FINAL
ENVIRONMENTAL ASSESSMENT/
ENVIRONMENTAL IMPACT REPORT

YOLO COUNTY AIRPORT MASTER PLAN

WOODLAND, CALIFORNIA

PREPARED FOR:

COUNTY OF YOLO, CALIFORNIA
AS LEAD AGENCY PURSUANT TO THE
CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970

AND

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AS LEAD FEDERAL AGENCY PURSUANT TO THE
NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

PREPARED BY:

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This Environmental Assessment becomes a federal document when evaluated and signed by the responsible FAA official:

_____ _____
Responsible FAA Official **Date**

MAY 2, 1998

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PREFACE TO FINAL EA/EIR

The Final Environmental Assessment/Environmental Impact Report (EA/EIR) for the Yolo County Airport Master Plan project consists of the Draft EA/EIR (dated October 10, 1997), a separate Mitigation Monitoring Plan, and the information set forth below and presented herein, which includes:

1. Revisions to the format and content of the Draft EA/EIR, pursuant to directions received from the Federal Aviation Administration and from questions and comments received from local, State and Federal agencies and the public during the public review and comment period.
2. A record of the public workshops and hearings conducted by the County of Yolo (Appendix J).
3. Comments and correspondence received on the Draft EA/EIR (Appendix K).
4. The County's responses to comments and correspondence received (Appendix L).
5. Other pertinent documentation (Appendices M through Q).

EXECUTIVE SUMMARY

INTRODUCTION

This report has been prepared as a combined document to meet the requirements of the National Environmental Policy Act (NEPA) of 1969 for an Environmental Assessment (EA), and the California Environmental Quality Act (CEQA) of 1970 for an Environmental Impact Report (EIR) for the proposed Yolo County Airport Master Plan.[1]

PURPOSE

The "adoption" of the Airport Master Plan by Yolo County is subject to the environmental review criteria of CEQA. An environmental determination pursuant to NEPA is not required for the County to adopt the Plan. However, "implementation" of the proposed Yolo County Airport Master Plan will require compliance with both NEPA and CEQA.

This document has been prepared in accordance with Section 1506.2 of the President's Council on Environmental Quality (CEQ) in an effort to reduce duplication of Federal and State environmental documentation. CEQA provides for the local agency to use the federal environmental document (usually an EIS or FONSI) rather than prepare an EIR or Negative Declaration if the federal document will be completed before the local environmental document, and if the federal document is in compliance with CEQA guidelines. In this instance, the two documents have been prepared jointly, with Yolo County as lead agency for CEQA and the Federal Aviation Administration (FAA) as lead Federal agency under NEPA.

The FAA will use this document for purposes of determining the appropriate environmental finding for any applicable project components. It will also use the document as the base for approving the Airport Layout Plan (ALP), although ALP approval is not considered a project.

The purpose of the CEQA environmental review process as embodied in the EIR component of this report is to provide local governmental decision-making bodies and the public with sufficient information concerning the potential impacts of the proposed Master Plan project and project alternatives to allow them to make intelligent and informed decisions or opinions concerning the environmental acceptability of the project, alternatives, or action.

[1] Yolo County, General Services Agency, Draft *Airport Master Plan--Yolo County Airport*, May 1996.

As Lead Agency under CEQA, the County has prepared a dual-purpose document designed to meet the requirements of both NEPA and CEQA. The resultant EA/EIR will be used by the County to make a final environmental determination with regard to the proposed Airport Master Plan project in accordance with CEQA requirements.

TIMEFRAMES (CEQA/NEPA)

The Yolo County Airport Master Plan project is anticipated to be implemented in three phases between now and 2015 in response to anticipated community air service needs. The County is requesting unconditional FAA approval of the Airport Layout Plan (ALP) and environmental clearance for the Stage I (1998-2002) Master Plan Capital Improvement Program (CIP)[2]. Stages II and III projects are programmed for the period 2003-2015, and are considered to be long-term developments. The proposed CIP program consists of the following components (see Figure 1-5 on page 1-18 for project locations):

STAGE I PROJECTS (1998-2002)

A1	RWY 34 RUNWAY PROTECTION ZONE (RPZ) EASEMENT
A2	INSTALLATION OF PRECISION APPROACH PATH INDICATORS (PAPI/VASI)
A3	COUNTY APRON EXPANSION
A4	T-HANGAR DEVELOPMENT
A5	REHABILITATE HARDSTAND TAXILANE
A6	HANGAR DEVELOPMENT
A7	COUNTY APRON EXPANSION
A8	EQUIPMENT STORAGE AREA FENCING & IMPROVEMENTS
A9	HELIPAD SITE DEVELOPMENT
A10	RUNWAY 16 RPZ ACQUISITION (FEE)
A11	FUTURE FBO SITE INFRASTRUCTURE
A12	PRESTAR AVIATION APRON EXPANSION
A13	E.A.A. APRON DEVELOPMENT
A14	WOODLAND AVIATION APRON EXPANSION

2 FAA environmental approval is for a five-year period only.

STAGE II PROJECTS (2003-2007)

B1	TERMINAL BUILDING DEVELOPMENT
B2	UPGRADE PERIMETER FENCING
B3	INSTRUMENT RUNWAY MARKING/LIGHTING (HIRL) UPGRADE
B4	COUNTY APRON EXPANSION
B5	T-HANGAR DEVELOPMENT
B6	FUTURE FBO SITE INFRASTRUCTURE
B7	SLURRY SEAL EXISTING COUNTY APRON
B8	LEASEHOLD SITE INFRASTRUCTURE
B9	LEASEHOLD SITE INFRASTRUCTURE
B10	WEST SIDE HANGAR SITE PREPARATION/DEVELOPMENT

STAGE III PROJECTS (2008-2015)

C1	INFRASTRUCTURE FOR LONG-TERM AVIATION DEVELOPMENT
C2	RESURFACE RUNWAY
C3	RESURFACE APRON TAXIWAY
C4	CONSTRUCTION OF PARALLEL/CONNECTING TAXIWAY AND HOLDING APRON
C5	APPROACH LIGHTING (MALSF)

BACKGROUND

The Yolo County Airport is a publicly owned, public use general aviation airport, which was conditionally given to the County by the United States government in 1948. The government initially constructed the airstrip to provide alternative basing for aircraft during World War II. Since then, there have been many attempts to make these facilities into a functional airport, but until recently it has remained essentially underdeveloped. The paved runway has been used locally by crop dusters, flying schools, and skydiving and flight training activities initiated at other airports.

