Case Type:	Other ground water affected
Cross Street:	CORSAIR BLVD.
Enf Type:	LOC
Funding:	Not reported
How Discovered:	SAS
How Stopped:	Close Tank
Leak Cause:	UNK
Leak Source:	UNK
Global Id:	T0600173326
Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Max MTBE GW ppb:	Not reported
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported
Reg Board:	San Francisco Bay Region
Contact Person:	Not reported
Responsible Party:	GORDON EVERETT
RP Address:	5751 BALMORAL DRIVE
Interim:	Not reported
Oversight Prgm:	LUST
MTBE Class:	*
MTBE Conc:	0
MTBE Fuel:	0
MTBE Tested:	Not Required to be Tested.
Staff:	CCM
Staff Initials:	DMG
Lead Agency:	Local Agency
Local Agency:	01003
Hydr Basin #:	Not reported

GORDON EVERETT PROPERTY (Continued) **S107863225**

Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: Not reported
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: PREVIOUSLY UNKNOWN USTS AT THE SITE, UNREGISTERED AND REMOVED PRIOR TO ESTABLISHMENT OF UST PROGRAM.

F23 **CONTAINER MNGMT SVCS LLC** **FINDS** **1001217294**
SSW **21301 CLOUD WAY** **HAZNET** **CAR000031526**
1/4-1/2 **HAYWARD, CA 94545** **RCRA-LQG**
0.409 mi. **CERC-NFRAP**
2159 ft. **Site 1 of 2 in cluster F**

Relative:
Lower

Actual:
25 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

California - Hazardous Waste Tracking System - Datamart

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:
Gepaid: CAR000031526
Contact: CONTAINER MANAGEMENT SERVICES
Telephone: 5106526847
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 900 BROOKSIDE DR
Mailing City,St,Zip: SAN PABLO, CA 948010000
Gen County: 1

CONTAINER MNGMT SVCS LLC (Continued) **1001217294**

TSD EPA ID: UTD981552177
TSD County: 99
Waste Category: Laboratory waste chemicals
Disposal Method: Not reported
Tons: .5500
Facility County: 1

Gepaid: CAR000031526
Contact: CONTAINER MANAGEMENT SERVICES
Telephone: 5106526847
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 900 BROOKSIDE DR
Mailing City,St,Zip: SAN PABLO, CA 948010000
Gen County: 1
TSD EPA ID: CAD980675676
TSD County: 0
Waste Category: Other inorganic solid waste
Disposal Method: Treatment, Tank
Tons: 25.2840
Facility County: 1

Gepaid: CAR000031526
Contact: CONTAINER MANAGEMENT SERVICES
Telephone: 5106526847
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 900 BROOKSIDE DR
Mailing City,St,Zip: SAN PABLO, CA 948010000
Gen County: 1
TSD EPA ID: CAD000633164
TSD County: Imperial
Waste Category: Baghouse waste
Disposal Method: Disposal, Land Fill
Tons: 15.1704
Facility County: 1

Gepaid: CAR000031526
Contact: CONTAINER MANAGEMENT SERVICES
Telephone: 5106526847
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 900 BROOKSIDE DR
Mailing City,St,Zip: SAN PABLO, CA 948010000
Gen County: 1
TSD EPA ID: CAD000633164
TSD County: Imperial
Waste Category: Baghouse waste
Disposal Method: Not reported
Tons: 15.1704
Facility County: 1

Gepaid: CAR000031526
Contact: CONTAINER MANAGEMENT SERVICES
Telephone: 5106526847
Facility Addr2: Not reported
Mailing Name: Not reported

CONTAINER MNGMT SVCS LLC (Continued) **1001217294**

Mailing Address: 900 BROOKSIDE DR
Mailing City,St,Zip: SAN PABLO, CA 948010000
Gen County: 1
TSD EPA ID: CAD009452657
TSD County: San Mateo
Waste Category: Unspecified organic liquid mixture
Disposal Method: Recycler
Tons: 6.0089
Facility County: 1

Click this hyperlink while viewing on your computer to access
48 additional CA_HAZNET: record(s) in the EDR Site Report.

RCRA-LQG:
Date form received by agency: 01/11/2008
Facility name: CONTAINER MNGMT SVCS LLC
Facility address: 21301 CLOUD WAY
HAYWARD, CA 94545
EPA ID: CAR000031526
Mailing address: PO BOX 3069
HAYWARD, CA 94540 3609
Contact: SEAN REYNOLDS
Contact address: PO BOX 3069
HAYWARD, CA 94540 3609
Contact country: US
Contact telephone: 706-463-3167
Contact email: SREYNOLDS@MYERSCONTAINER.COM
EPA Region: 09
Land type: Private
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:
Owner/operator name: CONTAINER ACQUISITION LLC
Owner/operator address: PO BOX 3069
HAYWARD, CA 94540
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 10/11/2007
Owner/Op end date: Not reported

Owner/operator name: CONTAINER MNGMT SVCS LLC
Owner/operator address: Not reported

CONTAINER MNGMT SVCS LLC (Continued) **1001217294**

Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 10/11/2007
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Universal Waste Summary:
Waste type: Batteries
Accumulated waste on-site: Unknown
Generated waste on-site: Unknown

Waste type: Lamps
Accumulated waste on-site: Unknown
Generated waste on-site: Unknown

Waste type: Pesticides
Accumulated waste on-site: Unknown
Generated waste on-site: Unknown

Waste type: Thermostats
Accumulated waste on-site: Unknown
Generated waste on-site: Unknown

Historical Generators:
Date form received by agency: 11/16/2007
Facility name: CONTAINER MNGMT SVCS LLC
Classification: Large Quantity Generator

Date form received by agency: 02/13/2006
Facility name: CONTAINER MNGMT SVCS LLC
Site name: CONTAINER MANAGEMENT SERVICES - HAYWARD
Classification: Large Quantity Generator

Date form received by agency: 02/11/2004
Facility name: CONTAINER MNGMT SVCS LLC
Site name: CONTAINER MNGMT SVCS HAYWARD

CONTAINER MNGMT SVCS LLC (Continued) **1001217294**

Classification: Large Quantity Generator

Date form received by agency: 03/01/2002
Facility name: CONTAINER MNGMT SVCS LLC
Site name: CONTAINER MANAGEMENT SERVICES, LLC - HAY
Classification: Large Quantity Generator

Date form received by agency: 10/12/2000
Facility name: CONTAINER MNGMT SVCS LLC
Site name: CONTAINER MANAGEMENT SERVICES - HAYWARD
Classification: Large Quantity Generator

Date form received by agency: 03/04/1999
Facility name: CONTAINER MNGMT SVCS LLC
Site name: CONTAINER MANAGEMENT SERVICES, LLC
Classification: Large Quantity Generator

Date form received by agency: 09/12/1997
Facility name: CONTAINER MNGMT SVCS LLC
Site name: CONTAINER MANAGEMENT SERVICES
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D006
Waste name: CADMIUM

Waste code: D007
Waste name: CHROMIUM

Waste code: D008
Waste name: LEAD

Waste code: D010
Waste name: SELENIUM

Waste code: 121
Waste name: 121

Waste code: 181

CONTAINER MNGMT SVCS LLC (Continued) **1001217294**

Waste name: 181

Waste code: 352
Waste name: 352

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D007
Waste name: CHROMIUM

Waste code: D008
Waste name: LEAD

Waste code: D035
Waste name: METHYL ETHYL KETONE

Biennial Reports:

Last Biennial Reporting Year: 2005

Annual Waste Handled:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 3752

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 319071.4

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 747378

Waste code: D008
Waste name: LEAD
Amount (Lbs): 728382

Waste code: D035
Waste name: METHYL ETHYL KETONE

CONTAINER MNGMT SVCS LLC (Continued) **1001217294**

Amount (Lbs): 13552.6

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 13552.6

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 13552.6

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/04/2005
Date achieved compliance: 12/02/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/04/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/04/2005
Date achieved compliance: 12/02/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/02/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:

CONTAINER MNGMT SVCS LLC (Continued) **1001217294**

Evaluation date: 11/04/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 12/02/2005
Evaluation lead agency: Local

CERC-NFRAP:
Site ID: 0904553
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP

CERCLIS-NFRAP Site Contact Name(s):
Contact Name: Matt Mitguard
Contact Tel: (415) 972-3096
Contact Title: Site Assessment Manager (SAM)

Contact Name: Dan McMindes
Contact Tel: (415) 972-3401
Contact Title: Site Assessment Manager (SAM)

Contact Name: Dawn Richmond
Contact Tel: (415) 972-3097
Contact Title: Site Assessment Manager (SAM)

Contact Name: Nuria Muniz
Contact Tel: (415) 972-3811
Contact Title: Site Assessment Manager (SAM)

Site Description: Not reported

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 07/22/1992
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 02/26/1993
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 02/26/1993
Priority Level: NFRAP (No Futher Remedial Action Planned

Action: SITE REASSESSMENT
Date Started: 10/29/2001
Date Completed: 11/27/2002
Priority Level: NFRAP (No Futher Remedial Action Planned

F24 **WESTERN DRUMS, INC.** **ENVIROSTOR** **S102008202**
SSW **21301 CLOUD WAY** **N/A**
1/4-1/2 **HAYWARD, CA 94545**
0.409 mi.
2159 ft. **Site 2 of 2 in cluster F**

Relative:
Lower

Actual:
25 ft.

ENVIROSTOR:

Site Type:	Evaluation
Site Type Detailed:	Evaluation
Acres:	10.5
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	DENISE TSUJI
Supervisor:	Denise Tsuji
Division Branch:	Berkeley
Facility ID:	01340114
Site Code:	200997
Assembly:	18
Senate:	10
Special Program:	EPA - PASI
Status:	Inactive - Needs Evaluation
Status Date:	2007-05-24 00:00:00
Restricted Use:	NO
Funding:	EPA Grant
Latitude:	37.6541367739298
Longitude:	-122.126707874758
Alias Name:	432-0114-022
Alias Type:	APN
Alias Name:	432-0114-039
Alias Type:	APN
Alias Name:	432-0114-039
Alias Type:	APN
Alias Name:	432-0114-038
Alias Type:	APN
Alias Name:	432-0114-037
Alias Type:	APN
Alias Name:	432-0114-036
Alias Type:	APN
Alias Name:	200997
Alias Type:	Project Code (Site Code)
Alias Name:	01340114
Alias Type:	Envirostor ID Number
APN:	432-0114-022, 432-0114-039, 432-0114-039, 432-0114-038, 432-0114-037, 432-0114-036
APN Description:	Not reported
APN Description:	Not reported
APN Description:	Not reported
APN Description:	Not reported
APN Description:	Not reported
APN Description:	Not reported
Comments:	Recommended PEA.Recommended PEA.

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	2002-09-09 00:00:00

WESTERN DRUMS, INC. (Continued) **S102008202**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 1993-05-06 00:00:00

Confirmed: NONE SPECIFIED
Confirmed Description: Not reported
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Site Screening
Future Due Date: 2006
Media Affected: 30022
Media Affected Desc: Not reported

Management:
Management Required: NONE SPECIFIED
Management Required Desc: Not reported
Potential: OTH, SOIL
Potenital Description: Not reported
Potenital Description: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported
PastUse: RECYCLING - DRUM

G25 **UNOCAL** **LUST** **S101580181**
NE **20501 HESPERIAN BLVD** **Cortese** **N/A**
1/4-1/2 **HAYWARD, CA 94541** **CA FID UST**
0.418 mi. **SWEEPS UST**
2205 ft. **Site 1 of 3 in cluster G**

Relative:
Higher

Actual:
39 ft.

LUST:
Region: STATE
Status: Case Closed
Case Number: 01-1580
Local Case #: 01-1580
Chemical: Gasoline
Qty Leaked: Not reported
Abate Method: No Action Taken - no action has as yet been taken at the site
Release Date: 1990-11-02 00:00:00
Discover Date: 1990-11-02 00:00:00
Report Date: 1999-08-16 00:00:00
Enforcement Dt: Not reported
Review Date: 2000-10-03 00:00:00
Enter Date: 1990-02-16 00:00:00
Stop Date: 1990-11-02 00:00:00
Confirm Leak: 1990-02-16 00:00:00
Case Type: Other ground water affected
Cross Street: Not reported
Enf Type: F
Funding: Not reported
How Discovered: Tank Closure
How Stopped: Not reported
Leak Cause: Structure Failure
Leak Source: Tank
Global Id: T0600101455

UNOCAL (Continued) **S101580181**

Workplan: 1990-01-02 00:00:00
Prelim Assess: 1990-02-15 00:00:00
Pollution Char: 1990-02-15 00:00:00
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: Not reported
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP
RP Address: Not reported
Interim: No
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 1
MTBE Tested: Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: SOLV @ SL & GW, 65 PPM GW @ BORING;3/27QR; CC PER RWQCB DURING DATABASE RECONCILIATION 9/29/99, LETTER SENT. 7 MWS DESTROYED 9/27/99.

LUST:
Region: 2
Facility Id: 01-1580
Facility Status: Case Closed
Case Number: 01-1580
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 2/16/1990
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: 1/2/1990
Preliminary Site Assesment Began: 2/15/1990
Pollution Characterization Began: 2/15/1990
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

UNOCAL (Continued) **S101580181**

Cortese:
Region: CORTESE
Facility Addr2: 20501 HESPERIAN BLVD

CA FID UST:
Facility ID: 01001690
Regulated By: UTNKI
Regulated ID: 00030833
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: 2175 N CALIFORNIA BLVD
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94541
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

SWEEPS UST:
Status: Not reported
Comp Number: 30833
Number: Not reported
Board Of Equalization: 44-000051
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-030833-000001
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 3

Status: Not reported
Comp Number: 30833
Number: Not reported
Board Of Equalization: 44-000051
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-030833-000002
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED

UNOCAL (Continued) **S101580181**

Number Of Tanks: Not reported

Status: Not reported
Comp Number: 30833
Number: Not reported
Board Of Equalization: 44-000051
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-030833-000003
Actv Date: Not reported
Capacity: 280
Tank Use: OIL
Stg: WASTE
Content: WASTE OIL
Number Of Tanks: Not reported

G26 **TEXACO EXXON** **HAZNET** **S103640645**
NNE **20499 HESPERIAN BLVD** **LUST** **N/A**
1/4-1/2 **HAYWARD, CA 94541** **Cortese**
0.422 mi. **SWEEPS UST**
2230 ft. **Site 2 of 3 in cluster G**

Relative:
Higher

Actual:
39 ft.

HAZNET:
Gepaid: CAL000181451
Contact: TEXACO REFINING AND MARKETING
Telephone: 8185052802
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 10 UNIVERSAL CITY PLAZA 7TH FLOOR
Mailing City,St,Zip: UNIVERSAL CITY, CA 916081009
Gen County: 1
TSD EPA ID: CAD028409019
TSD County: Los Angeles
Waste Category: ***
Disposal Method: Not reported
Tons: .0208
Facility County: 1

Gepaid: CAL000181451
Contact: TEXACO REFINING AND MARKETING
Telephone: 8185052802
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 10 UNIVERSAL CITY PLAZA 7TH FLOOR
Mailing City,St,Zip: UNIVERSAL CITY, CA 916081009
Gen County: 1
TSD EPA ID: CAD028409019
TSD County: Los Angeles
Waste Category: Unspecified organic liquid mixture
Disposal Method: Treatment, Tank
Tons: .0020
Facility County: 1

LUST:

TEXACO EXXON (Continued) **S103640645**

Region:	STATE
Status:	Case Closed
Case Number:	01-1454
Local Case #:	01-1454
Chemical:	Gasoline
Qty Leaked:	Not reported
Abate Method:	No Action Taken - no action has as yet been taken at the site
Release Date:	1989-02-28 00:00:00
Discover Date:	1989-02-28 00:00:00
Report Date:	2001-10-12 00:00:00
Enforcement Dt:	Not reported
Review Date:	2001-01-26 00:00:00
Enter Date:	1989-04-19 00:00:00
Stop Date:	1989-02-28 00:00:00
Confirm Leak:	1989-04-19 00:00:00
Case Type:	Other ground water affected
Cross Street:	Not reported
Enf Type:	F
Funding:	NONE
How Discovered:	Tank Closure
How Stopped:	Not reported
Leak Cause:	Structure Failure
Leak Source:	Tank
Global Id:	T0600101342
Workplan:	Not reported
Prelim Assess:	1988-06-30 00:00:00
Pollution Char:	1989-08-31 00:00:00
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
MTBE Date:	1965-01-02 00:00:00
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Max MTBE GW ppb:	160000
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported
Reg Board:	San Francisco Bay Region
Contact Person:	Not reported
Responsible Party:	BLANK RP
RP Address:	Not reported
Interim:	No
Oversight Prgm:	LUST
MTBE Class:	Not reported
MTBE Conc:	1
MTBE Fuel:	1
MTBE Tested:	MTBE Detected. Site tested for MTBE and MTBE detected
Staff:	Not reported
Staff Initials:	DMG
Lead Agency:	Regional Board
Local Agency:	01003
Hydr Basin #:	Alameda East Bay (2-
Beneficial:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	No
Operator:	Not reported

TEXACO EXXON (Continued) **S103640645**

Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: POSS OFFSITE SRCE &FP@9.5" MW4J 2/91.FP IN OFFSITE WLL.10/4 QR.12/26 QR. MAXGW=GASOLINE. MTBE SAMPLING DATE: 10/9/98. RIGHT OF ENTRY AGREEMENT IS BEING NEGOTIATED BETWEEN RP AND ADJACENT PROPERTY HOLDERS (01/16/00).

LUST:
Region: 2
Facility Id: 01-1454
Facility Status: Case Closed
Case Number: 01-1454
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 4/19/1989
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 6/30/1988
Pollution Characterization Began: 8/31/1989
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 20499 HESPERIAN BLVD

SWEEPS UST:
Status: Not reported
Comp Number: 5770
Number: Not reported
Board Of Equalization: 44-001155
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-005770-000001
Actv Date: Not reported
Capacity: 8000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 4

Status: Not reported
Comp Number: 5770
Number: Not reported
Board Of Equalization: 44-001155
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported

TEXACO EXXON (Continued) **S103640645**

Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-005770-000002
Actv Date:	Not reported
Capacity:	8000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	REG UNLEADED
Number Of Tanks:	Not reported
Status:	Not reported
Comp Number:	5770
Number:	Not reported
Board Of Equalization:	44-001155
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-005770-000003
Actv Date:	Not reported
Capacity:	8000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	LEADED
Number Of Tanks:	Not reported
Status:	Not reported
Comp Number:	5770
Number:	Not reported
Board Of Equalization:	44-001155
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-005770-000004
Actv Date:	Not reported
Capacity:	550
Tank Use:	OIL
Stg:	WASTE
Content:	WASTE OIL
Number Of Tanks:	Not reported

H27 **AC TRANSIT** **EMI** **S105936316**
SW **1758 SABRE STREET** **CA WDS** **N/A**
1/4-1/2 **HAYWARD, CA 94545** **CS**
0.424 mi.
2238 ft. **Site 1 of 2 in cluster H**

Relative:
Lower

Actual:
21 ft.

EMI:

Year:	1990
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported

AC TRANSIT (Continued) **S105936316**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1993
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1996
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1997
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0

AC TRANSIT (Continued) **S105936316**

Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1998
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1999
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2000
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2001
County Code:	1
Air Basin:	SF

AC TRANSIT (Continued) **S105936316**

Facility ID:	3999
Air District Name:	BA
SIC Code:	4931
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2002
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2003
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2004
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

AC TRANSIT (Continued) **S105936316**

Total Organic Hydrocarbon Gases Tons/Yr:	0.191
Reactive Organic Gases Tons/Yr:	0.1886889
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2005
County Code:	1
Air Basin:	SF
Facility ID:	3999
Air District Name:	BA
SIC Code:	3599
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.191
Reactive Organic Gases Tons/Yr:	.1886889
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

CA WDS:

Facility ID:	San Francisco Bay 01I003035
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	2
Facility Telephone:	Not reported
Facility Contact:	Not reported
Agency Name:	A.C. TRANSIT
Agency Address:	Not reported
Agency City,St,Zip:	0
Agency Contact:	Not reported
Agency Telephone:	Not reported
Agency Type:	County
SIC Code:	4111
SIC Code 2:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order

AC TRANSIT (Continued) **S105936316**

should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.

Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

Facility ID: San Francisco Bay 01I003035
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 2
Facility Telephone: Not reported
Facility Contact: Not reported
Agency Name: AC TRANSIT
Agency Address: 10626 E. 14th Street
Agency City,St,Zip: Oakland 94603
Agency Contact: Suzanne Patton
Agency Telephone: 5105778869
Agency Type: Private
SIC Code: 0
SIC Code 2: Not reported
Primary Waste: Not reported
Primary Waste Type: Not reported
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Design Flow: 0
Baseline Flow: 0
Reclamation: No reclamation requirements associated with this facility.
POTW: The facility is not a POTW.
Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

CS:
Status: 11

AC TRANSIT (Continued) **S105936316**

Record Id: RO0002587
PE: 5602

H28 **AC TRANSIT** **UST** **U003937429**
SW **1758 SABRE ST** **SLIC** **N/A**
1/4-1/2 **HAYWARD, CA 94545**
0.424 mi.
2240 ft. **Site 2 of 2 in cluster H**

Relative:
Lower

Actual:
21 ft.

UST:
Local Agency: Hayward, Alameda County
Facility ID: 01-003-958400

SLIC:
Region: STATE
Global Id: SL0600198131
Assigned Name: SLICSITE
Lead Agency Contact: DANILO M. GALANG
Lead Agency: HAYWARD, CITY OF
Lead Agency Case Number: 01-3527
Responsible Party: Not reported
Recent DTW: Not reported
Substance Released: 8006619
Facility Status: **Verification Monitoring Underway**

G29 **SHELL** **LUST** **S101306514**
NE **20500 HESPERIAN BLVD** **Cortese** **N/A**
1/4-1/2 **HAYWARD, CA 94541** **SWEEPS UST**
0.430 mi.
2269 ft. **Site 3 of 3 in cluster G**

Relative:
Higher

Actual:
39 ft.

LUST:
Region: STATE
Status: Case Closed
Case Number: 01-1854
Local Case #: 01-1854
Chemical: Gasoline
Qty Leaked: Not reported
Abate Method: No Action Taken - no action has as yet been taken at the site
Release Date: 1998-11-03 00:00:00
Discover Date: 1998-11-03 00:00:00
Report Date: 1999-09-01 00:00:00
Enforcement Dt: Not reported
Review Date: 2000-06-06 00:00:00
Enter Date: 1994-02-22 00:00:00
Stop Date: 1998-11-03 00:00:00
Confirm Leak: 1994-01-11 00:00:00
Case Type: Other ground water affected
Cross Street: Not reported
Enf Type: F
Funding: Not reported
How Discovered: Tank Closure
How Stopped: Not reported
Leak Cause: UNK
Leak Source: UNK
Global Id: T0600101720

SHELL (Continued) **S101306514**

Workplan: 1993-03-01 00:00:00
Prelim Assess: 1994-01-24 00:00:00
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
MTBE Date: 1997-02-10 00:00:00
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: 6
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP
RP Address: Not reported
Interim: No
Oversight Prgm: LUST
MTBE Class: Not reported
MTBE Conc: 1
MTBE Fuel: 1
MTBE Tested: MTBE Detected. Site tested for MTBE and MTBE detected
Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: CURRENT MTBE DATE:10/9/98. MAXGW=TPPH. CC PER RWQCB DURING DATABASE RECONCILIATION 9/29/99.

LUST:
Region: 2
Facility Id: 01-1854
Facility Status: Case Closed
Case Number: 01-1854
How Discovered: Tank Closure
Leak Cause: UNK
Leak Source: UNK
Date Leak Confirmed: 1/11/1994
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: 3/1/1993
Preliminary Site Assesment Began: 1/24/1994
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

SHELL (Continued) **S101306514**

Cortese:
Region: CORTESE
Facility Addr2: 20500 HESPERIAN BLVD

SWEEPS UST:
Status: Not reported
Comp Number: 61093
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-061093-000001
Actv Date: Not reported
Capacity: 5000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 7

Status: Not reported
Comp Number: 61093
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-061093-000002
Actv Date: Not reported
Capacity: 5000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 61093
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-061093-000003
Actv Date: Not reported
Capacity: 7500
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

SHELL (Continued) **S101306514**

Status: Not reported
Comp Number: 61093
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-061093-000004
Actv Date: Not reported
Capacity: 550
Tank Use: OIL
Stg: WASTE
Content: WASTE OIL
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 61093
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-061093-000005
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 61093
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-061093-000006
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 61093
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported

SHELL (Continued) **S101306514**

Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-061093-000007
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

I30 **AIRPORT ALLIANCE** **HAZNET** **S103995729**
NNE **20450 HESPERIAN BLVD** **LUST** **N/A**
1/4-1/2 **HAYWARD, CA 94541** **Cortese**
0.444 mi. **EMI**
2346 ft. **Site 1 of 2 in cluster I** **CS**

Relative: Higher

Actual: 40 ft.

HAZNET:
Gepaid: CAL000147353
Contact: WESTSIDE GAS CORP
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 2871
Mailing City,St,Zip: APTOS, CA 950010000
Gen County: 1
TSD EPA ID: CAT000613976
TSD County: Orange
Waste Category: Not reported
Disposal Method: Transfer Station
Tons: .0000
Facility County: 1

Gepaid: CAL000147353
Contact: WESTSIDE GAS CORP
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 2871
Mailing City,St,Zip: APTOS, CA 950010000
Gen County: 1
TSD EPA ID: CAL000161743
TSD County: Santa Clara
Waste Category: Waste oil and mixed oil
Disposal Method: Transfer Station
Tons: 1.1467
Facility County: 1

Gepaid: CAL000147353
Contact: WESTSIDE GAS CORP
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 2871
Mailing City,St,Zip: APTOS, CA 950010000
Gen County: 1
TSD EPA ID: CAT000613976
TSD County: Orange

AIRPORT ALLIANCE (Continued) **S103995729**

Waste Category: Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
Disposal Method: Transfer Station
Tons: .2130
Facility County: 1

Gepaid: CAL000147353
Contact: WESTSIDE GAS CORP
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 2871
Mailing City,St,Zip: APTOS, CA 950010000
Gen County: 1
TSD EPA ID: CAD009466392
TSD County: 7
Waste Category: Other empty containers 30 gallons or more
Disposal Method: Recycler
Tons: 5.0000
Facility County: 1

Gepaid: CAL000147353
Contact: WESTSIDE GAS CORP
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 2871
Mailing City,St,Zip: APTOS, CA 950010000
Gen County: 1
TSD EPA ID: CAT000613976
TSD County: Orange
Waste Category: Not reported
Disposal Method: Transfer Station
Tons: 0
Facility County: 1

Click this hyperlink while viewing on your computer to access
3 additional CA_HAZNET: record(s) in the EDR Site Report.

LUST:
Region: STATE
Status: Remedial action (cleanup) Underway
Case Number: 01-0247
Local Case #: 4116
Chemical: Gasoline
Qty Leaked: Not reported
Abate Method: No Action Taken - no action has as yet been taken at the site
Release Date: 1991-12-12 00:00:00
Discover Date: 1993-01-26 00:00:00
Report Date: Not reported
Enforcement Dt: 1993-09-27 00:00:00
Review Date: 2001-08-28 00:00:00
Enter Date: 1993-02-09 00:00:00
Stop Date: 1993-01-26 00:00:00
Confirm Leak: 1993-09-27 00:00:00
Case Type: Other ground water affected
Cross Street: Not reported
Enf Type: F

AIRPORT ALLIANCE (Continued) **S103995729**

Funding: 13267R
How Discovered: Tank Closure
How Stopped: Not reported
Leak Cause: Structure Failure
Leak Source: Tank
Global Id: T0600100233
Workplan: Not reported
Prelim Assess: 2000-06-14 00:00:00
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: 2001-03-15 00:00:00
Monitoring: Not reported
MTBE Date: 2001-09-13 00:00:00
GW Qualifier: =
Soil Qualifier: Not reported
Max MTBE GW ppb: 60
Max MTBE Soil ppb: Not reported
County: 01
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP
RP Address: Not reported
Interim: No
Oversight Prgm: LUST
MTBE Class: C
MTBE Conc: 2
MTBE Fuel: 1
MTBE Tested: MTBE Detected. Site tested for MTBE and MTBE detected
Staff: REL
Staff Initials: DLD
Lead Agency: Regional Board
Local Agency: 01000L
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: PETROLEUM RAFING, 3 TKS IN VIOLATION, PROBABLY SPILL. PRIORITY CLASS 'C'. ACHD CLOSED/TRANSFERED SITE TO RWQCB AS OF 11/18/96. PREAPPROVAL OF CORR ACTION COSTS 6/14/00. CURRENT MTBE DATE 4/2/01.

LUST:
Region: 2
Facility Id: 01-0247
Facility Status: Remedial action (cleanup) Underway
Case Number: 4116
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 9/27/1993

AIRPORT ALLIANCE (Continued) **S103995729**

Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 6/14/2000
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: 3/15/2001
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 20450 Hesperian Blvd

EMI:
Year: 2002
County Code: 1
Air Basin: SF
Facility ID: 12838
Air District Name: BA
SIC Code: 5541
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2004
County Code: 1
Air Basin: SF
Facility ID: 12838
Air District Name: BA
SIC Code: 5541
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2005
County Code: 1
Air Basin: SF
Facility ID: 12838
Air District Name: BA
SIC Code: 5541
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported

AIRPORT ALLIANCE (Continued) **S103995729**

Total Organic Hydrocarbon Gases Tons/Yr:	.012
Reactive Organic Gases Tons/Yr:	.0083832
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

CS:

Status:	11
Record Id:	RO0000745
PE:	5602

J31 **LAMBERTSON INDUSTRIES** **LUST** **S101306560**
SW **1750 SABRE ST** **Cortese** **N/A**
1/4-1/2 **HAYWARD, CA 94545**
0.449 mi.
2369 ft. **Site 1 of 3 in cluster J**

Relative:
Lower

Actual:
21 ft.

LUST:

Region:	STATE
Status:	Leak being confirmed
Case Number:	01-1891
Local Case #:	01-1891
Chemical:	Gasoline
Qty Leaked:	Not reported
Abate Method:	No Action Taken - no action has as yet been taken at the site
Release Date:	1994-04-05 00:00:00
Discover Date:	1994-04-05 00:00:00
Report Date:	Not reported
Enforcement Dt:	Not reported
Review Date:	1999-12-07 00:00:00
Enter Date:	1994-04-05 00:00:00
Stop Date:	1994-04-05 00:00:00
Confirm Leak:	1994-04-05 00:00:00
Case Type:	Other ground water affected
Cross Street:	Not reported
Enf Type:	F
Funding:	Not reported
How Discovered:	Tank Closure
How Stopped:	Not reported
Leak Cause:	UNK
Leak Source:	UNK
Global Id:	T0600101754
Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Max MTBE GW ppb:	Not reported
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported

LAMBERTSON INDUSTRIES (Continued) **S101306560**

Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: BLANK RP
RP Address: Not reported
Interim: No
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 1
MTBE Tested: Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: NO
Priority: 2A4
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: CASE PER LIA-AWAITING INFO

LUST:
Region: 2
Facility Id: 01-1891
Facility Status: Leak being confirmed
Case Number: 01-1891
How Discovered: Tank Closure
Leak Cause: UNK
Leak Source: UNK
Date Leak Confirmed: 4/5/1994
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 1750 SABRE ST

I32
NNE
1/4-1/2
0.451 mi.
2379 ft.

WEBER AUTO SUPPLY, INC.
20372 HESPERIAN BLVD
HAYWARD, CA 94541

Site 2 of 2 in cluster I

Relative:
Higher

Actual:
40 ft.

Database(s): Cortese, SWEEPS UST
EDR ID Number: S102441117
EPA ID Number: N/A

Cortese:
Region: CORTESE
Facility Addr2: 20372 Hesperian Blvd

SWEEPS UST:
Status: Not reported
Comp Number: 5672
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-000-005672-000001
Actv Date: Not reported
Capacity: 300
Tank Use: EMPTY
Stg: PRODUCT
Content: REGULAR UNLE
Number Of Tanks: 1

33
West
1/4-1/2
0.461 mi.
2436 ft.

CORSAIR PROPERTY
20275 CORSAIR
HAYWARD, CA

Relative:
Lower

Actual:
17 ft.

Database(s): Cortese
EDR ID Number: S100272621
EPA ID Number: N/A

Cortese:
Region: CORTESE
Facility Addr2: Not reported

34
NNE
1/4-1/2
0.465 mi.
2457 ft.

ARCO
20200 HESPERIAN BLVD
HAYWARD, CA 94541

Relative:
Higher

Actual:
41 ft.

Database(s): HAZNET, LUST, Cortese, CA FID UST, CS, SWEEPS UST
EDR ID Number: S101580170
EPA ID Number: N/A

HAZNET:
Gepaid: CAL000106572
Contact: CARLOS RODRIGUEZ
Telephone: 7146705402
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 6038
Mailing City,St,Zip: ARTESIA, CA 907026038
Gen County: Alameda
TSD EPA ID: Not reported
TSD County: Santa Clara
Waste Category: Unspecified organic liquid mixture
Disposal Method: Recycler

ARCO (Continued) **S101580170**

Tons: 1.25
Facility County: Not reported

LUST:
Region: STATE
Status: Post remedial action monitoring
Case Number: 01-1481
Local Case #: RO0000174
Chemical: Gasoline
Qty Leaked: 0
Abate Method: Not reported
Release Date: 1995-08-15 00:00:00
Discover Date: 1986-08-07 00:00:00
Report Date: Not reported
Enforcement Dt: Not reported
Review Date: Not reported
Enter Date: Not reported
Stop Date: 1965-01-01 00:00:00
Confirm Leak: Not reported
Case Type: Other ground water affected
Cross Street: Not reported
Enf Type: Not reported
Funding: NOR
How Discovered: SA
How Stopped: Other Means
Leak Cause: Unknown
Leak Source: Unknown
Global Id: T0600101368
Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: 1993-03-30 00:00:00
MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: Not reported
Max MTBE Soil ppb: Not reported
County: 1
Org Name: Not reported
Reg Board: San Francisco Bay Region
Contact Person: Not reported
Responsible Party: PAUL SUPPLE
RP Address: PO BOX 1257
Interim: Not reported
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 1
MTBE Tested: MTBE Detected. Site tested for MTBE and MTBE detected
Staff: Not reported
Staff Initials: PK
Lead Agency: Local Agency
Local Agency: 01000L
Hydr Basin #: Not reported
Beneficial: MUN

ARCO (Continued) **S101580170**

Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: Not reported
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: LUFT Con. LC 3A MTBE=ND

LUST:
Region: 2
Facility Id: 01-1481
Facility Status: Remedial action (cleanup) Underway
Case Number: 817
How Discovered: OM
Leak Cause: Other Cause
Leak Source: Tank
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: 5/2/1991
Preliminary Site Assesment Began: 8/8/1986
Pollution Characterization Began: 12/21/1992
Pollution Remediation Plan Submitted: 3/4/1993
Date Remediation Action Underway: 1/1/1996
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 20200 HESPERIAN BLVD

CA FID UST:
Facility ID: 01001600
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 5107861610
Mail To: Not reported
Mailing Address: 17315 STUDEBAKER RD
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94541
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CS:
Status: Post remedial action monitoring
Record Id: RO0000174
PE: 5602

ARCO (Continued) **S101580170**

SWEEPS UST:

Status:	A
Comp Number:	4711
Number:	1
Board Of Equalization:	44-000506
Ref Date:	02-22-93
Act Date:	04-08-94
Created Date:	04-16-93
Tank Status:	A
Owner Tank Id:	4-UNLEADED
Swrcb Tank Id:	01-000-004711-000003
Actv Date:	02-22-93
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	PRM UNLEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	4711
Number:	1
Board Of Equalization:	44-000506
Ref Date:	02-22-93
Act Date:	04-08-94
Created Date:	04-16-93
Tank Status:	A
Owner Tank Id:	3-UNLEADED
Swrcb Tank Id:	01-000-004711-000004
Actv Date:	02-22-93
Capacity:	12000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	4711
Number:	1
Board Of Equalization:	44-000506
Ref Date:	02-22-93
Act Date:	04-08-94
Created Date:	04-16-93
Tank Status:	A
Owner Tank Id:	2-UNLEADED
Swrcb Tank Id:	01-000-004711-000001
Actv Date:	02-22-93
Capacity:	6000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	4

Status:	A
Comp Number:	4711
Number:	1
Board Of Equalization:	44-000506
Ref Date:	02-22-93

ARCO (Continued) **S101580170**

Act Date:	04-08-94
Created Date:	04-16-93
Tank Status:	A
Owner Tank Id:	1-UNLEADED
Swrcb Tank Id:	01-000-004711-000002
Actv Date:	02-22-93
Capacity:	8000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

J35 **EKC TECHNOLOGY** **LUST** **S108241933**
SW **1739 SABRE ST** **N/A**
1/4-1/2 **HAYWARD, CA 94545**
0.466 mi.
2462 ft. **Site 2 of 3 in cluster J**

Relative:
Lower

Actual:
21 ft.

LUST:

Region:	STATE
Status:	Case Closed
Case Number:	01-0550
Local Case #:	01-0550
Chemical:	Stoddard Solvent
Qty Leaked:	Not reported
Abate Method:	No Action Taken - no action has as yet been taken at the site
Release Date:	1989-08-23 00:00:00
Discover Date:	1989-08-23 00:00:00
Report Date:	1998-10-20 00:00:00
Enforcement Dt:	Not reported
Review Date:	2001-01-23 00:00:00
Enter Date:	1989-10-31 00:00:00
Stop Date:	1989-08-23 00:00:00
Confirm Leak:	1989-10-31 00:00:00
Case Type:	Other ground water affected
Cross Street:	Not reported
Enf Type:	F
Funding:	Not reported
How Discovered:	Tank Closure
How Stopped:	Not reported
Leak Cause:	Structure Failure
Leak Source:	Tank
Global Id:	T0600100503
Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Max MTBE GW ppb:	Not reported
Max MTBE Soil ppb:	Not reported
County:	01
Org Name:	Not reported
Reg Board:	San Francisco Bay Region
Contact Person:	Not reported

EKC TECHNOLOGY (Continued) **S108241933**

Responsible Party: BLANK RP
RP Address: Not reported
Interim: No
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 0
MTBE Tested: Not Required to be Tested.
Staff: Not reported
Staff Initials: DMG
Lead Agency: Local Agency
Local Agency: 01003
Hydr Basin #: Alameda East Bay (2-
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Operator: Not reported
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: INVESTIGATIVE REPORT DUE MID-NOV. 89 RELATED TO SMS# 01S0514. LISTED IN SMS AS 01SO514. CLOSED IN SMS ON 10/98 WITH A NFA LETTER. SWRCB ISSUES LOC (01/18/01).