The County of Yolo ("the County") initiated the Master Plan study to guide future growth and development of the Yolo County Airport and to identify needed improvements to the aircraft operating areas and aircraft basing facilities as a response to projected aviation demand.

The proposed Master Plan anticipates future growth in corporate and general aviation aircraft operations, keeping pace with forecast growth in population and income within not only Yolo County, but also along the Highway I-80 corridor extending from Solano County eastward into Sacramento County. To meet the changing needs of an expanding market, a systematic analysis of airport development needs was necessary. The Airport Master Plan provided this systematic analysis of airport development needs. The Airport Master Plan provided this systematic approach to assist the County with identifying and carrying out a technically sound program for the anticipated short (0-5 year), intermediate (5-10 year) and long term (10-20 year) development needs of Yolo County Airport.

The Master Plan identifies existing (1996) conditions and development issues, provides forecasts of aviation activity, clarifies the demand for services and facility requirements (for both airside and landside operations), and recommends specific improvements to the airport. Conceptual plans are provided in the Master Plan as elements of a phased implementation program to respond to projected demand and to manage growth. To augment the planning of expanded services and facilities, a financial feasibility analysis focuses on the commitments necessary to carry out the proposed Master Plan development projects. Accordingly, estimated costs and possible financing arrangements are shown for initial, intermediate and ultimate (long-term) development projects.

PROJECT OBJECTIVES

The County proposes to implement the Airport Master Plan through a three-phased capital improvement program as set forth in the Master Plan, in accordance with the following project objectives:

- to develop an Airport Layout Plan which can be approved by the County Board of Supervisors and the FAA;

- to identify requirements for the development of aircraft storage facilities as well as considerations of potential new operational and administrative facilities;[3]

- to prepare a Building Area Plan to complement and update, as required, the Airport Land Use Plan;

- to prepare an Airport Airspace Plan showing FAR Part 77 imaginary surfaces to control the height of man-made and natural objects (e.g., trees) near the airport; and,

- to address requirements for utilities and service infrastructure, including water and power.

PURPOSE AND NEED

The proposed Yolo County Airport Master Plan is a management tool and policy document which, if adopted by the Yolo County Board of Supervisors, will provide direction for the growth and development of the Yolo County Airport through the year 2015. Based on aviation demand considerations discussed in the draft Airport Master Plan, the Airport is expected to continue in its historic role as a general aviation facility through the year 2015. The existing airfield provides sufficient annual and hourly capacity to allow it to continue to function in this role.[4]

However, the problem is that in order to optimize the utility of the airfield and landside facilities (hangars, aircraft parking aprons, etc.) specific improvements must be made to existing facilities. The two principal issues addressed in the draft Airport Master Plan are:

- Identification and application of the aircraft classification and design standards most appropriate to be applied to the airfield; and,

- Identification and application of the appropriate setback and dimensional criteria to be applied to a proposed airport administrative complex and building area development.[5]

3 Related uses include airport administration, pilot lounge, flight planning and filing, snack bar and meeting room.
4 *Draft Master Plan*, p. 5-1.
5 op. cit.

As described in the Airport Master Plan, the Airport's air service area is anticipated to generate a considerable and growing demand for facilities serving corporate aircraft.[6] Thus, an important element of the Master Plan is the evaluation of current airfield facilities with the purpose of identifying design deficiencies and issues under the assumption that the Airport would continue to accommodate the full range of demand generated within the designated airport service area. This has become even more important with the FAA's recently approved nonprecision instrument approaches to Runways 16 and 34.

Historical and Forecast Aviation Activities

Based on County and FAA estimates, the number of aircraft operations at the airport has remained relatively constant at around 60,000 annual operations since 1993. Based aircraft have grown from 29 in 1985 to 70 in 1996.

Forecasts of aviation activity were developed in the draft Airport Master Plan to help determine future Aviation Facility Requirements.[7] Because of economic uncertainty and the speculative nature of long-term forecasting for general aviation airports, the draft Master Plan developed two sets of assumptions regarding future demand:

Base Case Forecast. The Base Case Forecast scenario assumed that demand would be generated entirely by the indigenous economy of Yolo County. Under this scenario it was presumed that current Aircraft Operations would grow from 60,000 operations per year to 78,464 annual operations in 2015, and based aircraft would grow from 70 to 113.[8]

Enhanced Case Forecast. The Enhanced Case Forecast is based on the assumption that the Airport would draw from a service area extending beyond Yolo County and the airport would serve greater numbers of "Corporate" or "Business" aircraft as a result. Under this scenario, annual operations would grow from the current 60,000 to 101,309 in 2015, and based aircraft would increase from 70 to 145. In general terms, the Enhanced Case forecast would result in about 29% more operations and 28% more based aircraft than the Base Case scenario.