J36 **EKC TECHNOLOGY INC.** **FINDS** **1000133514**
SW **1739 SABRE STREET** **HAZNET** **CAD068845163**
1/4-1/2 **HAYWARD, CA 94545** **LUST**
0.466 mi. **Cortese**
2462 ft. **Site 3 of 3 in cluster J** **SLIC**
CA FID UST
Relative: **HIST UST**
Lower **SWEEPS UST**
RCRA-NonGen

Actual:
21 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:
Gepaid: CAC002561737
Contact: VINCE PALM
Telephone: 5107320100
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 2368 W WINTON AVE
Mailing City,St,Zip: HAYWARD, CA 94545
Gen County: Alameda
TSD EPA ID: CAL000153023

EKC TECHNOLOGY INC. (Continued) **1000133514**

TSD County: Alameda
Waste Category: Asbestos-containing waste
Disposal Method: Disposal, Land Fill
Tons: 4.21
Facility County: 1

LUST:
Region: 2
Facility Id: 01-0550
Facility Status: Case Closed
Case Number: 01-0550
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 10/31/1989
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Cortese:
Region: CORTESE
Facility Addr2: 1739 SABRE ST

SLIC:
Region: STATE
Global Id: SL20249867
Assigned Name: SLICSITE
Lead Agency Contact: SAN FRANCSICO BAY RWQCB
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number: 01S0514
Responsible Party: Not reported
Recent DTW: Not reported
Substance Released: Not reported
Facility Status: Not reported

SLIC:
Region: 2
Facility ID: 01S0514
Facility Status: Not reported
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

EKC TECHNOLOGY INC. (Continued) **1000133514**

CA FID UST:
Facility ID: 01000679
Regulated By: UTNKI
Regulated ID: 00000847
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 4157839123
Mail To: Not reported
Mailing Address: 1739 SABRE ST
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94545
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

HIST UST:
Region: STATE
Facility ID: 00000000847
Facility Type: Other
Other Type: CHEMICAL BLENDING
Total Tanks: 0000
Contact Name: JACK PAGENDARM
Telephone: 4157839123
Owner Name: MOE ENTERPRISES
Owner Address: 1739 SABRE STREET
Owner City,St,Zip: HAYWARD, CA 94545

Tank Num: 001
Container Num: 4A
Year Installed: 1983
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 1/4 inches
Leak Detection: Visual, Groundwater Monitoring Well

Tank Num: 002
Container Num: 4B
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 1/4 inches
Leak Detection: Groundwater Monitoring Well

SWEEPS UST:
Status: Not reported
Comp Number: 847
Number: Not reported
Board Of Equalization: 44-000783
Ref Date: Not reported
Act Date: Not reported

EKC TECHNOLOGY INC. (Continued) **1000133514**

Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-000847-000001
Actv Date:	Not reported
Capacity:	10000
Tank Use:	UNKNOWN
Stg:	PRODUCT
Content:	Not reported
Number Of Tanks:	2

Status:	Not reported
Comp Number:	847
Number:	Not reported
Board Of Equalization:	44-000783
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-000847-000002
Actv Date:	Not reported
Capacity:	10000
Tank Use:	UNKNOWN
Stg:	PRODUCT
Content:	Not reported
Number Of Tanks:	Not reported

RCRA-NonGen:

Date form received by agency:	10/21/1980
Facility name:	EKC TECHNOLOGY INC.
Facility address:	1739 SABRE STREET HAYWARD, CA 94545
EPA ID:	CAD068845163
Mailing address:	PO BOX 3703 HAYWARD, CA 94540
Contact:	ENVIRONMENTAL MANAGER
Contact address:	1739 SABRE STREET HAYWARD, CA 94545
Contact country:	US
Contact telephone:	(415) 783-9123
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	MOE ENTERPRISES
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

EKC TECHNOLOGY INC. (Continued) **1000133514**

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

37
WSW
1/4-1/2
0.498 mi.
2630 ft.

HIGH VACUUM APPARATUS MFG INC **RCRA-SQG 1000238686**
1763 SABRE ST **FINDS CAD982020364**
HAYWARD, CA 94545 **HAZNET**
Cortese

Relative:
Lower

Actual:
20 ft.

RCRA-SQG:
Date form received by agency: 08/03/1987
Facility name: HIGH VACUUM APPARATUS MFG INC
Facility address: 1763 SABRE ST
HAYWARD, CA 94545
EPA ID: CAD982020364
Mailing address: PO BOX 4764
HAYWARD, CA 94540
Contact: ENVIRONMENTAL MANAGER
Contact address: 1763 SABRE ST
HAYWARD, CA 94545
Contact country: US
Contact telephone: (415) 852-2744
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

HIGH VACUUM APPARATUS MFG INC (Continued) **1000238686**

Owner/Operator Summary:

Owner/operator name:	ARTHUR J BRENES
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HIGH VACUUM APPARATUS MFG INC (Continued) **1000238686**

HAZNET:

Gepaid:	CAD982020364
Contact:	ARTHUR BRENES/CEO
Telephone:	5107852744
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 4764
Mailing City,St,Zip:	HAYWARD, CA 945404764
Gen County:	1
TSD EPA ID:	CAD009452657
TSD County:	San Mateo
Waste Category:	Waste oil and mixed oil
Disposal Method:	Disposal, Other
Tons:	.6880
Facility County:	1

Gepaid:	CAD982020364
Contact:	ARTHUR BRENES/CEO
Telephone:	5107852744
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 4764
Mailing City,St,Zip:	HAYWARD, CA 945404764
Gen County:	1
TSD EPA ID:	CAD053044053
TSD County:	1
Waste Category:	Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method:	Not reported
Tons:	.0000
Facility County:	1

Gepaid:	CAD982020364
Contact:	ARTHUR BRENES/CEO
Telephone:	5107852744
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 4764
Mailing City,St,Zip:	HAYWARD, CA 945404764
Gen County:	1
TSD EPA ID:	CAD009452657
TSD County:	San Mateo
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Tons:	3.4610
Facility County:	1

Gepaid:	CAD982020364
Contact:	ARTHUR BRENES/CEO
Telephone:	5107852744
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 4764
Mailing City,St,Zip:	HAYWARD, CA 945404764
Gen County:	1
TSD EPA ID:	CAD009452657
TSD County:	San Mateo
Waste Category:	Unspecified oil-containing waste

HIGH VACUUM APPARATUS MFG INC (Continued) **1000238686**

Disposal Method: Recycler
Tons: 3.8988
Facility County: 1

Gepaid: CAD982020364
Contact: ARTHUR BRENES/CEO
Telephone: 5107852744
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 4764
Mailing City,St,Zip: HAYWARD, CA 945404764
Gen County: 1
TSD EPA ID: CAD009452657
TSD County: San Mateo
Waste Category: Not reported
Disposal Method: Recycler
Tons: .2000
Facility County: 1

Click this hyperlink while viewing on your computer to access
13 additional CA_HAZNET: record(s) in the EDR Site Report.

Cortese:
Region: CORTESE
Facility Addr2: Not reported

38
South
1/2-1
0.505 mi.
2669 ft.

Relative:
Higher

Actual:
33 ft.

USANG CA HAYWARD BASE **CERCLIS** **1000435174**
1525 WEST WINTON AVE **RCRA-SQG** **CA3572890140**
HAYWARD, CA 94545 **FINDS**
HAZNET
RESPONSE
CA FID UST
HIST UST
SWEEPS UST
ENVIROSTOR
HIST Cal-Sites

CERCLIS:
Site ID: 0900140
Federal Facility: Federal Facility
NPL Status: Not on the NPL
Non NPL Status: Fed Fac Site Inspection Review Start Needed

CERCLIS Site Contact Name(s):
Contact Name: Philip Armstrong
Contact Tel: (415) 972-3098
Contact Title: Site Assessment Manager (SAM)

Contact Name: Dawn Richmond
Contact Tel: (415) 972-3097
Contact Title: Site Assessment Manager (SAM)

Contact Name: Karen Jurist
Contact Tel: (415) 972-3219
Contact Title: Site Assessment Manager (SAM)

Contact Name: Jeff Inglis

USANG CA HAYWARD BASE (Continued) **1000435174**

Contact Tel: (415) 972-3095
Contact Title: Site Assessment Manager (SAM)

CERCLIS Site Alias Name(s):
Alias Name: HAYWARD AIR NATIONAL GUARD BASE
Alias Address: 1525 WEST WINTON AVE
HAYWARD, CA 92032
Site Description: Not reported

CERCLIS Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 08/01/1987
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 03/29/1994
Priority Level: Low priority for further assessment

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: USANG CA HAYWARD BASE
Facility address: 1525 WEST WINTON AVE
HAYWARD, CA 94545
EPA ID: CA3572890140
Mailing address: 162 CISG/DEM THIRD THOUSAND NI
NORTH HIGHLANDS, CA 95660
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Federal
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: CALIFORNIA AIR NATIONAL GUARD, DFNC DEPT
Owner/operator address: NOT REQUIRED

USANG CA HAYWARD BASE (Continued) **1000435174**

NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Federal
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Historical Generators:
Date form received by agency: 07/20/1990
Facility name: USANG CA HAYWARD BASE
Site name: HAYWARD AIR NATIONAL GUARD BASE
Classification: Large Quantity Generator

Date form received by agency: 05/02/1986
Facility name: USANG CA HAYWARD BASE
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

California - Hazardous Waste Tracking System - Datamart

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

USANG CA HAYWARD BASE (Continued) **1000435174**

HAZNET:

Gepaid:	CA3572890140
Contact:	Not reported
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1525 WEST WINTON AVENUE BLDG 1
Mailing City,St,Zip:	HAYWARD, CA 945455707
Gen County:	1
TSD EPA ID:	CAD980887418
TSD County:	1
Waste Category:	Waste oil and mixed oil
Disposal Method:	Not reported
Tons:	3.2317
Facility County:	1

Gepaid:	CA3572890140
Contact:	Not reported
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1525 WEST WINTON AVENUE BLDG 1
Mailing City,St,Zip:	HAYWARD, CA 945455707
Gen County:	1
TSD EPA ID:	CAD980883177
TSD County:	Kern
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Tons:	1.8765
Facility County:	1

Gepaid:	CA3572890140
Contact:	Not reported
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1525 WEST WINTON AVENUE BLDG 1
Mailing City,St,Zip:	HAYWARD, CA 945455707
Gen County:	1
TSD EPA ID:	CAT000646117
TSD County:	Kings
Waste Category:	Other empty containers 30 gallons or more
Disposal Method:	Disposal, Land Fill
Tons:	3.7500
Facility County:	1

Gepaid:	CA3572890140
Contact:	Not reported
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1525 WEST WINTON AVENUE BLDG 1
Mailing City,St,Zip:	HAYWARD, CA 945455707
Gen County:	1
TSD EPA ID:	CAT000613950
TSD County:	Sacramento
Waste Category:	Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)

USANG CA HAYWARD BASE (Continued) **1000435174**

Disposal Method: Transfer Station
Tons: .0560
Facility County: 1

Gepaid: CA3572890140
Contact: Not reported
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 1525 WEST WINTON AVENUE BLDG 1
Mailing City,St,Zip: HAYWARD, CA 945455707
Gen County: 1
TSD EPA ID: TND000614321
TSD County: 99
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Not reported
Tons: .1125
Facility County: 1

Click this hyperlink while viewing on your computer to access
90 additional CA_HAZNET: record(s) in the EDR Site Report.

AWP:
AWP Facility ID: 01970009
Region Code: 1
Region: SACRAMENTO
SMBR Branch Code: NO
SMBR Branch Unit: OMF-NORTHERN CALIF
Site Name.: HAYWARD AIR NATIONAL GUARD
Current Status Date: 08171995
Current Status: ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency Code: DTSC
Lead Agency: DEPT OF TOXIC SUBSTANCES CONTROL
Facility Type: Open military facility
Awp Site Type: OPEN MILITARY BASE
NPL: Not Listed
Tier Of AWP Site: Not reported
Source Of Funding: Not reported
Responsible Staff Member: LMCMAHA1
Supervisor Responsible: Not reported
SIC Code: 97
Facility SIC: NATIONAL SECURITY/INTERNATIONAL AFFAIRS
RWQCB Code: SF
RWQCB Associated With Site: SAN FRANCISCO BAY
Site Access Controlled: Controlled
Site Listed HWS List: Not reported
Hazard Ranking Score: Not reported
Date Site Hazard Ranked: Not reported
Groundwater Contamination: Confirmed
Of Contamination Sources: 0
Lat/Long: Not reported
Lat/Long (dms): 0 0 0 / 0 0 0
Lat/long Method: Not reported
Description Of Entity: Not reported
State Assembly Distt Code: 18
State Senate District: 10

USANG CA HAYWARD BASE (Continued) **1000435174**

RESPONSE:

Facility ID:	01970009
Site Type:	State Response
Site Type Detail:	Open Base
Acres:	27
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Sit
Project Manager:	LANCE MCMAHAN
Supervisor:	Donn Diebert
Division Branch:	Sacramento
Site Code:	200588
Assembly:	18
Senate:	10
Special Program Status:	Not reported
Status:	Active
Status Date:	2005-12-19 00:00:00
Restricted Use:	NO
Funding:	DERA
Latitude:	37.6547880843263
Longitude:	-122.122095766908
Alias Name:	HAYWARD AIR TERMINAL
Alias Type:	Alternate Name
Alias Name:	16924
Alias Type:	RB-PCA
Alias Name:	200588
Alias Type:	Project Code (Site Code)
Alias Name:	01970009
Alias Type:	Envirostor ID Number
Alias Name:	HAYWARD AIR NATIONAL
Alias Type:	Alternate Name
Alias Name:	110033613819
Alias Type:	EPA (FRS #)
APN:	NONE SPECIFIED
APN Description:	Not reported
Comments:	Air National Guard stated they would provide the additional detail in future documents.The Regional Water Quality Control Board sent an e-mail indicating the final Corrective Action Plan was acceptable.DTSC approved the CIP by signature on the cover page.

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Baseline Survey
Completed Date:	2004-09-17 00:00:00
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Public Participation Plan / Community Relations Plan
Completed Date:	2005-01-24 00:00:00
Completed Area Name:	Former UST Sites
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspection Work Plan
Completed Date:	2005-01-27 00:00:00

USANG CA HAYWARD BASE (Continued) **1000435174**

Confirmed:	30018,30026-NO
Confirmed Description:	Polychlori
Confirmed Description:	Not reported
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Remedial Action Plan
Future Due Date:	2009
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Remedial Investigation / Feasibility Study
Future Due Date:	2007
Media Affected:	10076, 10196, 10009, 10093, 10198, 30018, 30026
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported

Management:

Management Required:	NONE SPECIFIED
Management Required Desc:	Not reported
Potential:	SOIL
Potenital Description:	Not reported
Schedule Area Name:	MULTIPLE SITES
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Removal Action Completion Report
Schedule Due Date:	2005-07-23 00:00:00
Schedule Revised Date:	2009-12-22 00:00:00
Schedule Area Name:	Former UST Sites
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Site Inspection Report
Schedule Due Date:	2006-01-27 00:00:00
Schedule Revised Date:	Not reported
PastUse:	ELECTRIC GENERATION/SUBSTATION

CA FID UST:

Facility ID:	01000394
Regulated By:	UTNKA
Regulated ID:	00007560
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	9169272461
Mail To:	Not reported
Mailing Address:	162CIV ENGIN 3900 RO RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	HAYWARD 945451386
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

USANG CA HAYWARD BASE (Continued) **1000435174**

HIST UST:
Region: STATE
Facility ID: 00000007560
Facility Type: Other
Other Type: AIR NATIONAL GUARD
Total Tanks: 0011
Contact Name: LT COL DONALD W STRAUCH
Telephone: 9169272461
Owner Name: CALIFORNIA AIR NATIONAL GUARD
Owner Address: PO BOX 214405
Owner City,St,Zip: SACRAMENTO, CA 958210404

Tank Num: 001
Container Num: HW00101-01
Year Installed: 1949
Tank Capacity: 00025000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

Tank Num: 002
Container Num: HW00101-02
Year Installed: 1949
Tank Capacity: 00025000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

Tank Num: 003
Container Num: HW00101-03
Year Installed: 1949
Tank Capacity: 00025000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

Tank Num: 004
Container Num: HW00110---
Year Installed: 1951
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

Tank Num: 005
Container Num: HW00116---
Year Installed: 1981
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

USANG CA HAYWARD BASE (Continued) **1000435174**

Tank Num: 006
Container Num: HW00115-02
Year Installed: 1965
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

Tank Num: 007
Container Num: HW00115-01
Year Installed: 1965
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

Tank Num: 008
Container Num: HW00212---
Year Installed: Not reported
Tank Capacity: 00001500
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: Visual

Tank Num: 009
Container Num: HW00213---
Year Installed: Not reported
Tank Capacity: 00001500
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: Visual

Tank Num: 010
Container Num: HW00214---
Year Installed: Not reported
Tank Capacity: 00000750
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: Visual

Tank Num: 011
Container Num: HW00114---
Year Installed: 1949
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

SWEEPS UST:
Status: A
Comp Number: 7560

USANG CA HAYWARD BASE (Continued) **1000435174**

Number:	7
Board Of Equalization:	Not reported
Ref Date:	07-08-93
Act Date:	03-24-94
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	HW00116
Swrcb Tank Id:	01-003-007560-000005
Actv Date:	04-07-93
Capacity:	6000
Tank Use:	M.V. FUEL
Stg:	P
Content:	DIESEL
Number Of Tanks:	1

Status:	Not reported
Comp Number:	7560
Number:	Not reported
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-007560-000001
Actv Date:	Not reported
Capacity:	20000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	JET FUEL
Number Of Tanks:	7

Status:	Not reported
Comp Number:	7560
Number:	Not reported
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	01-003-007560-000002
Actv Date:	Not reported
Capacity:	20000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	JET FUEL
Number Of Tanks:	Not reported

Status:	Not reported
Comp Number:	7560
Number:	Not reported
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported

USANG CA HAYWARD BASE (Continued) **1000435174**

Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-007560-000003
Actv Date: Not reported
Capacity: 20000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: JET FUEL
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 7560
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-007560-000004
Actv Date: Not reported
Capacity: 5000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: LEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 7560
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-007560-000006
Actv Date: Not reported
Capacity: 2000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 7560
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-007560-000007
Actv Date: Not reported
Capacity: 2000
Tank Use: M.V. FUEL
Stg: PRODUCT

USANG CA HAYWARD BASE (Continued) **1000435174**

Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 7560
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 01-003-007560-000008
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: DIESEL
Number Of Tanks: Not reported

ENVIROSTOR:
Site Type: State Response
Site Type Detailed: Open Base
Acres: 27
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: LANCE MCMAHAN
Supervisor: Donn Diebert
Division Branch: Sacramento
Facility ID: 01970009
Site Code: 200588
Assembly: 18
Senate: 10
Special Program: Not reported
Status: Active
Status Date: 2005-12-19 00:00:00
Restricted Use: NO
Funding: DERA
Latitude: 37.6547880843263
Longitude: -122.122095766908
Alias Name: HAYWARD AIR TERMINAL
Alias Type: Alternate Name
Alias Name: 16924
Alias Type: RB-PCA
Alias Name: 200588
Alias Type: Project Code (Site Code)
Alias Name: 01970009
Alias Type: Envirostor ID Number
Alias Name: HAYWARD AIR NATIONAL
Alias Type: Alternate Name
Alias Name: 110033613819
Alias Type: EPA (FRS #)

APN: NONE SPECIFIED
APN Description: Not reported
Comments: Air National Guard stated they would provide the additional detail in

USANG CA HAYWARD BASE (Continued) **1000435174**

future documents.The Regional Water Quality Control Board sent an e-mail indicating the final Corrective Action Plan was acceptable.DTSC approved the CIP by signature on the cover page.

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Baseline Survey
Completed Date:	2004-09-17 00:00:00
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Public Participation Plan / Community Relations Plan
Completed Date:	2005-01-24 00:00:00
Completed Area Name:	Former UST Sites
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspection Work Plan
Completed Date:	2005-01-27 00:00:00
Confirmed:	30018,30026-NO
Confirmed Description:	Polychlori
Confirmed Description:	Not reported
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Remedial Action Plan
Future Due Date:	2009
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Remedial Investigation / Feasibility Study
Future Due Date:	2007
Media Affected:	10076, 10196, 10009, 10093, 10198, 30018, 30026
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported
Media Affected Desc:	Not reported

Management:

Management Required:	NONE SPECIFIED
Management Required Desc:	Not reported
Potential:	SOIL
Potenital Description:	Not reported
Schedule Area Name:	MULTIPLE SITES
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Removal Action Completion Report
Schedule Due Date:	2005-07-23 00:00:00
Schedule Revised Date:	2009-12-22 00:00:00
Schedule Area Name:	Former UST Sites
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Site Inspection Report
Schedule Due Date:	2006-01-27 00:00:00
Schedule Revised Date:	Not reported
PastUse:	ELECTRIC GENERATION/SUBSTATION

USANG CA HAYWARD BASE (Continued) **1000435174**

HISTORICAL CAL-SITES:

Facility ID:	01970009
Region:	1
Region Name:	SACRAMENTO
Branch:	NO
Branch Name:	OMF-NORTHERN CALIF
File Name:	HAYWARD AIR NATIONAL GUARD
State Senate District:	08171995
Status:	AWP - ANNUAL WORKPLAN (AWP) - ACTIVE SITE
Status Name:	ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency:	DTSC
Lead Agency:	DEPT OF TOXIC SUBSTANCES CONTROL
Facility Type:	OPEN
Type Name:	OPEN MILITARY BASE
NPL:	Not Listed
SIC Code:	97
SIC Name:	NATIONAL SECURITY/INTERNATIONAL AFFAIRS
Access:	Controlled
Cortese:	Not reported
Hazardous Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Confirmed
Staff Member Responsible for Site:	LMCMAHA1
Supervisor Responsible for Site:	Not reported
Region Water Control Board:	SF
Region Water Control Board Name:	SAN FRANCISCO BAY
Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	Not reported
State Assembly District Code:	18
State Senate District Code:	10
Facility ID:	Not reported
Activity:	Not reported
Activity Name:	Not reported
AWP Code:	Not reported
Proposed Budget:	Not reported
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	Not reported
Est Person-Yrs to complete:	Not reported
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	Not reported
Definition of Status:	Not reported
Liquids Removed (Gals):	Not reported
Liquids Treated (Gals):	Not reported
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	Not reported
For Industrial Reuse:	Not reported
For Residential Reuse:	Not reported
Unknown Type:	Not reported
Alternate Address:	1525 WEST WINSTON AVE

USANG CA HAYWARD BASE (Continued) **1000435174**

Alternate City,St,Zip: HAYWARD, CA 94545
Alternate Address: 1525 WEST WINTON AVENUE
Alternate City,St,Zip: HAYWARD, CA 94545
Background Info: *** SITE SPECIFIC DESCRIPTION *** Hayward Air National Guard St ation (HANGS) is located on a portion of the former Hayward Army Airfield (HAA). The HAA came into operation in the early 1940s, w ith the entry of the United States into World War II. The HANGS c onsists of numerous buildings that house office, vehicles, and eq uipment. The areas surrounding the buildings generally consist of paved parking and unimproved land. Activities resulting in the g eneration of hazardous materials at HANGS have included maintenan ce of air- craft, vehicles, and aerospace ground equipment, activ ities related to the application of pesticides, leaks from electr ical equipment, and non-destructive inspection testing. *** OPE RABLE UNIT/SITE DESCRIPTIONS *** IRP04 - Leaking Vehicle Mainte nance Underground Storage Tank (UST); COCs: metals, pesti cides, TPH, PCBs, dioxins/furans, SVOCs, VOCs. IRP05 - Abandoned Jet Fuel USTs; COCs: metals, pesticides, TPH, P CBs, dioxins/furans, SVOCs, VOCs. IRP06 - Area D - Former Aircr aft Wash Rack; COCs: metals, pesticides, TPH, PCBs, dioxi ns/furans, SVOCs, VOCs. IRP07 - Area E - Former Aircraft Parkin g Apron; COCs: TPH, SVOCs. IRP08 - Area F - Former Petroleum, O il, and Lubricants facility; COCs: TPH, SVOCs. IRP09 - Area G - Equipment Maintenance Area; COCs: metals, TPH, SVOCs. AREAH - Area H - Southwest Corner of Station;COCs: metals, pesticides, TPH, PCBs, SVOCs. AREAI - West Side of Hangar; CO Cs: TPH, PCBs. IRP10 - Area J - Former Transformer Location J; COCs: TPH, PCBs. IRP11 - Area K - Former Transformer Location K ; COCs: TPH, PCBs. AREAL - Area L - Former Transformer Location L; COCs: TPH, PCBs. AREAM - Area M - Former Transformer Locati on M; COCs: TPH, PCBs. AREAN - Area N - Former Transformer Loca tion N; COCs: TPH, PCBs. SD - Storm Drains; COCs, metals, SV OCs. *** COMMITMENT DESCRIPTION *** BASWD - Basewide activity means it covers the area currently under control of Hayward Air National Guard.
Comments Date: 01242005
Comments: DTSC approved the CIP by signature on the cover page.
ID Name: Not reported
ID Value: Not reported
Alternate Name: HAYWARD AIR TERMINALHAYWARD AIR NATIONAL GUARDHayward ANGS, Hayward CA
Special Programs Code: DSMOA
Special Programs Name: DEFENSE MEMORANDUM OF AGREEMENT

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39 **LAVISTA LLC** **DEED** **S107736598**
SSE **22958 SAKLAN ROAD** **VCP** **N/A**
1/2-1 **HAYWARD, CA 94545** **ENVIROSTOR**
0.635 mi.
3354 ft.

Relative:
Higher

Actual:
41 ft.

DEED:
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: VOLUNTARY CLEANUP
Status: CERTIFIED / OPERATION & MAINTENANCE
Deed Date(s): 8/25/2006

VCP:

LAVISTA LLC (Continued) **S107736598**

Facility ID:	70000173
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Acres:	3.34
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Sit
Project Manager:	JANET NAITO
Supervisor:	Barbara Cook
Division Branch:	Berkeley
Site Code:	201610-11
Assembly:	18
Senate:	10
Special Programs Code:	CLRRA Liability Immunity (AB 389)
Status:	Certified / Operation & Maintenance
Status Date:	2006-08-25 00:00:00
Restricted Use:	YES
Funding:	Responsible Party
Lat/Long:	37.6522 / -122.1185
Alias Name:	201610-11
Alias Type:	Project Code (Site Code)
Alias Name:	441-0003-012
Alias Type:	APN
Alias Name:	441-003-015
Alias Type:	APN
Alias Name:	441-0003-014
Alias Type:	APN
Alias Name:	441-0003-013
Alias Type:	APN
Alias Name:	110033607639
Alias Type:	EPA (FRS #)
Alias Name:	70000173
Alias Type:	Envirostor ID Number
Alias Name:	De Silva Property
Alias Type:	Alternate Name
Alias Name:	De Silva Site
Alias Type:	Alternate Name
Alias Name:	Kroger Foods
Alias Type:	Alternate Name
APN:	441-0003-012, 441-003-015, 441-0003-014, 441-0003-013
APN Description:	Not reported
APN Description:	Not reported
APN Description:	Not reported
APN Description:	Not reported
Comments:	Workplan accepted with modifications.Site visit conducted to view wells damaged as part of ongoing construction activities associated with the Site well. Wells to be repaired/replaced next year once redevelopment activities should no longer impact well areas.O&M Plan accepted and attached to the O&M Agreement.Response Plan reporting form required by statute.No significant comments; damaged well to be repaired prior to next sampling event.DTSC concurred that existing groundwater monitoring network is sufficient to monitor any residual contamination detected in the groundwater underlying the UST area and that no additional action is required.Report acceptable.Report approved. Top of casing elevations have been modified to accomodate

LAVISTA LLC (Continued) **S107736598**

redevelopment of the Site. Therefore, wells must be resurveyed.No problems noted; results similar to previous sampling results.MW-1, MW-3 and MW-4 have been damaged and need to be replaced. MW-2 and MW-5 are intact and will be sampled in December 2007. They will measure the depth to the bottom of the MW-2 and MW-5 to ensure that they were not impacted by ongoing redevelopDocument approved.Soil excavation and confirmation sampling activities completed.DTSC approved Response Plan requiring removal of approximately 800 cubic yards of soil. Soil containing diesel and motor oil at concentrations above site cleanup goals will be excavated and disposed offsite to protect the groundwater. Soil containiReport documents work done in the past quarter. However, wells have not been resurveyed so that there may be errors in the potentiometric surface maps.ng tetrachloroethene and 1,4-dioxane in soil gas at concentrations above site cleanup goals will be excavated and disposed offsite to protect the indoor air of future residents. The excavated soil will be transported to a licensed disposal facilityment activities at the Site. The well casing in MW-2 appears to have been lowered. However, the top of casing has been resurveyed. Final grade should be achieved (barring significant rain) along North Lane and the curbs and gutters installed by t. A land use restriction will be recorded to prevent future use of the shallow groundwater containing low levels of volatile organic compounds until drinking water standards are achieved.he end of December 2007. Because the majority of redevelopment work affecting the soil at the Site should be completed by the end of December 2007, the damaged wells shall be replaced in early January 2007 to minimize the potential for subsequent damage to the wells.

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: California Land Reuse and Revitalization Agreement
Completed Date: 2005-12-21 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 2006-06-06 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 2006-08-25 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Deed Restriction / Land Use Covenant
Completed Date: 2006-08-25 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 2006-08-25 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: California Land Reuse and Revitalization Agreement

LAVISTA LLC (Continued) **S107736598**

Completed Date: 2006-12-14 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: California Land Reuse and Revitalization Agreement
Completed Date: 2006-12-14 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: DEED/LUC Site Inspection/Visit
Completed Date: 2007-11-19 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: AB 389 Response Plan
Completed Date: 2006-06-06 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 2006-07-11 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 2006-05-02 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 2006-02-03 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 2006-08-25 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Manual
Completed Date: 2006-08-24 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 2006-04-24 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 2006-08-23 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 2006-11-21 00:00:00

LAVISTA LLC (Continued) **S107736598**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 2007-08-27 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 2007-02-14 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 2007-08-27 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 2007-10-01 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 2007-11-20 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 2008-04-10 00:00:00

Confirmed: 30022-NO,30024-NO,30246-NO,3002502-NO
Confirmed Description: Not reported
Confirmed Description: Not reported
Confirmed Description: Not reported
Confirmed Description: Not reported
Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Media Affected: 30022, 30024, 3002502, 30246
Media Affected Desc: Not reported
Media Affected Desc: Not reported
Media Affected Desc: Not reported
Media Affected Desc: Not reported

Management:
Management Required: REM, LUC, EXT
Management Required Desc: Activities
Management Required Desc: Land Use c
Management Required Desc: Only extra
Potential: SOIL, SV
Potenital Description: Not reported
Potenital Description: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

LAVISTA LLC (Continued) **S107736598**

PastUse: MANUFACTURING - OTHER

ENVIROSTOR:
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 3.34
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: JANET NAITO
Supervisor: Barbara Cook
Division Branch: Berkeley
Facility ID: 70000173
Site Code: 201610-11
Assembly: 18
Senate: 10
Special Program: CLRRA Liability Immunity (AB 389)
Status: Certified / Operation & Maintenance
Status Date: 2006-08-25 00:00:00
Restricted Use: YES
Funding: Responsible Party
Latitude: 37.6522
Longitude: -122.1185
Alias Name: 201610-11
Alias Type: Project Code (Site Code)
Alias Name: 441-0003-012
Alias Type: APN
Alias Name: 441-003-015
Alias Type: APN
Alias Name: 441-0003-014
Alias Type: APN
Alias Name: 441-0003-013
Alias Type: APN
Alias Name: 110033607639
Alias Type: EPA (FRS #)
Alias Name: 70000173
Alias Type: Envirostor ID Number
Alias Name: De Silva Property
Alias Type: Alternate Name
Alias Name: De Silva Site
Alias Type: Alternate Name
Alias Name: Kroger Foods
Alias Type: Alternate Name

APN: 441-0003-012, 441-003-015, 441-0003-014, 441-0003-013
APN Description: Not reported
APN Description: Not reported
APN Description: Not reported
APN Description: Not reported
Comments: Workplan accepted with modifications.Site visit conducted to view wells damaged as part of ongoing construction activities associated with the Site well. Wells to be repaired/replaced next year once redevelopment activities should no longer impact well areas.O&M Plan accepted and attached to the O&M Agreement.Response Plan reporting form required by statute.No significant comments; damaged well to be repaired prior to next sampling event.DTSC concurred that existing groundwater monitoring network is sufficient to monitor any residual

LAVISTA LLC (Continued) **S107736598**

contamination detected in the groundwater underlying the UST area and that no additional action is required.Report acceptable.Report approved. Top of casing elevations have been modified to accomodate redevelopment of the Site. Therefore, wells must be resurveyed.No problems noted; results similar to previous sampling results.MW-1, MW-3 and MW-4 have been damaged and need to be replaced. MW-2 and MW-5 are intact and will be sampled in December 2007. They will measure the depth to the bottom of the MW-2 and MW-5 to ensure that they were not impacted by ongoing redevelopDocument approved.Soil excavation and confirmation sampling activities completed.DTSC approved Response Plan requiring removal of approximately 800 cubic yards of soil. Soil containing diesel and motor oil at concentrations above site cleanup goals will be excavated and disposed offsite to protect the groundwater. Soil containiReport documents work done in the past quarter. However, wells have not been resurveyed so that there may be errors in the potentiometric surface maps.ng tetrachloroethene and 1,4-dioxane in soil gas at concentrations above site cleanup goals will be excavated and disposed offsite to protect the indoor air of future residents. The excavated soil will be transported to a licensed disposal facilityment activities at the Site. The well casing in MW-2 appears to have been lowered. However, the top of casing has been resurveyed. Final grade should be achieved (barring significant rain) along North Lane and the curbs and gutters installed by t. A land use restriction will be recorded to prevent future use of the shallow groundwater containing low levels of volatile organic compounds until drinking water standards are achieved.he end of December 2007. Because the majority of redevelopment work affecting the soil at the Site should be completed by the end of December 2007, the damaged wells shall be replaced in early January 2007 to minimize the potential for subsequent damage to the wells.

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	California Land Reuse and Revitalization Agreement
Completed Date:	2005-12-21 00:00:00

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Notice of Exemption
Completed Date:	2006-06-06 00:00:00

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	2006-08-25 00:00:00

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Deed Restriction / Land Use Covenant
Completed Date:	2006-08-25 00:00:00

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Operation & Maintenance Order/Agreement
Completed Date:	2006-08-25 00:00:00

LAVISTA LLC (Continued) **S107736598**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: California Land Reuse and Revitalization Agreement
Completed Date: 2006-12-14 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: California Land Reuse and Revitalization Agreement
Completed Date: 2006-12-14 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: DEED/LUC Site Inspection/Visit
Completed Date: 2007-11-19 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: AB 389 Response Plan
Completed Date: 2006-06-06 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 2006-07-11 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 2006-05-02 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 2006-02-03 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 2006-08-25 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Manual
Completed Date: 2006-08-24 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 2006-04-24 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 2006-08-23 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

LAVISTA LLC (Continued) **S107736598**

Completed Document Type: Operations and Maintenance Report
Completed Date: 2006-11-21 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 2007-08-27 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 2007-02-14 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 2007-08-27 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 2007-10-01 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 2007-11-20 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 2008-04-10 00:00:00

Confirmed: 30022-NO,30024-NO,30246-NO,3002502-NO
Confirmed Description: Not reported
Confirmed Description: Not reported
Confirmed Description: Not reported
Confirmed Description: Not reported
Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Media Affected: 30022, 30024, 3002502, 30246
Media Affected Desc: Not reported
Media Affected Desc: Not reported
Media Affected Desc: Not reported
Media Affected Desc: Not reported

Management:
Management Required: REM, LUC, EXT
Management Required Desc: Activities
Management Required Desc: Land Use c
Management Required Desc: Only extra
Potential: SOIL, SV
Potenital Description: Not reported
Potenital Description: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported

LAVISTA LLC (Continued) **S107736598**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported
PastUse: MANUFACTURING - OTHER

40
South
1/2-1
0.668 mi.
3527 ft.

CLERKS BUILDING MATERIALS **Notify 65** **S100178871**
23040 CLAWITER ROAD **N/A**
HAYWARD, CA 92508

Relative:
Higher

Actual:
36 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92508

41
WSW
1/2-1
0.698 mi.
3684 ft.

A C TRANSIT - HAYWARD TRAINING CENTER **ENVIROSTOR** **S102008223**
20234 MACK STREET **N/A**
HAYWARD, CA 94545

Relative:
Lower

Actual:
18 ft.

ENVIROSTOR:
Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Berkeley
Facility ID: 01410117
Site Code: Not reported
Assembly: 18
Senate: 10
Special Program: * CERC2
Status: Refer: RWQCB
Status Date: 1994-07-29 00:00:00
Restricted Use: NO
Funding: Not reported
Latitude: 37.6555555555556
Longitude: -122.144166666667
Alias Name: 01410117
Alias Type: Envirostor ID Number
Alias Name: MACK TRUCK'S ASSEMBL
Alias Type: Alternate Name

APN: NONE SPECIFIED
APN Description: Not reported
Comments: Not reported

Completed Info:
Completed Area Name: PROJECT WIDE

A C TRANSIT - HAYWARD TRAINING CENTER (Continued) **S102008223**

Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 1987-12-30 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 1987-06-19 00:00:00

Confirmed: NONE SPECIFIED
Confirmed Description: Not reported
Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Media Affected: 10003, 10009, 30013, 30357
Media Affected Desc: Not reported
Media Affected Desc: Not reported
Media Affected Desc: Not reported
Media Affected Desc: Not reported

Management:
Management Required: NONE SPECIFIED
Management Required Desc: Not reported
Potential: NONE SPECIFIED
Potenital Description: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported
PastUse: NONE SPECIFIED

42
SSE
1/2-1
0.901 mi.
4758 ft.

Relative:
Higher

Actual:
34 ft.

TRIDENT TRUCK LINE INC
23724 SAKLAN RD
HAYWARD, CA 94545

RCRA-SQG **1000187298**
FINDS **CAD982483877**
Cortese
CA FID UST
HIST UST
CS
ENVIROSTOR

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: TRIDENT TRUCK LINE INC
Facility address: 23724 SAKLAN RD
HAYWARD, CA 94545
EPA ID: CAD982483877
Mailing address: PO BOX 4030
HAYWARD, CA 94540
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous

TRIDENT TRUCK LINE INC (Continued) **1000187298**

waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	SENNA BOB
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Historical Generators:

Date form received by agency:	03/12/1990
Facility name:	TRIDENT TRUCK LINE INC
Classification:	Large Quantity Generator

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of

TRIDENT TRUCK LINE INC (Continued) **1000187298**

events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Cortese:
Region: CORTESE
Facility Addr2: 23724 SAKLAN RD

CA FID UST:
Facility ID: 01002040
Regulated By: UTNKA
Regulated ID: 00050254
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 4157832881
Mail To: Not reported
Mailing Address: P O BOX
Mailing Address 2: Not reported
Mailing City,St,Zip: HAYWARD 94545
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

HIST UST:
Region: STATE
Facility ID: 00000050254
Facility Type: Other
Other Type: TRUCK LINES
Total Tanks: 0002
Contact Name: MANUEL SENNA
Telephone: 4157832881
Owner Name: TRIDENT TRUCK LINE, INC.
Owner Address: 23724 SAKLAN ROAD
Owner City,St,Zip: HAYWARD, CA 94545

Tank Num: 001
Container Num: 1
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: Not reported
Leak Detection: None

Tank Num: 002
Container Num: 2
Year Installed: Not reported
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: REGULAR

TRIDENT TRUCK LINE INC (Continued) **1000187298**

Tank Construction: Not reported
Leak Detection: None

CS:
Status: Case Closed
Record Id: RO0002821
PE: 5602

ENVIROSTOR:
Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: RWQCB 2 - San Francisco Bay
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Berkeley
Facility ID: 01470002
Site Code: Not reported
Assembly: 18
Senate: 10
Special Program: Not reported
Status: Refer: RWQCB
Status Date: 1994-06-27 00:00:00
Restricted Use: NO
Funding: Not reported
Latitude: 37.6476008447071
Longitude: -122.117722406504
Alias Name: 01470002
Alias Type: Envirostor ID Number

APN: NONE SPECIFIED
APN Description: Not reported
Comments: Not reported

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 1990-05-01 00:00:00

Confirmed: NONE SPECIFIED
Confirmed Description: Not reported
Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Media Affected: 10196
Media Affected Desc: Not reported

Management:
Management Required: NONE SPECIFIED
Management Required Desc: Not reported
Potential: NONE SPECIFIED
Potenital Description: Not reported
Schedule Area Name: Not reported

TRIDENT TRUCK LINE INC (Continued) **1000187298**

Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported
PastUse: NONE SPECIFIED

43
South
1/2-1
0.974 mi.
5141 ft.

Relative:
Lower

Actual:
29 ft.