CONSULTATION AND COORDINATION WITH RESPONSIBLE AGENCIES

On April 25, 1997, the Yolo County Community Development Agency issued a Notice of Preparation (NOP) and Initial Study for the Preparation of a Draft EIR/EA for the Yolo County Airport Master Plan (see Appendix A). Comments on the NOP and initial study were received through June 9, 1997, and coordination and consultations conducted

6 op. cit.
7 *Master Plan*, pp3-1 to 3-11.
8 op. cit., Table 3-3

with responsible agencies through July 30,1997. The following agencies and organizations were consulted with respect to the preparation of the draft EA/EIR:

- Federal Aviation Administration
- CALTRANS Aeronautics Program
- State Clearinghouse
- California Department of Fish and Game
- Sacramento Area Council of Governments/Airport Land Use Commission
- Yolo County Building Office
- Yolo County Counsel
- Yolo County Department of Public Health
- Yolo County Emergency Services
- Yolo County Flood Control and Water Conservation District
- Yolo County Assessor
- Yolo County Department of Public Works and Transportation
- Yolo-Solano Air Quality Management District
- Yolo County Library
- Davis Branch Library
- Woodland Library
- West Plainfield Fire District
- Pacific Bell
- Pacific Gas and Electric Company

Responses to the NOP were received from the following agencies (see Appendix B):

- CALTRANS Aeronautics Program
- Yolo County Department of Public Health
- SACOG/Airport Land Use Commission
- State Department of Fish and Game
- Pacific Gas and Electric Company

OVERVIEW OF ALTERNATIVES

Two alternatives to the Airport Master Plan project are evaluated in the EA/EIR:

Alternative 1 – Upgrade Runway to ARC C-II With Enhanced Non-Precision Instrument Approach.

This alternative is described in the Master Plan as Study Alternative G. It differs from the Master Plan's preferred alternative (Study Alternative F) in that it is designed to serve 75% of large airplanes of 60,000 pounds or less at 90% load. (The Master Plan Alternative would serve 75% of large airplanes of 60,000 pounds or less at 60% load.) This alternative, designated the "Enhanced C-11 Runway Alternative," incorporates an enhanced nonprecision instrument approach to Runway 16 (see Figure 2-1). The

proposed nonprecision approach associated with this alternative would have a visibility minimum as low as ¾ mile. The existing published instrument approach to Runway 16 has a visibility minimum of one mile. This approach procedure would require increasing the dimensions of the Runway Protection Zones (RPZs) for Runway 16-34, and increasing the building setback requirements by 250 feet (see Table ES-1).

Alternative 2 - No Project. This alternative assumes that no changes would take place to the existing airfield. The runway and taxiway system would remain the same, and no provisions for improvement to the instrument approach procedure would be made. No additional airfield improvements would be made, either.

Table ES-1 Provides a comparison of the project and project alternatives.

TABLE ES-1
COMPARISON OF ALTERNATIVES

COMPONENT	AIRPORT MASTER PLAN (THE PROJECT)	ENHANCED C-II ALTERNATIVE	NO PROJECT ALTERNATIVE
BASED AIRCRAFT (1996/2015)	70/145	70/145	70/92
OPERATIONS (1993/2015)	60,000/101,039	60,000/101,039	60,000/69,300
AIRPORT CLASSIFICATION [A] (1996/2015)	B-II/C-II	B-II/C-II	B-II/B-II
DESIGN AIRCRAFT [B]	CL601	CL601	BAE 125-800
BUILDING RESTRICTION LINE			
15' STRUCTURE	355'	605'	355'
20' STRUCTURE	390'	640'	390'
25' STRUCTURE	425'	675'	425'
RUNWAY PROTECTION ZONE			
PRIMARY END (RWY. 16)			
INNER	500'	1,000'	500'
OUTER	1,010'	1,510'	1,010'
LENGTH	1,700'	1,700'	1,700'
OTHER END (RWY 34)			
INNER	500'	1,000'	500'
OUTER	1,010'	1,510'	1,010'
LENGTH	1,700'	1,700'	1,700'

Notes: (on next page)

Notes:

a. Airport Reference Code (ARC) B-II includes aircraft with approach speeds of from 91 to 121 knots and wingspans of from 49 to 79 feet. ARC C-II aircraft have approach speeds of 121 to 141 knots.
b. The CL601 is a 19 passenger executive jet. The Bae 125-800 is a popular business jet capable of carrying up to 14 passengers.

DESCRIPTION OF ENVIRONMENTALLY PREFERRED ALTERNATIVE

Because it lacks any specific development actions that could result in significant environmental effects, the "No Project Alternative" is the environmentally superior alternative. However, in such a case, CEQA requires that the EIR also "identify an environmentally superior alternative among the other alternatives." This alternative would be the project as proposed.

SUMMARY OF ENVIRONMENTAL IMPACTS

Both CEQA and NEPA require the identification and analysis of any significant environmental impacts associated with the proposed project and project alternatives. The environmental impacts of the project and project alternatives are discussed in Chapter 5.0, along with appropriate mitigation measures. Table ES-2 summarizes the environmental impacts of the Master Plan project and project alternatives. Table ES-3 summarizes mitigation measures proposed for the significant impacts identified in Table ES-2.

AREAS OF CONTROVERSY

No significant or substantive areas of controversy were identified during the public and agency comment period for the Notice of Preparation and Initial Study other than the issues identified in the scoping process and discussed in this EA/EIR. A number of issues were raised with respect to aircraft noise, other sources of noise, traffic, and flooding during the public review period for the Draft EA/EIR (see Appendices K and L).

ENVIRONMENTAL JUSTICE

The proposed project and related activities will not result in any *"disproportionately high and adverse human health or environmental effects...on minority populations and low-income populations."*[9]

9 Executive Order 12898, February 11, 1994.

Table ES-2
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

SPECIFIC IMPACT CATEGORY	AIRPORT MASTER PLAN PROJECT	C-II RUNWAY ALTERNATIVE	NO PROJECT ALTERNATIVE
NOISE			
• AIRCRAFT NOISE	○	○	○
• SURFACE TRAFFIC NOISE	○	○	○
• SHOOTING RANGE NOISE	○	○	○
• CONSTRUCTION NOISE	◗	◗	⊕
COMPATIBLE LAND USE	○	○	○
SOCIAL	○	○	○
INDUCED SOCIO-ECONOMIC	○	○	○
AIR QUALITY			
• MOTOR VEHICLE	○	○	○
• AIRCRAFT	○	○	○
• CONSTRUCTION (DUST)	◗	◗	○
• FUEL STORAGE	○	○	○
WATER QUALITY			
• STORMWATER RUNOFF	◗	◗	○
• FUEL STORAGE	○	○	○
• WATER DISTRIBUTION	⊕	⊕	--
• SEWAGE DISPOSAL	⊕	⊕	--
• CONSTRUCTION	◗	◗	○
DOT SEC. 4(F)	○	○	○
HISTORICAL, ARCHEOLOGICAL & CULTURAL RESOURCES	◗	◗	○
BIOTIC COMMUNITIES			
• SWAINSON'S HAWK	◗	◗	○
• BURROWING OWL	○	○	○