DOUBLE O2 **ENVIROSTOR** **S102008150**
2034 AMERICAN AVENUE **N/A**
HAYWARD, CA 94545

ENVIROSTOR:
Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: RWQCB 2 - San Francisco Bay
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Berkeley
Facility ID: 01200006
Site Code: Not reported
Assembly: 18
Senate: 10
Special Program: Not reported
Status: Refer: RWQCB
Status Date: 1993-07-29 00:00:00
Restricted Use: NO
Funding: Not reported
Latitude: 37.6463888888889
Longitude: -122.121388888889
Alias Name: 01200006
Alias Type: Envirostor ID Number
Alias Name: NATURAL PROTEIN PROD
Alias Type: Alternate Name

APN: NONE SPECIFIED
APN Description: Not reported
Comments: Not reported

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 1993-07-09 00:00:00

Confirmed: NONE SPECIFIED
Confirmed Description: Not reported
Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Media Affected: 10009, 10067
Media Affected Desc: Not reported
Media Affected Desc: Not reported

DOUBLE O2 (Continued) **S102008150**

Management:

Management Required:	NONE SPECIFIED
Management Required Desc:	Not reported
Potential:	NONE SPECIFIED
Potenital Description:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported
PastUse:	NONE SPECIFIED

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ALAMEDA	1008194360	SM / HAYWARD BRIDGE	SM / HAYWARD BRIDGE HWY 92	94545	RCRA-SQG
HAYWARD	1003879390	EDEN ROCK PROPS	3146, 3167 & 3191 CORPORATE PLACE	94541	CERC-NFRAP
HAYWARD	1003879275	ARDEN ROAD PROPERTY	ARDEN RD	94541	CERC-NFRAP
HAYWARD	93322554	BETWEEN HAYWARD AND SAN JOSE, MP 22.7	BETWEEN HAYWARD AND SAN JOSE, MP 22.7	94545	ERNS
HAYWARD	S107619765	CITY OF HAYWARD MARATHON PUMP STATION	19180 CABOT BLVD	94545	LUST
HAYWARD	S106895112	BURBANK E.S./HAYWARD JOINT USE PARK	SOUTHEAST CORNER BURBANK/C STREET	94541	SCH, ENVIROSTOR
HAYWARD	1003878524	BAY CITIES RUBBISH DSPL CO	FOOT OF W WINTON AVE	94541	CERC-NFRAP
HAYWARD	94397545	HAYWARD LANE	HAYWARD LANE		ERNS
HAYWARD	93319087	HAYWARD (UNKNOWN EXACT LOCATION)	HAYWARD (UNKNOWN EXACT LOCATION)		ERNS
HAYWARD	S108245936	CITY OF HAYWARD OLIVER PROPERTY	0 INDUSTRIAL WY / HESPERIAN	94545	SLIC
HAYWARD	S106784865	CITY OF HAYWARD OLIVER PROPERTY	0 INDUSTRIAL WY / HESPERIAN BLVD	94545	CS
HAYWARD	S106924575	CITY OF HAYWARD/FIRE STATION NO. 4	2783 LOYOLA AVE	94545	SWEEPS UST
HAYWARD	S106924573	CITY OF HAYWARD	MARATHON PUMP STATION 19101 CABOT BLVD	94545	SWEEPS UST
HAYWARD	91228897	MISSION & FREEWAY, HAYWARD	MISSION & FREEWAY, HAYWARD	94545	ERNS
HAYWARD	91228893	MISSION & FAIRWAY, HAYWARD	MISSION & FAIRWAY, HAYWARD	94545	ERNS
HAYWARD	8713547	NR:CORSAIR ST/HAYWARD CA	NR:CORSAIR ST/HAYWARD CA		ERNS
HAYWARD	S106927167	HAYWARD SISTERS HOSPITAL DBA	ST ROSE HOSPITAL 27200 CALAROGA AVE	94545	SWEEPS UST
HAYWARD	S104573181	CITY OF HAYWARD	SKYWEST RD NEXT TO HAYWARD AP CONTRL TWR	94545	HAZNET
HAYWARD	U001596980	ESCO AVIATION	21889A SKYWEST DR	94541	HIST UST
HAYWARD	U004108909	COH - SKYWEST PUMP STATION	24488 SKYWEST DRIVE	94541	UST
HAYWARD	94400581	SOUTHERN PACIFIC HAYWARD LINE, COAST SUBDIVISION, ROSEVILLE	SOUTHERN PACIFIC HAYWARD LINE, COAST SUBDIVISION, ROSEVILLE		ERNS
HAYWARD	S106234887	AMERICAN STORES - HAYWARD	A ST B ST MISSION BLVD		SLIC
HAYWARD	S104572617	NORTH HAYWARD CORP CENTER ASSOC	209 6TH ST - 209 8TH ST-CABOT ST		HAZNET
HAYWARD	S103890516	FAA HAYWARD ATCT	UNKNOWN AIR TERMINAL	94545	Cortese

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 08/13/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/30/2008
Date Data Arrived at EDR: 05/06/2008
Date Made Active in Reports: 06/09/2008
Number of Days to Update: 34

Source: EPA
Telephone: N/A
Last EDR Contact: 08/27/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 08/14/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 34

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 10/16/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007
Date Data Arrived at EDR: 12/06/2007
Date Made Active in Reports: 02/20/2008
Number of Days to Update: 76

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 08/19/2008
Date Data Arrived at EDR: 08/29/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/11/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/02/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/23/2008
Date Data Arrived at EDR: 07/29/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/23/2008
Date Data Arrived at EDR: 07/29/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 01/23/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 54

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/21/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/30/2008
Date Data Arrived at EDR: 07/15/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 41

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/16/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 05/14/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 08/08/2008
Number of Days to Update: 72

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/29/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 12/28/2007
Number of Days to Update: 25

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 08/25/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 10/16/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 08/08/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/05/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 09/09/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 04/25/2008
Date Data Arrived at EDR: 06/12/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 74

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 06/18/2008
Date Data Arrived at EDR: 07/11/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 45

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 07/13/2007
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 09/22/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/07/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/19/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/12/2008
Date Data Arrived at EDR: 07/18/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 38

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 07/12/2008
Date Data Arrived at EDR: 07/18/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 38

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/31/2008
Date Data Arrived at EDR: 08/13/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/04/2007
Date Data Arrived at EDR: 02/07/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 39

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 09/18/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/08/2008
Date Data Arrived at EDR: 08/05/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 20

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/29/2008
Date Data Arrived at EDR: 07/31/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 25

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/31/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 08/25/2008
Number of Days to Update: 47

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/12/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Biennially

SCRD DRYCLEANERS: State Coalition for Redediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/10/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/25/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: Varies

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 08/25/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 07/28/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/09/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 9

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 09/09/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 05/29/2001
Date Made Active in Reports: 07/26/2001
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/10/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 21

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 10/08/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Quarterly

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 07/03/2008
Date Data Arrived at EDR: 07/11/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 20

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 10/07/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 10/06/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 08/11/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/22/2008
Next Scheduled EDR Contact: 10/20/2008
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/02/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/04/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 07/03/2008
Date Data Arrived at EDR: 07/11/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 20

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/07/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 10/06/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 08/11/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 09/02/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/25/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Annually

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 07/10/2008
Date Data Arrived at EDR: 07/10/2008
Date Made Active in Reports: 07/25/2008
Number of Days to Update: 15

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 10/07/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Semi-Annually

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 10

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 10/06/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Varies

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 11/01/2007
Date Data Arrived at EDR: 11/27/2007
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 07/28/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Quarterly

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/04/2008
Date Data Arrived at EDR: 08/08/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 26

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Varies

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 05/09/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

NOTIFY 65: Proposition 65 Records

Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 09/30/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/30/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/23/2008
Date Data Arrived at EDR: 09/24/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 5

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/23/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 02/26/2008
Date Data Arrived at EDR: 04/23/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 07/25/2008
Next Scheduled EDR Contact: 10/20/2008
Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 10/04/2007
Date Made Active in Reports: 11/07/2007
Number of Days to Update: 34

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 08/08/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 04/17/2007
Date Made Active in Reports: 05/10/2007
Number of Days to Update: 23

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 10/16/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Varies

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 09/22/2008
Date Data Arrived at EDR: 09/22/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 7

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 09/08/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Quarterly

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 08/08/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/25/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/21/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 5

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/17/2008
Date Data Arrived at EDR: 03/27/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 40

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 03/17/2008
Date Data Arrived at EDR: 03/27/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 40
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/10/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 08/22/2008
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 18
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/05/2008
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6
Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 03/17/2008
Date Data Arrived at EDR: 03/27/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 40
Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 09/05/2008
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 06/01/2007
Date Data Arrived at EDR: 06/14/2007
Date Made Active in Reports: 07/05/2007
Number of Days to Update: 21

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 08/21/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 5

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 09/05/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 08/22/2008
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 18

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 08/21/2008
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 12

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 08/21/2008
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 08/29/2008
Number of Days to Update: 7

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 09/03/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 14

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/25/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 08/07/2008
Date Data Arrived at EDR: 08/08/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 26

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 08/04/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 09/15/2008
Date Data Arrived at EDR: 09/16/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 15

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/30/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 08/11/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 08/12/2008
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 12

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 08/13/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/01/2008
Date Data Arrived at EDR: 03/20/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 25

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 09/08/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/14/2008
Date Data Arrived at EDR: 04/10/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 26

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 08/11/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 10

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 09/10/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 08/26/2008
Date Data Arrived at EDR: 09/11/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 20

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 09/10/2008
Next Scheduled EDR Contact: 11/10/2008
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 08/04/2008
Date Data Arrived at EDR: 08/29/2008
Date Made Active in Reports: 09/15/2008
Number of Days to Update: 17

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/28/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/22/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/22/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/16/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 13

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/04/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/17/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 12

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/04/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/25/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 6
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/04/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 07/23/2007
Date Data Arrived at EDR: 07/23/2007
Date Made Active in Reports: 08/09/2007
Number of Days to Update: 17
Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/15/2008
Date Data Arrived at EDR: 07/18/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 13
Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/02/2008
Date Data Arrived at EDR: 07/29/2008
Date Made Active in Reports: 08/29/2008
Number of Days to Update: 31
Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Contaminated Sites
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/08/2008
Date Data Arrived at EDR: 08/08/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 26
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/28/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/08/2008
Date Data Arrived at EDR: 08/08/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 26
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/28/2008
Next Scheduled EDR Contact: 10/27/2008
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 09/02/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/16/2005
Date Data Arrived at EDR: 05/18/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 10/02/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 08/01/2007
Date Data Arrived at EDR: 02/05/2008
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 9

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 09/02/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 06/04/2008
Date Data Arrived at EDR: 07/25/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 6

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/30/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 12
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 08/26/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/15/2008
Number of Days to Update: 19
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/18/2008
Date Data Arrived at EDR: 06/18/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 2
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 10/06/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/07/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 6
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 10/06/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 09/22/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/24/2008
Date Data Arrived at EDR: 09/25/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 4
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/22/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Varies

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 14

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 09/02/2008
Next Scheduled EDR Contact: 12/01/2008
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/22/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 7

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/22/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/22/2008
Date Data Arrived at EDR: 07/03/2008
Date Made Active in Reports: 07/25/2008
Number of Days to Update: 22

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/22/2008
Next Scheduled EDR Contact: 12/22/2008
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 05/04/2007
Date Data Arrived at EDR: 05/04/2007
Date Made Active in Reports: 05/24/2007
Number of Days to Update: 20

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 12/29/2008
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/10/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 14

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/18/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/09/2008
Next Scheduled EDR Contact: 09/08/2008
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 10/08/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 8

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/08/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 08/11/2008
Date Data Arrived at EDR: 08/29/2008
Date Made Active in Reports: 09/15/2008
Number of Days to Update: 17

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 06/15/2007
Date Made Active in Reports: 08/20/2007
Number of Days to Update: 66

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 09/12/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 09/30/2007
Date Data Arrived at EDR: 12/04/2007
Date Made Active in Reports: 12/31/2007
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 08/08/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 07/23/2008
Date Data Arrived at EDR: 08/28/2008
Date Made Active in Reports: 09/11/2008
Number of Days to Update: 14

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/28/2008
Next Scheduled EDR Contact: 11/24/2008
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/11/2008
Date Made Active in Reports: 10/02/2008
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/08/2008
Next Scheduled EDR Contact: 12/08/2008
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 06/03/2008
Date Made Active in Reports: 08/07/2008
Number of Days to Update: 65

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/15/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/08/2008
Number of Days to Update: 17

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 10/06/2008
Next Scheduled EDR Contact: 01/05/2009
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HAYWARD EXECUTIVE AIRPORT
20301 SKYWEST DR.
HAYWARD, CA 94545

TARGET PROPERTY COORDINATES

Latitude (North):	37.66048 - 37° 39' 37.7''
Longitude (West):	122.12241 - 122° 7' 20.7''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	577406.6
UTM Y (Meters):	4168303.0
Elevation:	30 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	37122-F2 SAN LEANDRO, CA
Most Recent Revision:	1980
East Map:	37122-F1 HAYWARD, CA
Most Recent Revision:	1980

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

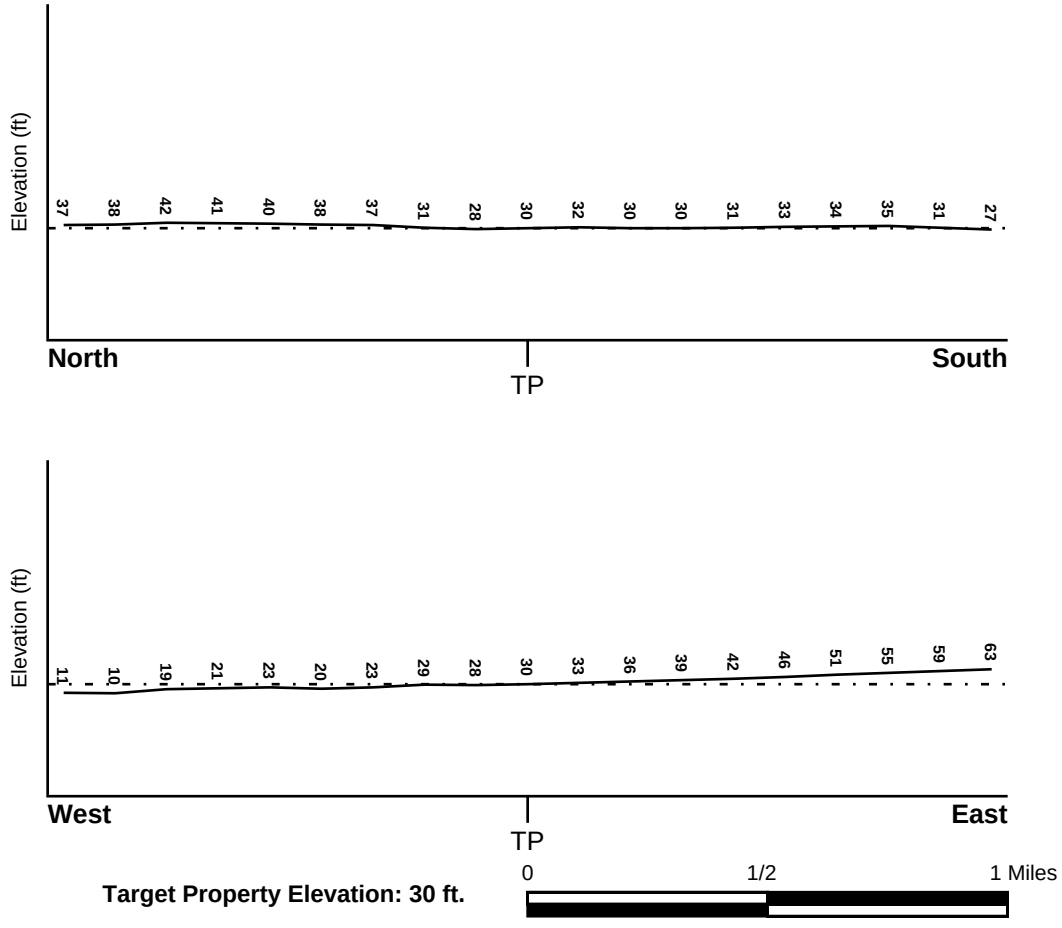
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
ALAMEDA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 0650330010D

Additional Panels in search area: 0600010090C
0650330003D
0650330002C
0650330011D

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
HAYWARD	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Location Relative to TP:	1/2 - 1 Mile South
Site Name:	Hayward Air National Guard Base
Site EPA ID Number:	CA3572890140
Groundwater Flow Direction:	TOWARDS SAN FRANCISCO BAY.
Measured Depth to Water:	10 feet to 15 feet.
Hydraulic Connection:	Information is not available about the hydraulic connection between aquifers under the site.
Sole Source Aquifer:	No information about a sole source aquifer is available
Data Quality:	Information is inferred in the CERCLIS investigation report(s)

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
1	1/4 - 1/2 Mile NE	W
A3	1/4 - 1/2 Mile NNE	WNW
A4	1/4 - 1/2 Mile NNE	NW
A5	1/4 - 1/2 Mile NNE	NW
A6	1/4 - 1/2 Mile NNE	NW
9	1/2 - 1 Mile South	NW
11	1/2 - 1 Mile NE	E
12	1/2 - 1 Mile South	W
C15	1/2 - 1 Mile SSE	SW
C16	1/2 - 1 Mile SSE	WSW
C17	1/2 - 1 Mile SSE	Varies
D18	1/2 - 1 Mile SE	SW, NW, Vary
D19	1/2 - 1 Mile SE	SW, NW, Vary
20	1/2 - 1 Mile South	W
E21	1/2 - 1 Mile SW	Not Reported
E22	1/2 - 1 Mile SW	SW
F23	1/2 - 1 Mile NE	NW
F24	1/2 - 1 Mile NE	NW
F25	1/2 - 1 Mile NE	NW
G26	1/2 - 1 Mile NE	S
G27	1/2 - 1 Mile NE	S
28	1/2 - 1 Mile ENE	W

For additional site information, refer to Physical Setting Source Map Findings.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

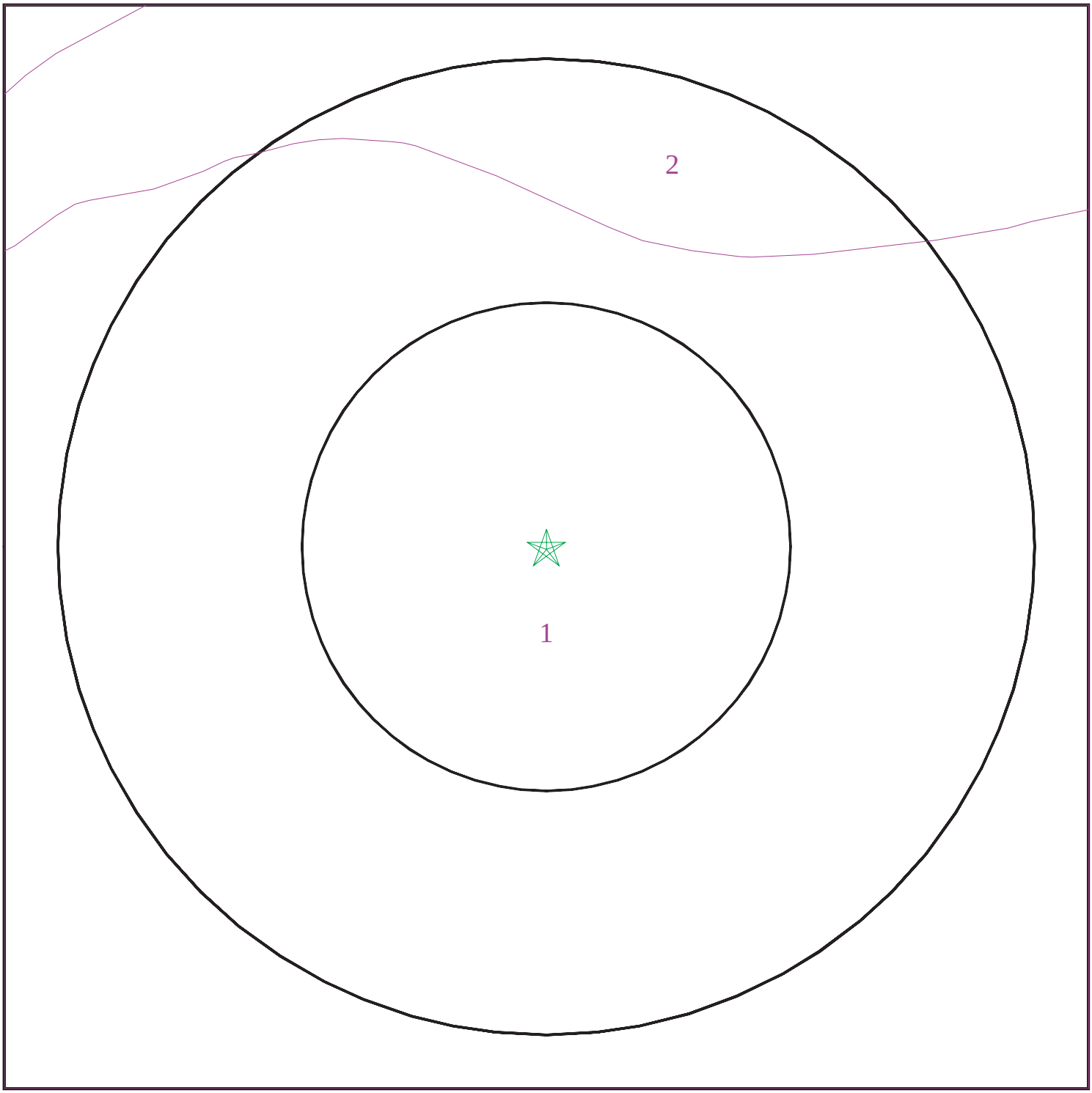
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 2344395.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Hayward Executive Airport	CLIENT:	Environmental Science Assoc.
ADDRESS:	20301 Skywest Dr. Hayward CA 94545	CONTACT:	Phil Wade
LAT/LONG:	37.6605 / 122.1224	INQUIRY #:	2344395.2s
		DATE:	October 21, 2008 2:47 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Clear Lake

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
2	25 inches	59 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Danville

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	20 inches	53 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	53 inches	79 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS3235970	1/4 - 1/2 Mile SSE
7	USGS3235977	1/2 - 1 Mile NNW
8	USGS3235987	1/2 - 1 Mile North
10	USGS3235968	1/2 - 1 Mile SSE
B14	USGS3235969	1/2 - 1 Mile SE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

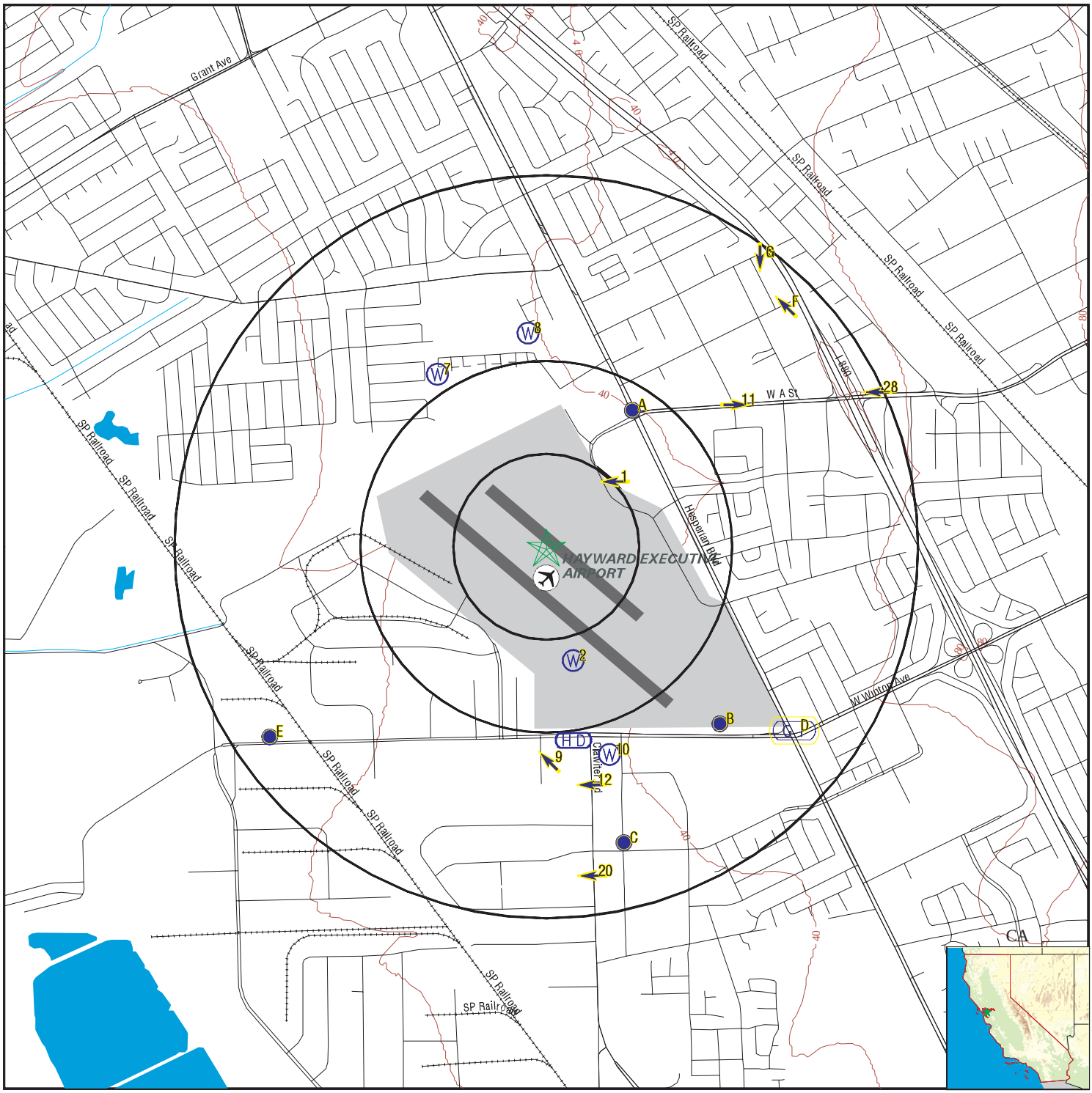
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B13	26	1/2 - 1 Mile SE

PHYSICAL SETTING SOURCE MAP - 2344395.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Hayward Executive Airport	CLIENT:	Environmental Science Assoc.
ADDRESS:	20301 Skywest Dr. Hayward CA 94545	CONTACT:	Phil Wade
		INQUIRY #:	2344395.2s
LAT/LONG:	37.6605 / 122.1224	DATE:	October 21, 2008 2:47 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

			Database	EDR ID Number
1 **NE** **1/4 - 1/2 Mile** **Higher**	Site ID:	01-2101	**AQUIFLOW**	**38193**
	Groundwater Flow:	W		
	Shallow Water Depth:	5.69		
	Deep Water Depth:	8.33		
	Average Water Depth:	Not Reported		
	Date:	11/05/1998		

2
SSE
1/4 - 1/2 Mile
Higher

FED USGS **USGS3235970**

Agency cd:	USGS	Site no:	373922122071201
Site name:	003S002W19J001M		
Latitude:	373922		
Longitude:	1220712	Dec lat:	37.65604317
Dec lon:	-122.12107534	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	--NWSES19 T03S R02W M
Location map:	HAYWARD	Map scale:	24000
Altitude:	30.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	005		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Francisco Bay. California. Area = 1200 sq.mi.		
Topographic:	Flat surface		
Site type:	Ground-water other than Spring	Date construction:	19290920
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	87.0	Hole depth:	216
Source of depth data:	Not Reported		
Project number:	479200200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1958-08-18	Ground water data end date:	1978-09-00
Ground water data count:	192		

Ground-water levels, Number of Measurements: 192

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1978-09	10.8		1978-06-06	9.8	
1978-05-09	10.2		1978-04-06	9.1	
1978-03-07	9.8		1978-02-07	11.2	
1978-01-10	12.0		1977-12-06	13.8	
1977-11-08	13.4		1977-10-11	13.3	
1977-09-12	13.1		1977-08-10	12.6	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1977-07-08	12.0	
1977-05-10	11.5	
1977-03-23	11.1	
1977-01-10	10.7	
1976-11-10	10.9	
1976-09-08	10.7	
1976-07-16	10.2	
1976-05-12	9.9	
1976-03-08	9.5	
1976-01-15	9.6	
1975-11-25	9.3	
1975-09-11	9.4	
1975-07-09	8.5	
1975-04-16	7.6	
1975-02-19	8.4	
1974-12-26	8.4	
1974-10-21	8.4	
1974-09-04	8.4	
1974-07-10	7.8	
1974-05-15	7.1	
1974-04-17	6.9	
1974-02-20	7.4	
1973-12-26	8.2	
1973-11-05	9.0	
1973-09-05	9.0	
1973-07-11	8.1	
1973-05-16	7.6	
1973-04-03	7.1	
1973-02-21	7.5	
1972-12-27	10.1	
1972-10-04	11.7	
1972-08-10	11.4	
1972-06-14	10.9	
1972-04-19	10.4	
1972-01-26	10.7	
1971-12-01	10.7	
1971-10-06	10.3	
1971-08-11	9.6	
1971-06-16	8.9	
1971-04-21	9.7	
1971-02-24	8.6	
1970-12-30	8.1	
1970-11-04	8.8	
1970-09-11	9.7	
1970-07-15	9.4	
1970-04-22	8.8	
1970-02-25	5.8	
1969-12-30	4.9	
1969-11-05	5.3	
1969-09-03	8.3	
1969-07-02	8.7	
1969-05-09	7.8	
1969-03-05	6.8	
1969-01-02	12.3	
1968-11-06	9.8	
1977-06-07	11.7	
1977-04-11	11.3	
1977-02-07	10.9	
1976-12-07	10.9	
1976-10-15	10.7	
1976-08-12	10.5	
1976-06-09	10.3	
1976-04-16	9.8	
1976-02-09	9.6	
1975-12	9.4	
1975-10-01	9.3	
1975-08-06	8.9	
1975-06-11	8.3	
1975-03-17	7.9	
1975-01-27	9.1	
1974-11-25	8.9	
1974-10-02	8.7	
1974-08-09	8.2	
1974-06-12	7.4	
1974-04-22	7.3	
1974-03-20	7.3	
1974-01-23	7.1	
1973-11-26	8.6	
1973-10-03	9.1	
1973-08-08	8.6	
1973-06-13	7.8	
1973-04-18	7.3	
1973-03-22	7.1	
1973-01-24	8.5	
1972-11-02	11.4	
1972-09-06	11.6	
1972-07-13	11.0	
1972-05-18	10.6	
1972-02-23	10.2	
1971-12-29	11.0	
1971-11-03	10.3	
1971-09-08	10.2	
1971-07-14	9.3	
1971-05-19	8.7	
1971-03-24	7.8	
1971-01-27	8.1	
1970-12-02	9.0	
1970-10-08	9.9	
1970-08-12	9.4	
1970-05-20	8.7	
1970-03-25	8.7	
1970-01-28	4.6	
1969-12-03	4.8	
1969-10-08	5.8	
1969-08-06	8.6	
1969-06-04	8.0	
1969-04-02	7.6	
1969-02-05	8.7	
1968-12-18	11.7	
1968-10-02	10.3	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1968-09-05	10.2	
1968-07-03	10.0	
1968-05-01	9.7	
1968-03-06	11.5	
1968-01-04	11.8	
1967-11-01	10.4	
1967-09-06	10.8	
1967-07-05	10.0	
1967-05-04	9.0	
1967-03-01	10.8	
1967-01-04	13.0	
1966-11-09	13.5	
1966-09-22	13.6	
1966-07-20	12.9	
1966-05-18	12.2	
1966-03-22	11.4	
1966-01-17	11.8	
1965-11-15	13.1	
1965-09-24	12.8	
1965-07-20	12.2	
1965-04-17	10.6	
1965-02-16	11.3	
1964-12-21	13.2	
1964-10-21	14.2	
1964-08-18	13.6	
1964-06-19	12.9	
1964-04-21	12.1	
1964-02-18	10.9	
1963-12-17	10.9	
1963-10-21	11.7	
1963-08-24	10.0	
1963-06-20	10.9	
1963-04-24	10.1	
1963-02-20	10.9	
1958-10-29	10.60	
1968-07-31	10.3	
1968-06-05	9.8	
1968-04-03	10.4	
1968-02-07	11.5	
1967-12-06	9.8	
1967-10-04	10.8	
1967-08-01	10.5	
1967-06-07	9.6	
1967-04-05	10.3	
1967-02-02	10.8	
1966-12-14	12.9	
1966-10-19	13.8	
1966-08-16	13.1	
1966-06-14	12.5	
1966-04-11	11.8	
1966-02-14	11.2	
1965-12-21	12.6	
1965-10-20	13.0	
1965-08-21	12.1	
1965-05-17	11.2	
1965-03-17	10.8	
1965-01-18	11.5	
1964-11-16	13.4	
1964-09-25	13.9	
1964-07-21	12.9	
1964-05-18	12.6	
1964-03-17	12.3	
1964-01-21	10.6	
1963-11-19	11.4	
1963-09-24	10.4	
1963-07-18	11.6	
1963-05-20	10.8	
1963-03-20	10.9	
1959-04-01	9.91	
1958-08-18	9.8	

A3
NNE
1/4 - 1/2 Mile Higher

Site ID:	01-1454
Groundwater Flow:	WNW
Shallow Water Depth:	7.28
Deep Water Depth:	13.23
Average Water Depth:	Not Reported
Date:	09/27/1996

AQUIFLOW **38252**

A4
NNE
1/4 - 1/2 Mile Higher

Site ID:	01-0247
Groundwater Flow:	NW
Shallow Water Depth:	6.70
Deep Water Depth:	12.46
Average Water Depth:	Not Reported
Date:	07/02/1996

AQUIFLOW **52969**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

			Database	EDR ID Number
A5 **NNE** **1/4 - 1/2 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0247 NW Not Reported Not Reported 5-20 05/06/1996	**AQUIFLOW**	**52968**
A6 **NNE** **1/4 - 1/2 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0247 NW Not Reported Not Reported 13.0 10/06/1994	**AQUIFLOW**	**52967**

7
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS3235977**

Agency cd:	USGS	Site no:	374002122074001
Site name:	003S002W18L001M		
Latitude:	374001.98		
Longitude:	1220739.88	Dec lat:	37.66721667
Dec lon:	-122.12774444	Coor meth:	G
Coor accr:	H	Latlong datum:	NAD83
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	HAYWARD	Map scale:	24000
Altitude:	32.14		
Altitude method:	Global Positioning System		
Altitude accuracy:	05		
Altitude datum:	North American Vertical Datum of 1988		
Hydrologic:	Not Reported		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19990331	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	300	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1999-03-31
Water quality data end date:	1999-03-31	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

8
North
1/2 - 1 Mile
Higher

FED USGS **USGS3235987**

Agency cd:	USGS	Site no:	374008122072001
Site name:	003S002W18K003M		
Latitude:	374008		
Longitude:	1220720	Dec lat:	37.66882048
Dec lon:	-122.12329768	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	HAYWARD	Map scale:	24000
Altitude:	37		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Francisco Bay. California. Area = 1200 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19780320
Date inventoried:	19780428	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	155	Hole depth:	155
Source of depth data:	driller		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1998-10-23
Water quality data end date:	1999-08-24	Water quality data count:	2
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

9
South
1/2 - 1 Mile
Higher

Site ID:	01-0823
Groundwater Flow:	NW
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	11
Date:	06/1997

AQUIFLOW **55678**

10
SSE
1/2 - 1 Mile
Higher

FED USGS **USGS3235968**

Agency cd:	USGS	Site no:	373904122070301
Site name:	003S002W19R004M		
Latitude:	373908.78		
Longitude:	1220705.62	Dec lat:	37.65237108
Dec lon:	-122.11930306	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	HAYWARD	Map scale:	24000
Altitude:	43.43		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Francisco Bay. California. Area = 1200 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	1956
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	112	Hole depth:	Not Reported
Source of depth data:	other reported		
Project number:	470653600		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1998-11-16
Water quality data end date:	1998-11-16	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

11
NE
1/2 - 1 Mile
Higher

Site ID:	01-1480
Groundwater Flow:	E
Shallow Water Depth:	14.22
Deep Water Depth:	15.95
Average Water Depth:	Not Reported
Date:	04/17/1996

AQUIFLOW **50076**

12
South
1/2 - 1 Mile
Higher

Site ID:	01-0057
Groundwater Flow:	W
Shallow Water Depth:	14.75
Deep Water Depth:	16.5
Average Water Depth:	Not Reported
Date:	05/12/1996

AQUIFLOW **55724**

B13
SE
1/2 - 1 Mile
Higher

CA WELLS **26**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Water System Information:

Prime Station Code:	0110006-006	User ID:	ENG
FRDS Number:	0110006006	County:	Alameda
District Number:	04	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Standby Raw
Source Lat/Long:	373914.0 1220646.0	Precision:	100 Feet (one Second)
Source Name:	WELL D - AIRPORT WELL-EMERGENCY STANDBY		
System Number:	0110006		
System Name:	CITY OF HAYWARD		
Organization That Operates System:			
	25151 CLAWITER ROAD HAYWARD, CA 94541		
Pop Served:	125000	Connections:	28615
Area Served:	HAYWARD		
Sample Collected:	04/11/2006 00:00:00	Findings:	10 UNITS
Chemical:	COLOR		
Sample Collected:	04/11/2006 00:00:00	Findings:	733 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	04/11/2006 00:00:00	Findings:	7.9
Chemical:	PH, LABORATORY		
Sample Collected:	04/11/2006 00:00:00	Findings:	248 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	04/11/2006 00:00:00	Findings:	302 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	04/11/2006 00:00:00	Findings:	51 MG/L
Chemical:	CALCIUM		
Sample Collected:	04/11/2006 00:00:00	Findings:	58 MG/L
Chemical:	CHLORIDE		
Sample Collected:	04/11/2006 00:00:00	Findings:	560 UG/L
Chemical:	IRON		
Sample Collected:	04/11/2006 00:00:00	Findings:	170 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/11/2006 00:00:00	Findings:	1.8 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	04/11/2006 00:00:00	Findings:	440 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	04/11/2006 00:00:00	Findings:	.6
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	04/11/2006 00:00:00	Findings:	3.9 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	04/11/2006 00:00:00	Findings:	1.8 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	04/11/2006 00:00:00	Findings:	12
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	04/04/2006 00:00:00	Findings:	1.5 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	04/04/2006 00:00:00	Findings:	469 PCI/L
Chemical:	RADON 222		
Sample Collected:	04/04/2006 00:00:00	Findings:	1.8 UG/L
Chemical:	URANIUM (UG/L)		
Sample Collected:	04/04/2006 00:00:00	Findings:	20 PCI/L
Chemical:	RADON 222 COUNTING ERROR		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected: 04/04/2006 00:00:00 Findings: .3 PCI/L
Chemical: RADIUM 228 COUNTING ERROR

B14
SE
1/2 - 1 Mile
Higher

FED USGS **USGS3235969**

Agency cd:	USGS	Site no:	373912122065001
Site name:	003S002W20L020M		
Latitude:	373912		
Longitude:	1220650	Dec lat:	37.65333333
Dec lon:	-122.11388889	Coor meth:	G
Coor accr:	5	Latlong datum:	NAD83
Dec latlong datum:	NAD83	District:	06
State:	06	County:	001
Country:	US	Land net:	Not Reported
Location map:	HAYWARD	Map scale:	24000
Altitude:	47.1		
Altitude method:	Differential Global Positioning System (GPS)		
Altitude accuracy:	.2		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Not Reported		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	20020307	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	600	Hole depth:	670
Source of depth data:	other government (other than USGS)		
Project number:	470659600		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	2002-03-21
Water quality data end date:	2002-10-29	Water quality data count:	2
Ground water data begin date:	2002-03-07	Ground water data end date:	2003-09-25
Ground water data count:	4		

Ground-water levels, Number of Measurements: 4

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2003-09-25	62.25		2002-10-29	52.05	
2002-03-21	32.29		2002-03-07	36.39	

C15
SSE
1/2 - 1 Mile
Higher

AQUIFLOW **51557**

Site ID:	01-0888
Groundwater Flow:	SW
Shallow Water Depth:	9.84
Deep Water Depth:	15.47
Average Water Depth:	Not Reported
Date:	05/14/1996

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
C16 **SSE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0888 WSW 11.95 13.75 Not Reported 12/12/1995	**AQUIFLOW**	**51558**
C17 **SSE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0888 Varies Not Reported Not Reported 14 ft 12/20/1993	**AQUIFLOW**	**51559**
D18 **SE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1457 SW, NW, Vary 12 16 Not Reported 05/18/1998	**AQUIFLOW**	**55691**
D19 **SE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported SW, NW, Vary 12 16 Not Reported 05/18/1998	**AQUIFLOW**	**55690**
20 **South** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1143 W Not Reported Not Reported 13 09/01/1989	**AQUIFLOW**	**55564**
E21 **SW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0818 Not Reported Not Reported Not Reported 8 01/05/1989	**AQUIFLOW**	**55659**
E22 **SW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1964 SW 4 7 Not Reported 05/1994	**AQUIFLOW**	**55674**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID / Direction / Distance / Elevation			Database	EDR ID Number
F23 **NE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2121 NW 6.5 7.5 Not Reported 12/16/1994	**AQUIFLOW**	**53500**
F24 **NE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2121 NW Not Reported Not Reported Not Reported 01/01/1991	**AQUIFLOW**	**53502**
F25 **NE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2121 NW 2.0 20.0 Not Reported 02/08/1996	**AQUIFLOW**	**53501**
G26 **NE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0081 S 3.5 13.0 Not Reported 02/25/1991	**AQUIFLOW**	**50299**
G27 **NE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0081 S 19.44 23.13 Not Reported 05/14/1993	**AQUIFLOW**	**50298**
28 **ENE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1595 W Not Reported Not Reported 27 08/20/1990	**AQUIFLOW**	**64031**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
94545	4	0	0.00