Legend: CEQA Environmental Impact Assessment Criteria

●	=	Class I Impact – Significant Unavoidable
◗	=	Class II Impact – Significant Mitigatable
○	=	Class III Impact – Less-Than-Significant
⊕	=	Class IV Impact – Beneficial
--	=	Not Applicable

Table ES-2
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
(CONTINUED)

SPECIFIC IMPACT CATEGORY	AIRPORT MASTER PLAN PROJECT	C-II RUNWAY ALTERNATIVE	NO PROJECT ALTERNATIVE
ENDANGERED SPECIES • SWAINSON'S HAWK • BURROWING OWL	◗ ○	◗ ○	⊕ ⊕
WETLANDS	○	○	–
FLOODPLAINS	◗	◗	○
COASTAL ZONE MANAGEMENT PROGRAM	–	–	–
COASTAL BARRIERS	–	–	–
WILD AND SCENIC RIVERS	–	–	–
FARMLAND	○	○	⊕
ENERGY SUPPLY/NATURAL RESOURCES	○	○	○
LIGHT EMISSIONS	◗	◗	○
SOLID WASTE LMPACTS	○	○	○
CONSTRUCTION	◗	◗	○
TRAFFIC/TRANSPORTATION	○	○	○
GEOLOGY/SEISMOLOGY	○	○	○
PUBLIC UTILITIES	○	○	○
HAZARDOUS MATERIALS • FUEL FARM	◗	◗	○

Legend: CEQA Environmental Impact Assessment Criteria

●	=	Class I Impact – Significant Unavoidable
◗	=	Class II Impact – Significant Mitigatable
○	=	Class III Impact – Less-Than-Significant
⊕	=	Class IV Impact – Beneficial
--	=	Not Applicable

TABLE ES-3
MITIGATION MEASURES

SPECIFIC IMPACT CATEGORY	SIGNIFICANT IMPACTS	MITIGATION MEASURES	IMPACT AFTER MITIGATION	RESIDUAL IMPACT
Noise • Construction	Noise from construction vehicles and equipment may result in noise levels in excess of 65dBA at exterior locations as far as 1,000 feet from project-construction sites.	Construction noise reduction/avoidance measures such as scheduling of construction to minimize impacts, use of properly operating muffler systems on equipment, etc. shall be implemented (see full discussion of mitigation measures in Section 3.1.3)	Class III (Less-than-significant)	Less-than-significant
Air Quality • Construction	Fugitive dust generated during construction and from wind erosion over exposed earth surfaces has the potential for significant annoyance.	All construction contracts shall require contractors to control dust generation in accordance with Yolo County dust control policies (see Section 3.5.3 for discussion).	Class III (Less-than-significant)	Less-than-significant
Water Quality • Stormwater Runoff	Project implementation would increase stormwater runoff into Airport Slough from 156 cfs to 204 cfs and from 120 acre feet for a 100-year storm of 24-hours' duration.	Stormwater detention facilities shall be incorporated into site planning for new development. Facilities shall be designed to limit the future rate of run-off into Airport Slough at current rate, and shall operate by temporarily storing peaks of stormwater runoff, with discharge occurring at lower rate over a longer period of time.	Class III (Less-than-significant)	Less-than-significant
• Construction	Construction activities have the potential to degrade local surface waters through spills, grading, and erosion.	Construction activities shall be subject to stringent controls on the use and storage of fuels and other potential pollutants, grading activities, and erosion (see Section 3.6.3).	Class III (Less-than-significant)	Less-than-significant

SPECIFIC IMPACT CATEGORY	SIGNIFICANT IMPACTS	MITIGATION MEASURES	IMPACT AFTER MITIGATION	RESIDUAL IMPACT
Historical, Archeological, and Cultural Resources	A slight potential exists for the discovery of human remains or cultural artifacts during project construction activities.	Construction personnel shall be alerted to the potential for uncovering artifacts or remains. Should such objects, or indicators thereof, be discovered construction shall be halted and a specialist and/or the County Coroner (as appropriate) be called in to evaluate the significance of the discovery (see Section 3.8.3).	Class III (Less-than-significant)	Less-than-significant
Biotic Communities, and Endangered and Threatened Species	Full buildout of the Master Plan could result in the loss of up to 114 acres of cultivated fields and would constitute a loss of habitat for the Swainson's Hawk.	Purchase off-site, contiguous habitat as a preserve, or other financial compensation in accordance with the Yolo County Habitat Conservation Plan (if adopted); or purchase off-site contiguous habitat in accordance with CDFG mitigation requirements (see section 3.10.3).	Class III (Less-than-significant)	Less-than-significant
Floodplains	Proposed development on the airport site, particularly to the east of Aviation Avenue, has the potential to result in up to 15 acres of floodplain encroachment and increase the amount of stormwater runoff originating at the Airport. The local community has expressed concern over the potential impacts of this on downstream flood problems from Airport Slough.	Prior to any significant development east of Aviation Avenue, the County shall undertake a coordinated design study of the project or projects to ensure that (a) the development would not encroach into the 100-year flood plain, or, (b) if encroachment cannot be avoided, design the project so as not to raise the base flood level. No new development shall be subject to flooding from a base flood condition (see section 3.12.3). Coincident with the development of the area east of Aviation Avenue, the County shall also widen and deepen the existing detention basin to replace the amount of floodplain storage capacity removed by the project. The County will pursue revisions to the Airport-area FIRM to indicate changes to base flood boundaries or elevations as may result from future airport development in this area.	Class III (Less-than-significant)	Less-than-significant