Federal EPA Radon Zone for ALAMEDA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 94545

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.200 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

Hayward Executive Airport
20301 Skywest Dr.
Hayward, CA 94545

Inquiry Number: 2344395.4
October 21, 2008

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

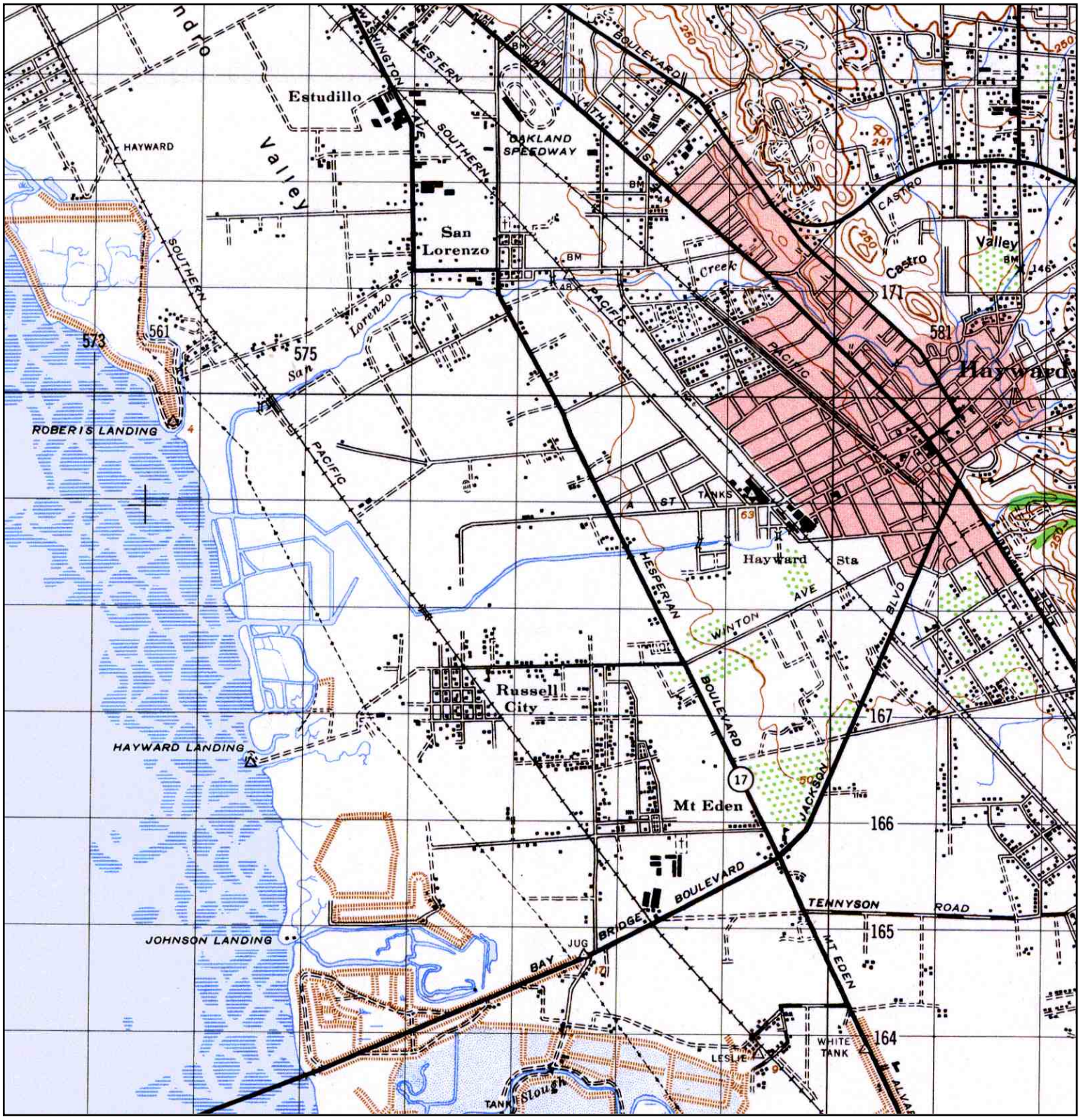
Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map

N	TARGET QUAD NAME: HAYWARDS MAP YEAR: 1899 SERIES: 15 SCALE: 1:62500	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map



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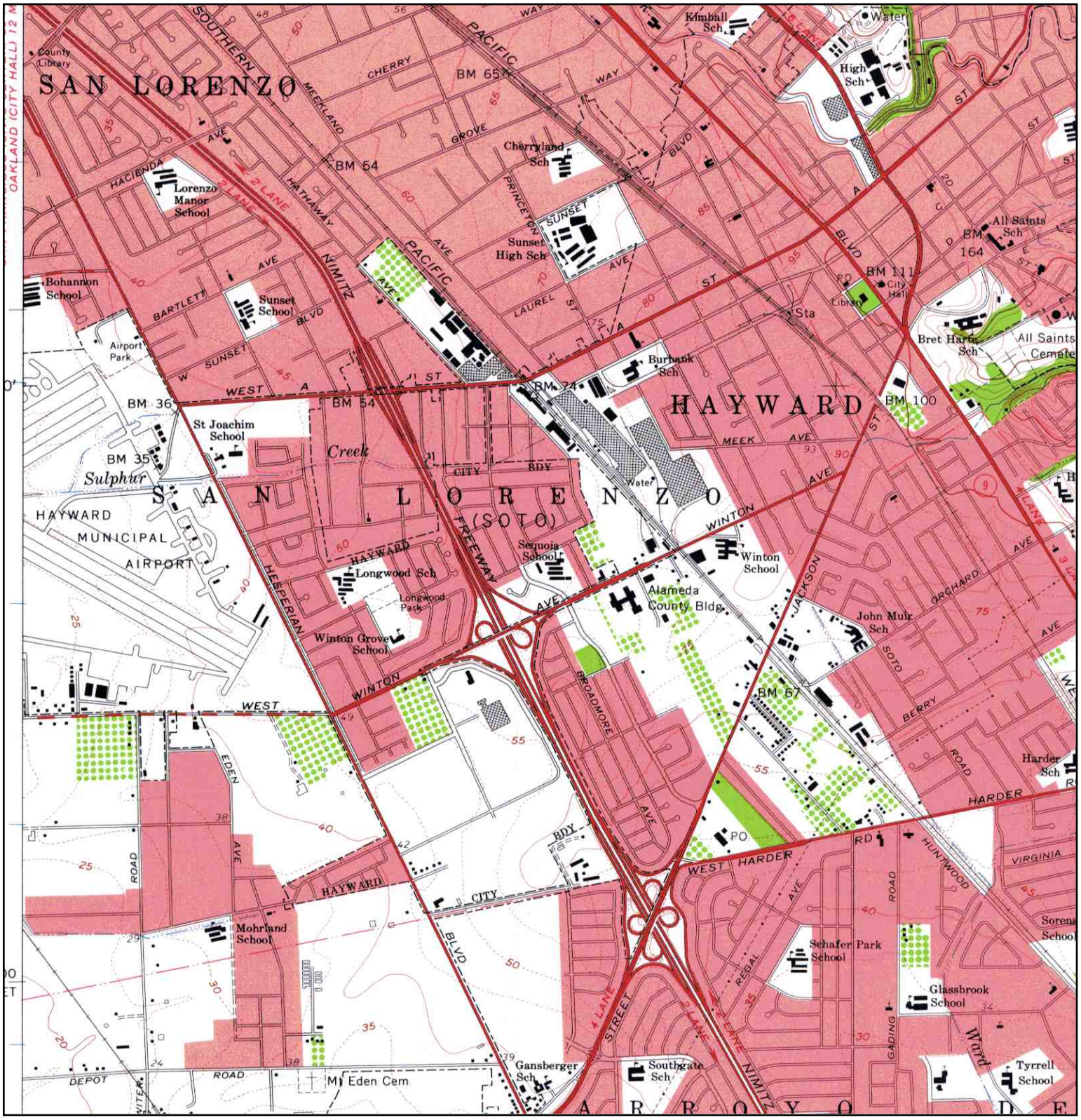
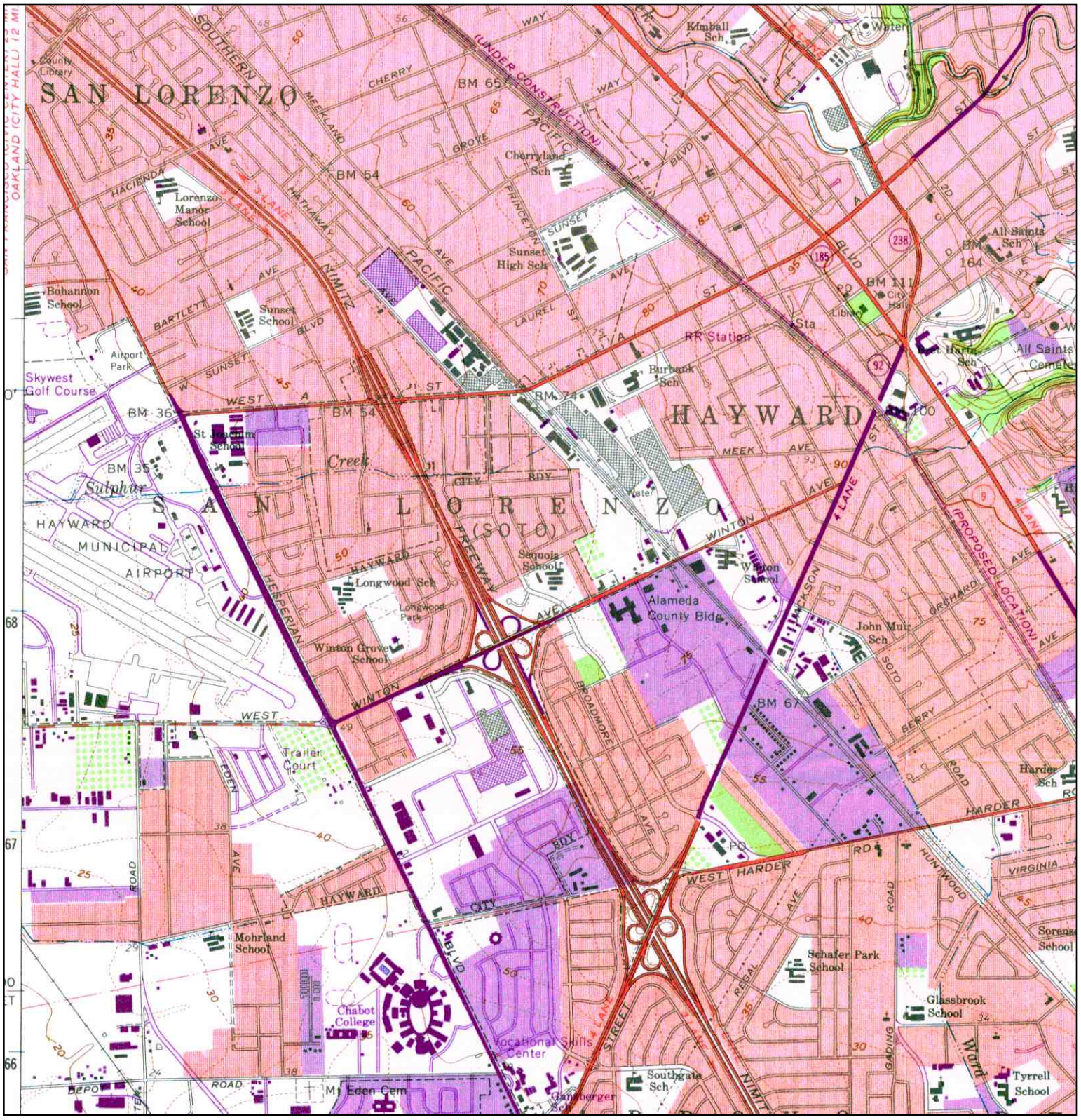
	TARGET QUAD NAME: HAYWARD MAP YEAR: 1948 SERIES: 15 SCALE: 1:50000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map



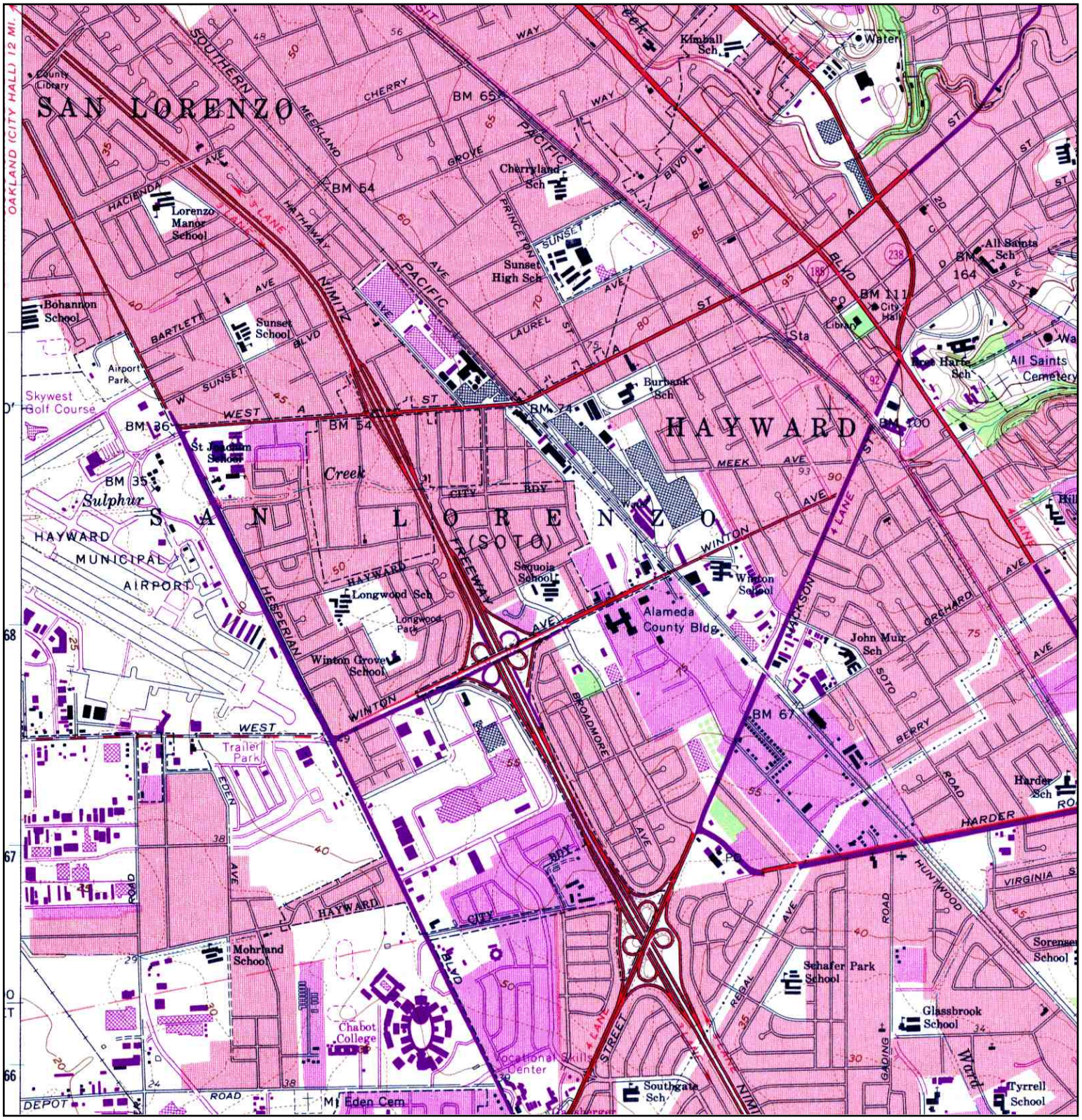
N	TARGET QUAD NAME: HAYWARD MAP YEAR: 1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map



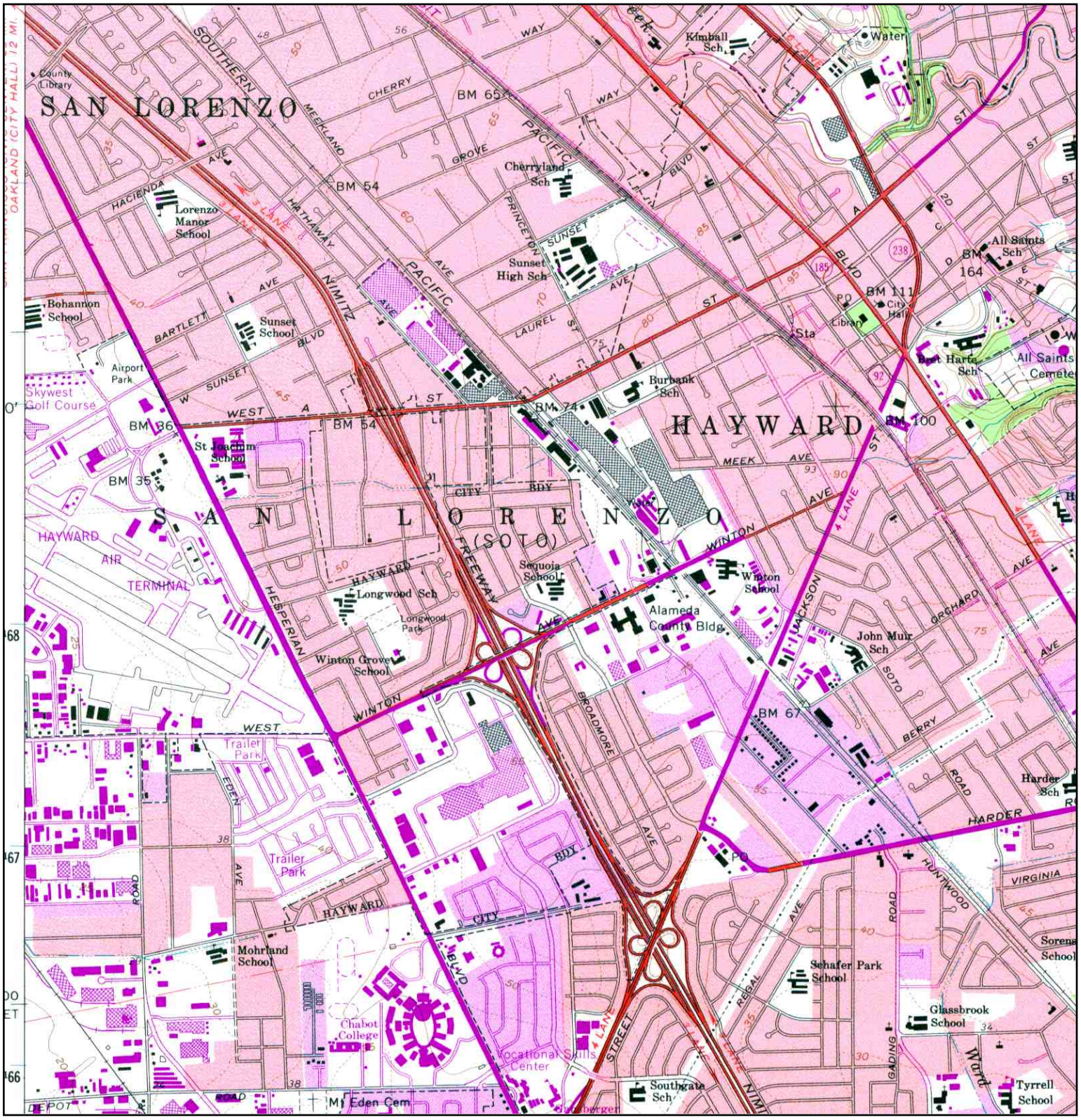
N	TARGET QUAD NAME: HAYWARD MAP YEAR: 1968 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map