SPECIFIC IMPACT CATEGORY	SIGNIFICANT IMPACTS	MITIGATION MEASURES	IMPACT AFTER MITIGATION	RESIDUAL IMPACT
Light Emissions	Project implementation would increase the lighted areas on and around the airport, and could result in the creation of glare or distraction.	Lighting shall be designed and installed so as not to create any glare, or interfere with aircraft operations (see Section 3.18.3).	Class III (Less-than-significant)	Less-than-significant
Construction	Various, as set forth above, including noise, cultural resources, air quality, and water quality.	Noise reduction and avoidance; posted procedures; dust control, water quality protection and control; project design (see various mitigation sections).	Class III (Less-than-significant)	Less-than-significant
Hazardous Materials	Fuel storage design, construction and operation could result in adverse impacts.	Design, construct and operate fuel farm in accordance with criteria set forth in Section 3.24.3.	Class III (Less-than-significant)	Less-than-significant

1.0 PURPOSE AND NEED/PROJECT DESCRIPTION

1.1 PROJECT APPLICANT

County of Yolo - General Services Agency
625 Court Street, Room 203
Woodland, California 95695

1.2 PROPERTY OWNER

County of Yolo - General Services Agency
625 Court Street, Room 203
Woodland, California 95695

1.3 PROJECT LOCATION

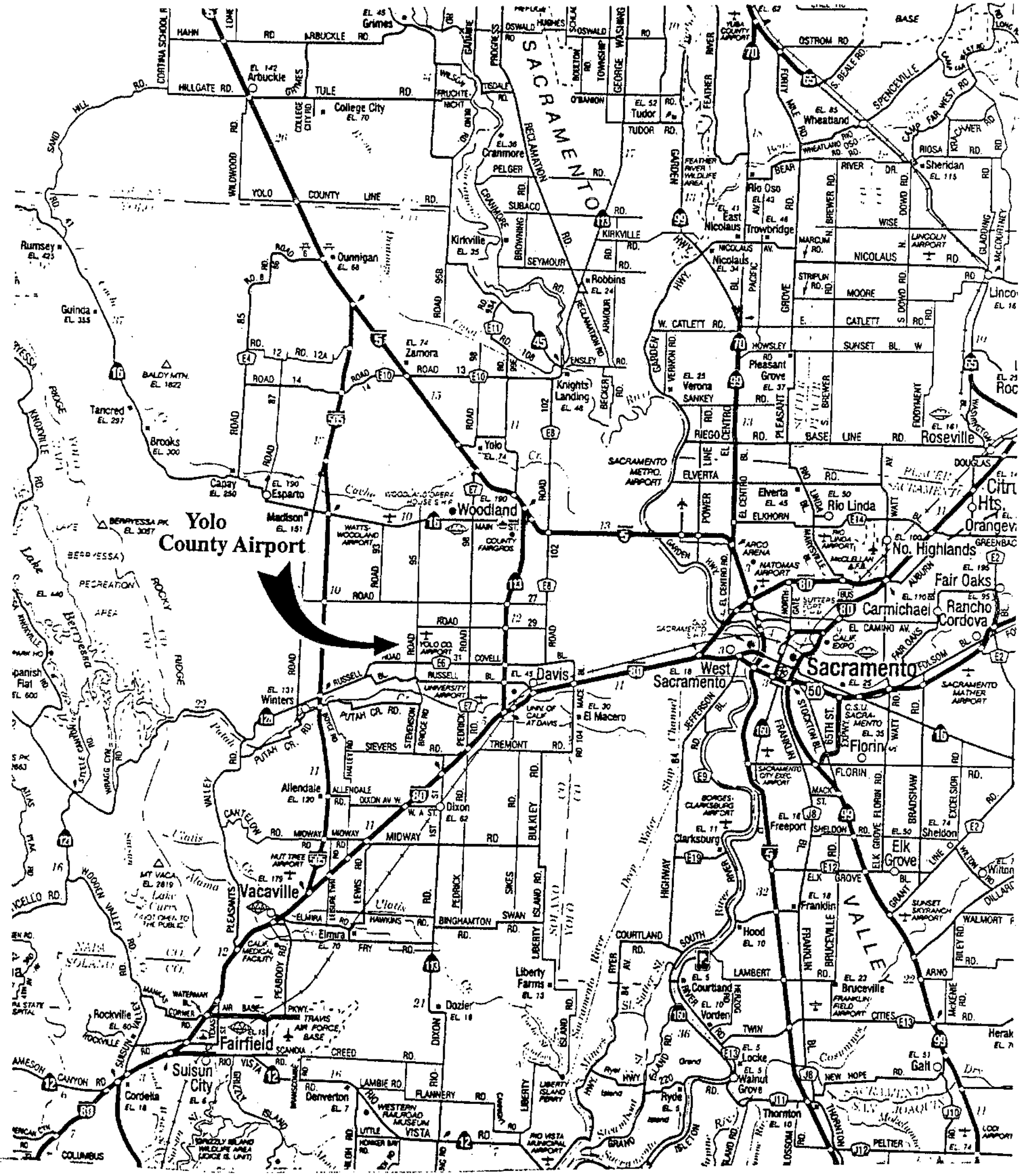
The Yolo County Airport is located in unincorporated Yolo County southeasterly of the intersection of County Road 29 and County Road 95. It is situated approximately 6 miles southwest of the town of Woodland (the Yolo County seat) and approximately 20 miles west of Sacramento. Figure 1-1 depicts the Airport's regional location and Figure 1-2 the Airport site.

1.4 OTHER PROJECT INFORMATION

Name, address, and telephone number of persons to be contacted concerning this project. For questions concerning the Airport Master Plan and related projects and issues, the project sponsor's representative is:

Mr. Keith Ott, Director
General Services Agency
County of Yolo
625 Court Street, Room 203
Woodland, California 95695
Telephone: (530) 666-8075

Fig. 1-1 Regional Location Map



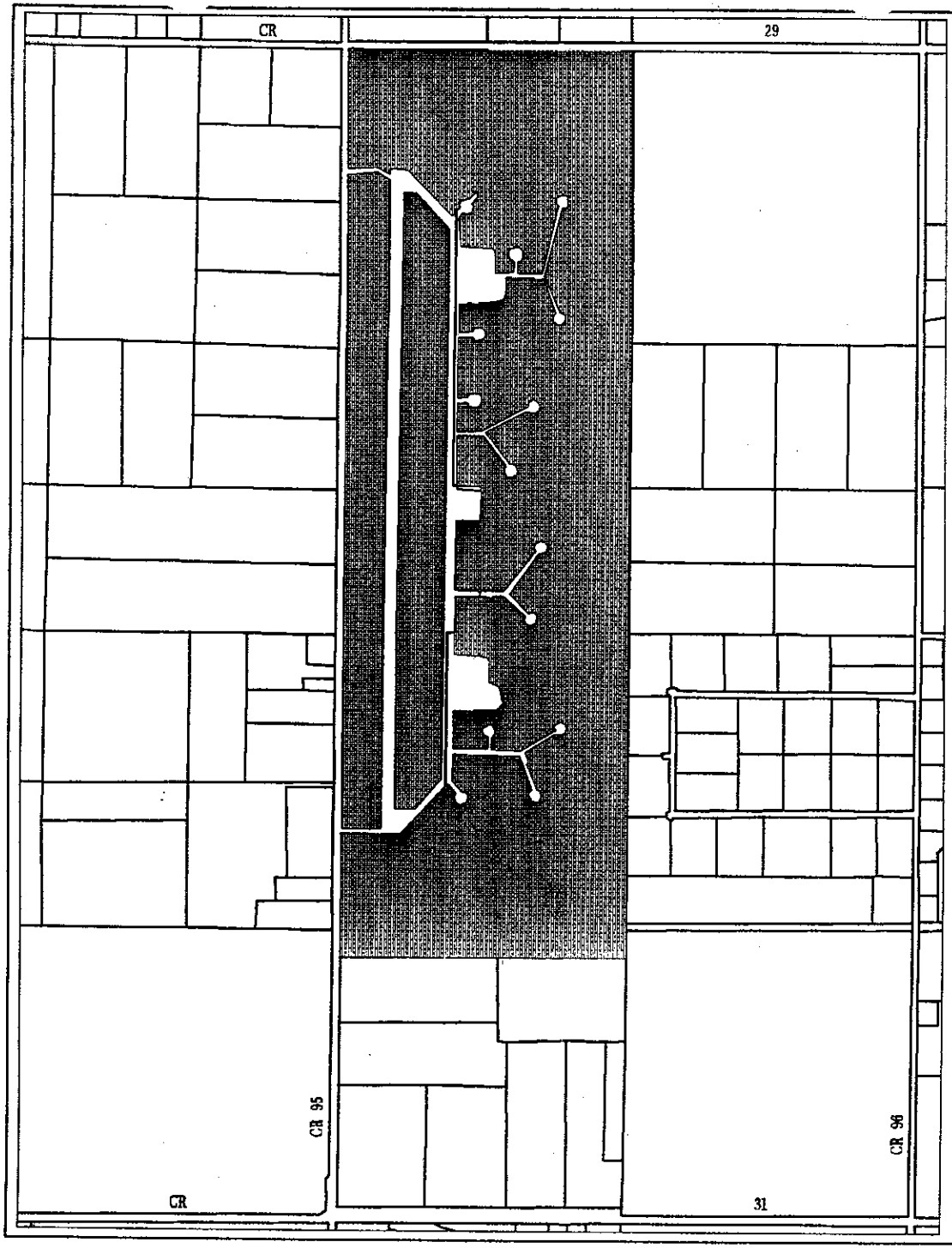


Fig. 1-2

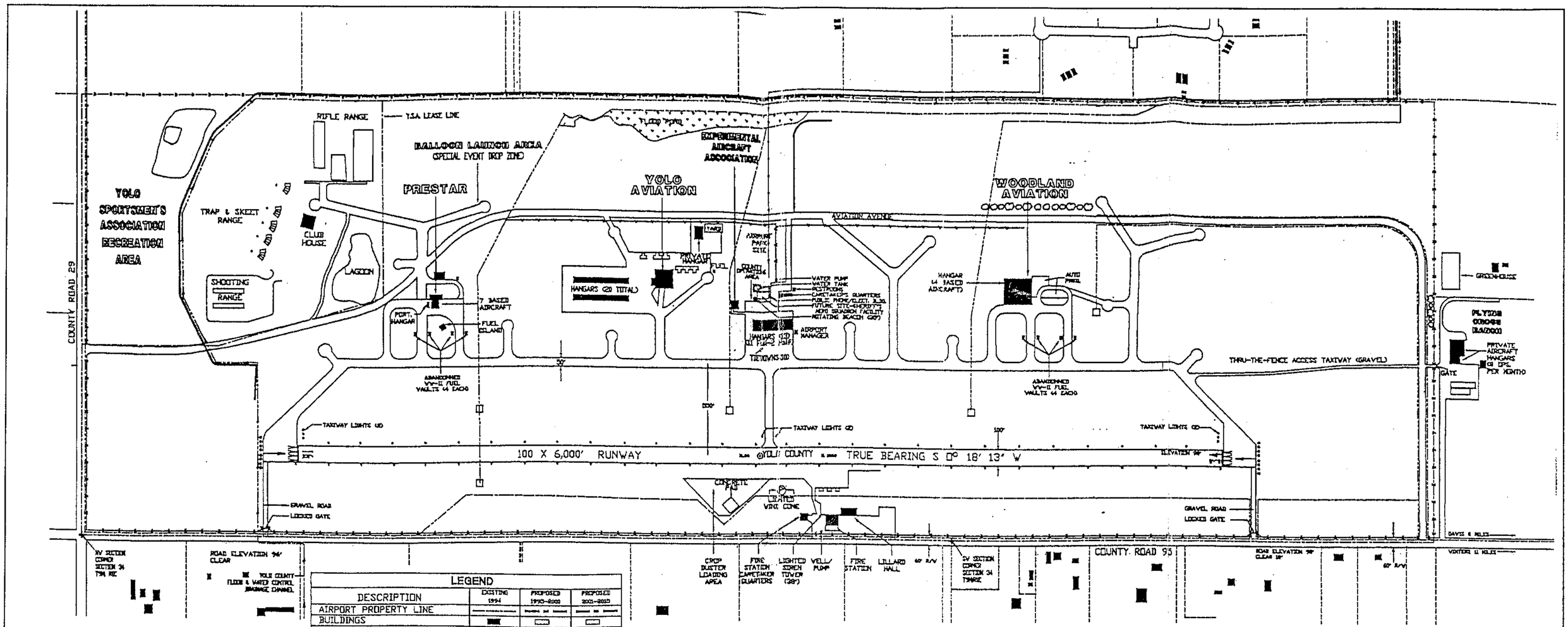
Airport Site

Scale in Miles

0 1/4 1/2

1 : 18 000

Produced by the Yolo County Community Development Agency - 9/30/97



LEGEND			
DESCRIPTION	EXISTING 1994	PROPOSED 1995-2000	PROPOSED 2001-2015
AIRPORT PROPERTY LINE			
BUILDINGS			
RUNWAY - TAXIWAY - APRON		SAME	
AIRPORT REFERENCE POINT		"	
BOUNDARY FENCE		"	SAME
AIRPORT BEACON		"	"
VASI - 2		"	"
REIL		"	
THRESHOLD LIGHTING		"	SAME
PROPERTY DIVISION OR LEASE LINE		"	"
AVIGATION EASEMENT			
TREES		"	"
BUILDING RESTRICTION LINE-21' BLDG.			BRL-21'
ELECTRIC POWER SERVICE		"	"
AIRPORT PARKING LINE			APL
YOLO CO. DRAINAGE DITCH			
SURFACE DRAINAGE DITCH			
WATER MAIN			

SCALE IN FEET

0 500 1000

Fig. 1-3

Existing Airport Facilities

For questions on the EA/EIR and related CEQA issues, the sponsor's representative is:

Mr. Mark Hamblin
Planner
Yolo County Community Development Agency
292 West Beamer Street
Woodland, California 95695
Telephone: (530) 666-8036

1.5 BACKGROUND/LEGAL AUTHORITY

This document has been prepared to comply with the requirements of the National Environmental Policy Act of 1969 (NEPA)[1] as implemented by Federal Aviation Administration (FAA) Order 1050.1D[2] and FAA Order 5050.4A[3] for the preparation of Environmental Assessments (EA), and to comply with the President's Council on Environmental Quality (CEQ) Regulations, Section 1506.2 to reduce duplication in federal and state environmental documentation. The report has also been prepared in accordance with the requirements of the California Environmental Quality Act of 1970 (CEQA),[4] the "*State CEQA Guidelines*,"[5] and County of Yolo guidelines for administering the California Environmental Quality Act for the preparation of Environmental Impact Reports (EIRs).

These policy documents form the basis for the guidelines, procedures, and criteria to be used by Yolo County and the FAA in assessing the probable environmental impacts of the proposed master plan project and project alternatives. They also provide for the opportunity for citizens, all professional disciplines and public agencies to critically evaluate the environmental consequences of the proposed master plan project and the manner in which supporting technical data were used.

Discussion is provided to give the reader a frame of reference for reviewing the technical data and findings set forth in this document. Key information contained in this chapter includes further information on the environmental review process as set forth by CEQA and NEPA, project objectives, a description of the project's technical, economic, and environmental characteristics, the intended uses of the document, and identification of key project-related issues as determined as a result of the Notice of Preparation for the Airport Master Plan EA/EIR.