N	TARGET QUAD NAME: HAYWARD MAP YEAR: 1973 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map

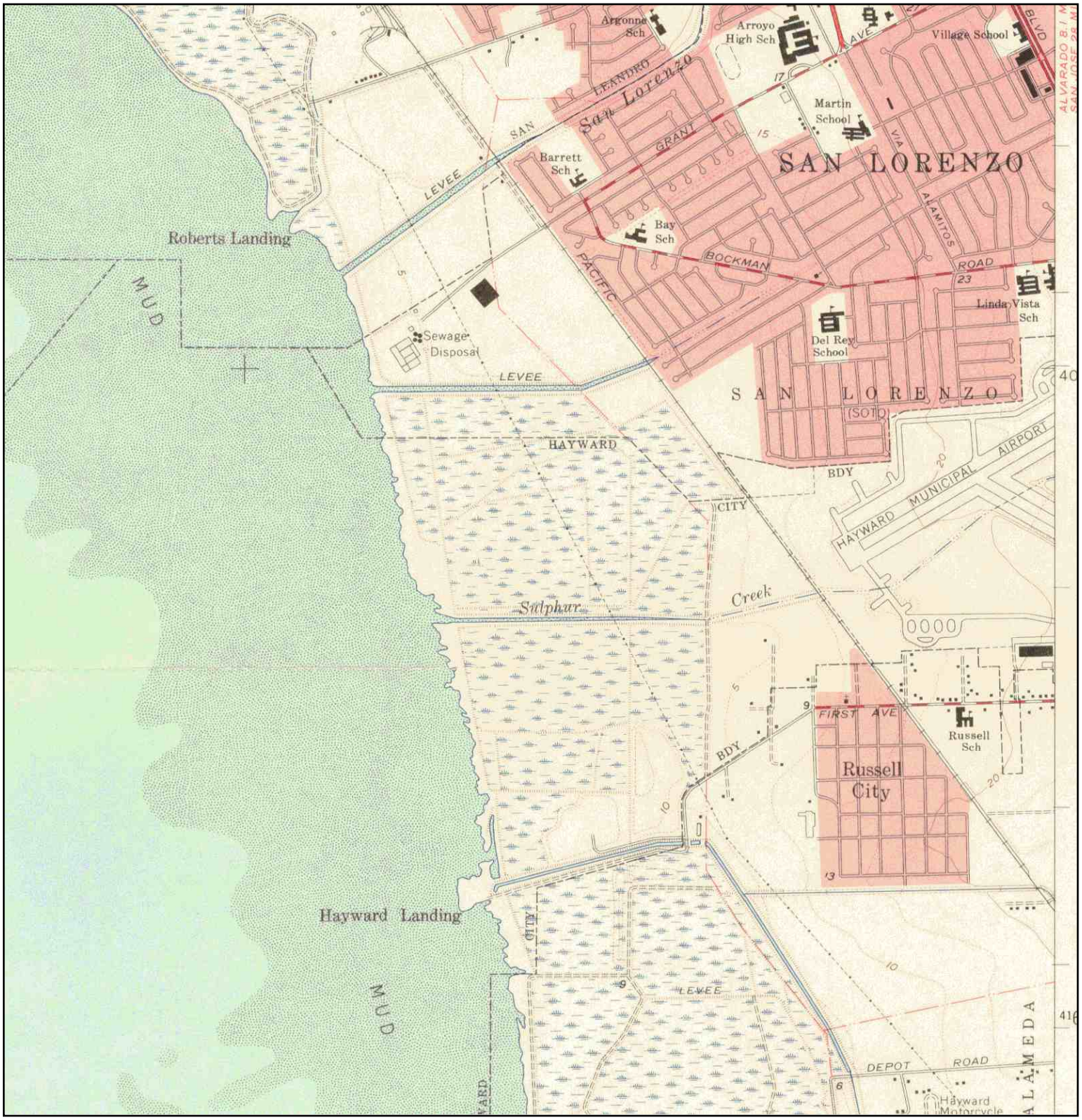


N	TARGET QUAD NAME: HAYWARD MAP YEAR: 1980 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map

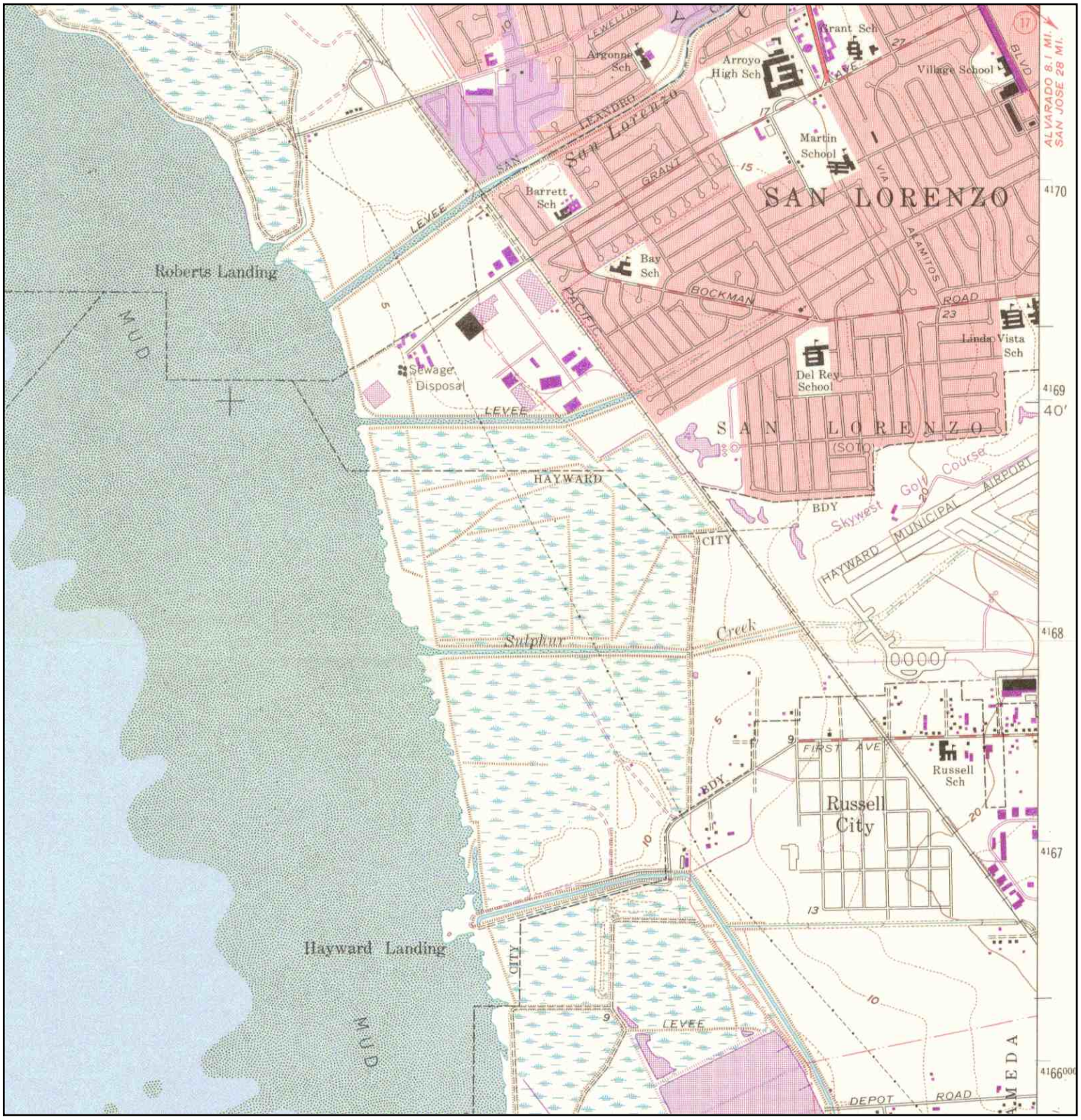
N	ADJOINING QUAD NAME: SAN LEANDRO MAP YEAR: 1948 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map



N	ADJOINING QUAD NAME: SAN LEANDRO MAP YEAR: 1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Historical Topographic Map



N	ADJOINING QUAD NAME: SAN LEANDRO MAP YEAR: 1968 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

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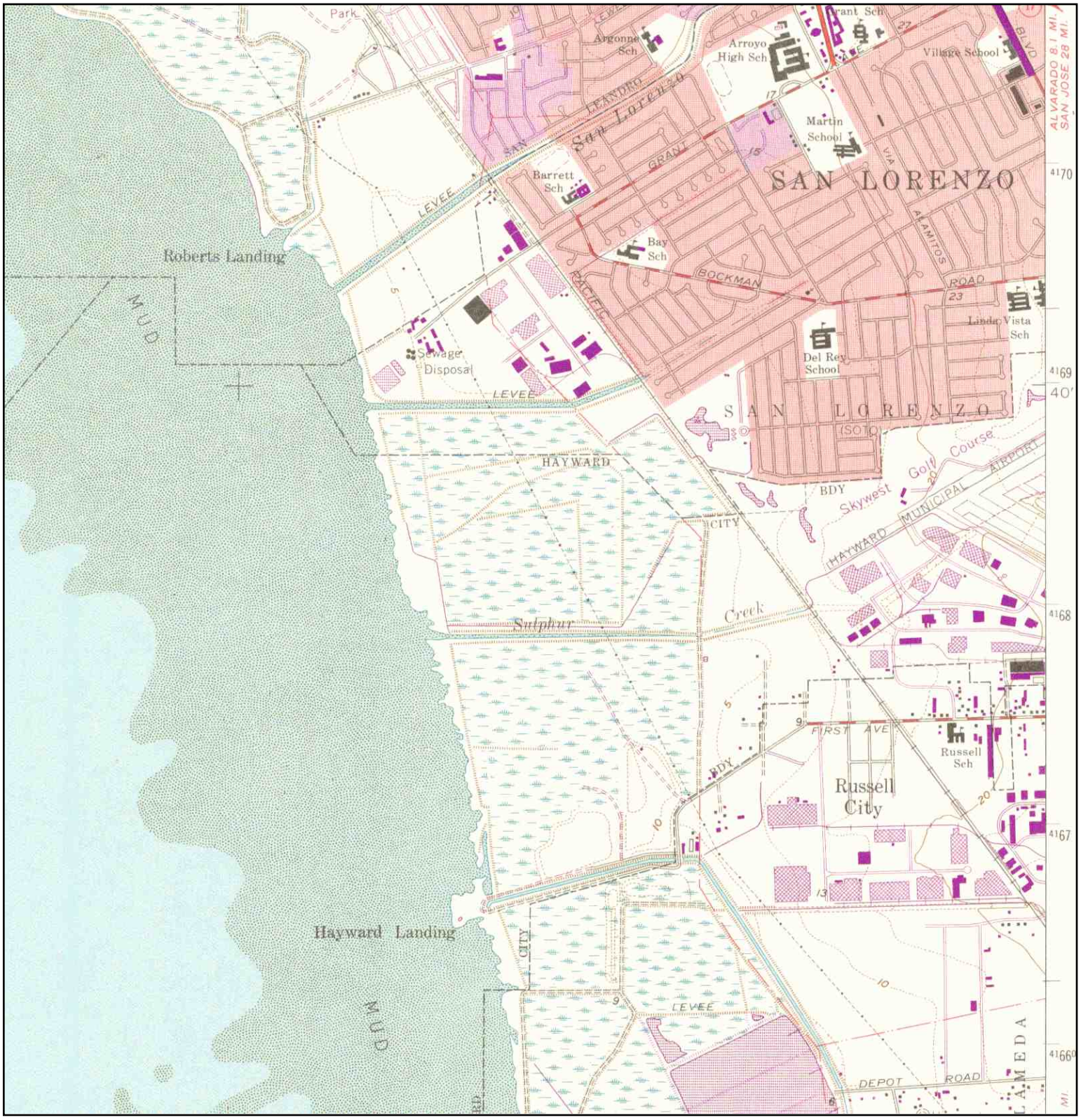

N	ADJOINING QUAD NAME: SAN LEANDRO MAP YEAR: 1973 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

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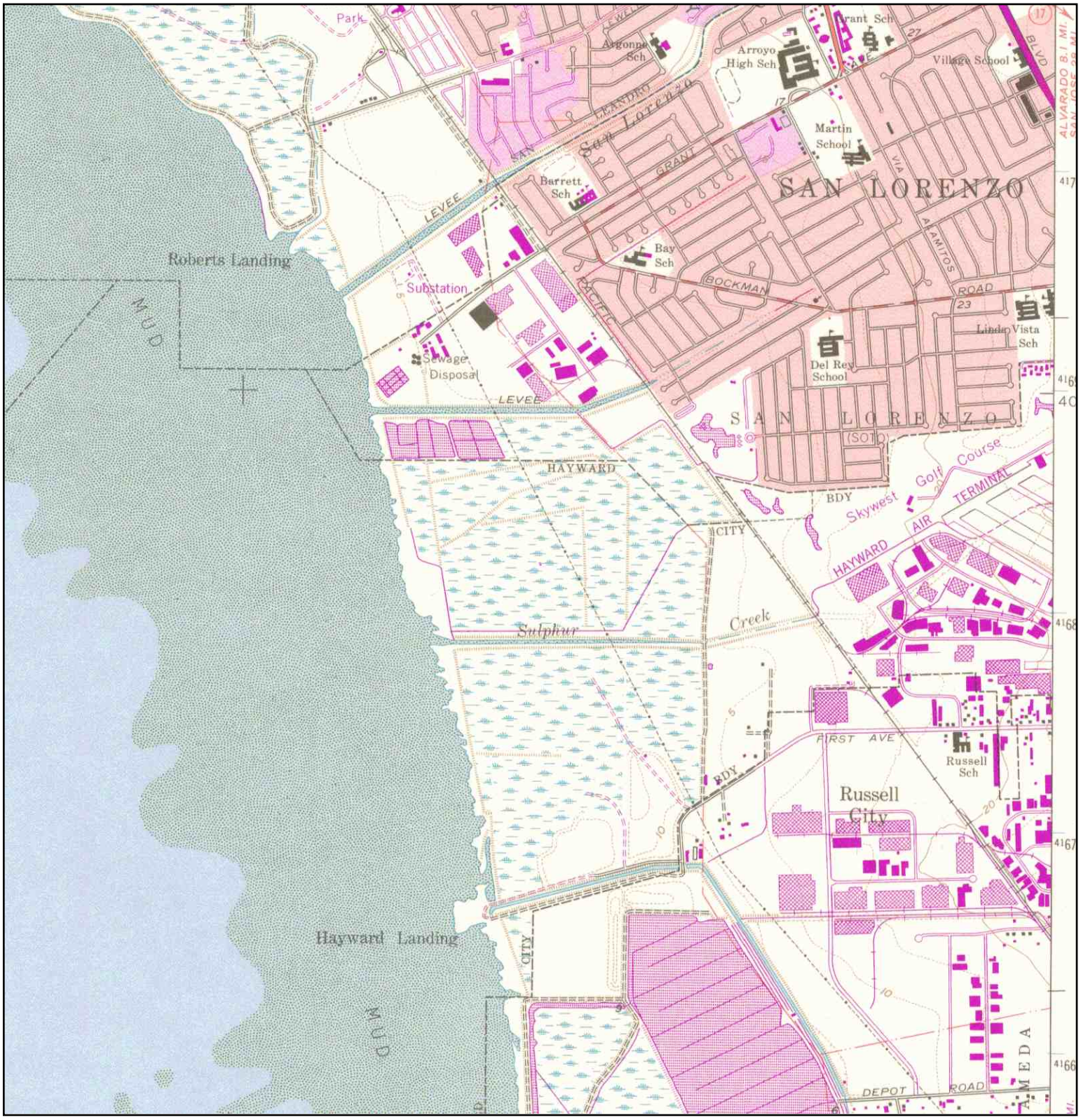

N	ADJOINING QUAD NAME: SAN LEANDRO MAP YEAR: 1980 PHOTOREVISED FROM:1959 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

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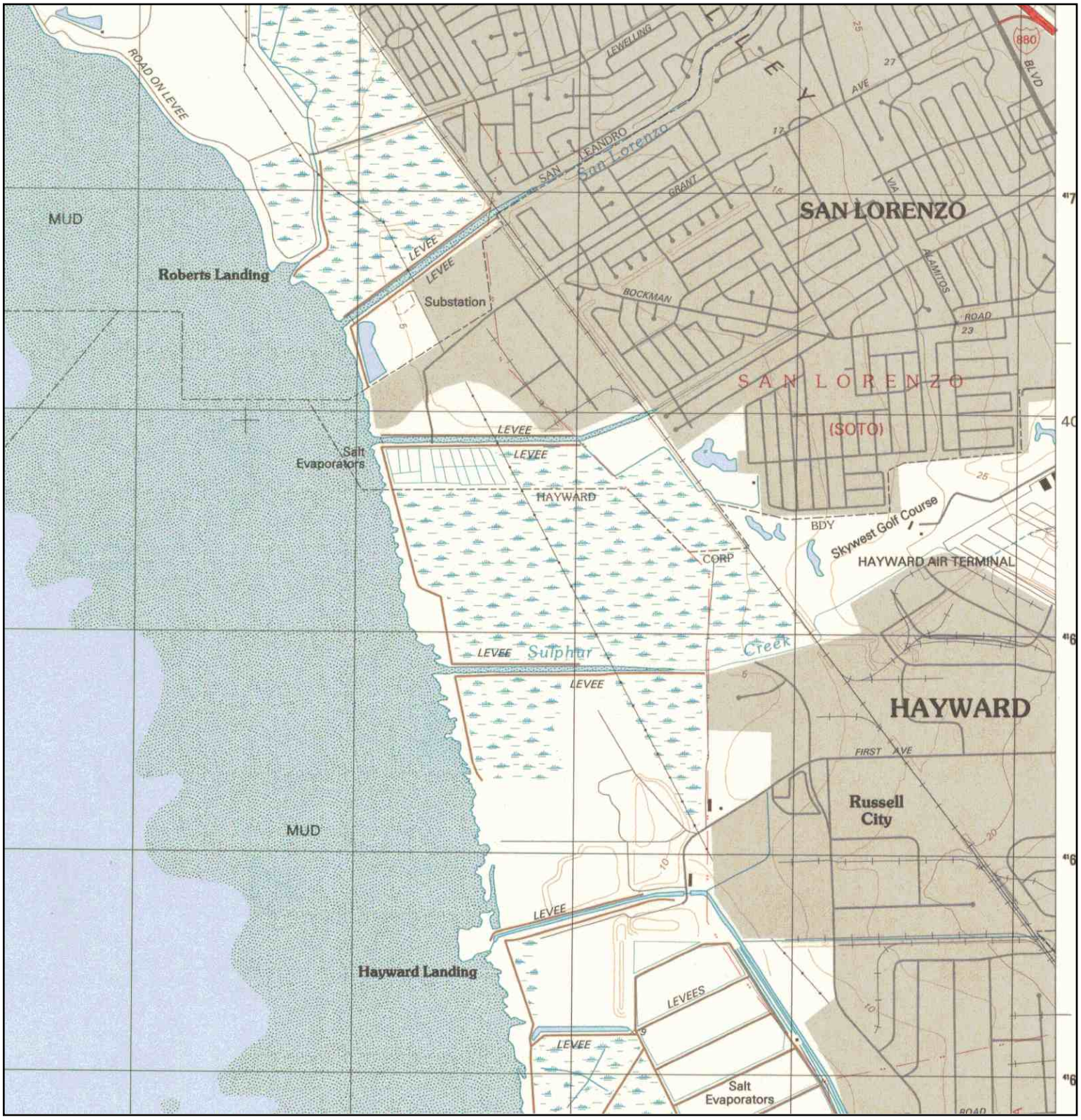

N	ADJOINING QUAD NAME: SAN LEANDRO MAP YEAR: 1993 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Hayward Executive Airport ADDRESS: 20301 Skywest Dr. Hayward, CA 94545 LAT/LONG: 37.6605 / 122.122	CLIENT: Environmental Science Assoc. CONTACT: Phil Wade INQUIRY#: 2344395.4 RESEARCH DATE: 10/21/2008

Appendix K
Environmental Overview References

Appendix K – Environmental Overview References

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