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1 National Environmental Policy Act of 1969, as amended (P.L. 91-190, 42 U.S.C. 4321).
2 U.S. Department of Transportation, Federal Aviation Administration, Order 1050.1D, *Policies and Procedures for Considering Environmental Impacts*, December 12, 1983.
3 U.S. Department of Transportation, Federal Aviation Administration, Order 5050.4A, *Airport Environmental Handbook*, October 8, 1985 (revised).
4 *California Environmental Quality Act of 1970*, as amended. Public Resources Code, Sections 21000 – 21178.1.
5 State of California, Office of Planning and Research, *Guidelines for the Implementation of the California Environmental Quality Act*, Code of Regulations, Chapter 3, Sections 15000 – 15387.

1.6 PURPOSE OF THE EA/EIR

1.6.1 Requirement For an Environmental Impact Report

The purpose of the CEQA environmental review process as embodied in an EIR is to provide governmental decision-making bodies and the public with sufficient information concerning the potential impacts of a proposed project and project alternatives to allow them to make intelligent and informed decisions or opinions concerning the environmental acceptability of the project, alternative or action.[6] An EIR identifies the ways that environmental damage can be avoided or significantly reduced, requires changes to projects in the form of feasible alternatives and mitigation measures to prevent significant avoidable damage to the environment. It also discloses to the public the reasons why an agency approved the project in the manner chosen if significant environmental effects are involved.[7]

In an effort to determine the scope of issues and concerns to be addressed in the EIR, the County of Yolo Community Development Agency prepared an Initial Study and Notice of Preparation for the proposed Airport Master Plan Project EA/EIR. The Initial Study/Notice of Preparation was circulated for review and comments. The public response period ended on June 9, 1997. Comments received as a result of this notification process addressing environmental concerns appropriate to the proposed master plan project have been considered in the preparation of this EA/EIR.

1.6.2 Requirement for an Environmental Assessment

Airport Layout Plan (ALP) approval of, or federal financial participation in, certain categories of projects are subject to the preparation of an Environmental Assessment (EA) and subsequent decision by the FAA to prepare either an Environmental Impact Statement (EIS) or a Finding Of No Significant Impact (FONSI).[8] The project will be reviewed by the FAA in the context of the following categories to make its determination:

- Airport location.
- New runway.
- Major runway extension.

6 State of California, "Guidelines," , Section 15002(a)(1).
7 Ibid., Section 15002(a)(2) – (4).
8 FAA Order 5050.4A, , Chapter 3, paragraph 22. Also see appendix C, *Glossary*, for definition of terms.

- Runway strengthening which would result in a 1.5 dB or greater increase in noise over any noise sensitive area located within the 65 DNL contour.[9]

- Construction or relocation of entrance or service road connections to public roads which adversely affect the capacity of such public roads.

- Land acquisition associated with any of the above items plus land acquisition which results in relocation of residential units when there is evidence of insufficient comparable replacement dwellings, major disruption of business activities, or acquisition which involves land covered under section 4(f) of the Department of Transportation (DOT) Act.[10]

- Establishment or relocation of an instrument landing system, or an approach lighting system.

- An airport development action that may be considered an extraordinary circumstance or which involves any of the following:

    a. Use of DOT section 4(f) land.

    b. Effect on property included in or eligible for inclusion in the National Register of Historic Places or other property of state or local historical, archaeological, or cultural significance.

    c. Land acquisition of farmland protected under the Farmland Protection Policy Act (FPPA) to nonagricultural use.

    d. Wetlands, coastal zones or floodplains.

    e. Endangered or threatened species.

9 DNL is the Day-Night Average Sound Level expressed in decibels (dB). It may be abbreviated DNL, L_{dn}, or Ldn. It was developed as a single number measure of cumulative community noise exposure, and is used to predict the effects of average long tem exposure to environmental noise on a population. A more complete definition of this noise metric and the related Community Noise Equivalent Level (CNEL) metric can be found in the *Glossary of Terms* in Appendix C.

10 Department of Transportation Act of 1966, as amended (P.L. 89670, 49 U.S.C. 1653). Section 4(f). Lands include publicly-owned parks, recreation areas, or wildlife and waterfowl refuges or national, State or local significance or land of a historical site of similar significance.

1.6.3 Relationship of CEQA Environmental Review Criteria to NEPA Criteria

When a proposed airport master plan project requires compliance with both CEQA and NEPA, CEQA provides for the local agency to use the federal environmental document (usually an EIS or FONSI) rather than prepare an EA/EIR or Negative Declaration if the federal document will be completed before the local environmental document, and if the federal document is in compliance with CEQA guidelines.[11]

However, as Lead Agency under CEQA, the County of Yolo has elected to prepare a dual-purpose document that will meet the requirements of both CEQA and NEPA.[12] In this instance the resultant CEQA document is an EA/EIR which will be used by the County to make a final environmental determination with regard to the proposed Master Plan project. The FAA will also use this document as an EA for purposes of determining whether an EIS or Finding Of No Significant Impact (FONSI) will be prepared.

1.6.4 Intended Uses of the EA/EIR

The EA/EIR will be used to inform public agency decision-makers and the general public of any potentially significant environmental effects associated with the implementation of the proposed airport master plan project. It will also be used to identify possible ways to minimize any significant project effects, and describe reasonable alternatives to the project.

1.6.5 Requested Federal Action and Timeframe

The County of Yolo is requesting unconditional FAA approval of the Airport Layout Plan as developed in the Yolo County Airport Master Plan and written federal environmental approval for the Stage I (1998-2002) Master Plan Capital Improvement Program.

1.7 RESPONSIBLE AND TRUSTEE AGENCIES

1.7.1 Agencies Expected to Use the EA/EIR in Decision Making

The following public agencies are anticipated to use the EA/EIR in their decision-making processes:

- County of Yolo
- Federal Aviation Administration
- SACOG/Airport Land Use Commission (ALUC)

11 State of California, *"Guidelines,"* , Section 15221 et seq.
12 Ibid. Section 15170.

- Yolo-Solano Air Quality Management District
- Yolo County Flood Control and Water Conservation District
- State of California, Caltrans Aeronautics Program
- State of California, Regional Water Quality Control Board

1.7.2 Permit Requirements And Other Public Agency Approvals Required For This Project[13]

County of Yolo. The California Environmental Quality Act requires that the County make a determination of whether or not the proposed Yolo County Airport Master Plan project would have a significant effect on the environment. It is the purpose of this document to provide the basis for such a determination. Upon review of the information presented herein, and from other sources, the County may find that (1) changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen its significant environmental effect,[14] (2) such changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or should be, adopted by such other agency,[15] or (3) specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives.[16]

Federal Aviation Administration. The FAA requires candidate airport sponsors (including the County of Yolo) to maintain a current Airport Layout Plan (ALP). This drawing depicts existing facilities and staged physical improvements to meet projected aeronautical requirements. The FAA must formally "approve" an ALP as a condition of awarding grant monies for eligible projects. Approval of certain types of physical airport improvements is sought from the FAA.

However, of the airport improvements proposed for implementation between now and the end of 2002, none would be subject to the requirements for a federal environmental finding. One project, the installation of an approach lighting system would normally be the subject of an environmental assessment, but this project is proposed for the period 2008-2015, and as such is beyond the FAA's five year limit for project approvals. This project will be subject to additional environmental analysis within five years of its proposed implementation date. Hence, the only actions requested of this FAA at this time are the approval of the Airport's proposed Stage I capital development program (1998 through 2002) and approval of the Airport Layout Plan.

Airport Land Use Commission. The Sacramento Area Council of Governments (SACOG), as the Airport Land Use Commission (ALUC) for Yolo County, is a

13 Section 15124(d)(1) of CEQA requires a list of the agencies expected to use the "EIR" and a list of approvals for which the "EIR" will be used, including permits.
14 State of California, *"Guidelines,"*, Section 15091()(1).
15 Ibid., Section 15091(a)(2).
16 Ibid., Section 15091(a)(3).

responsible agency as defined by CEQA, and lead agencies must consult with the ALUC on any projects within its jurisdiction.[17] Under the applicable ALUC law, the County is required to refer the proposed master plan changes to the ALUC.[18] The ALUC must determine whether or not the proposed changes are consistent with its comprehensive land use plan. If found to be inconsistent, the ALUC must notify the County of its finding.

Air Quality Management District. The Yolo-Solano Air Quality Management District (AQMD) is the designated air quality management agency for Yolo County. The AQMD has prepared an air quality plan for Yolo County.[19] The EA/EIR will be used to assess the consistency and conformity of the Master Plan project with the regional air quality plan.

Flood Control and Water Conservation District. This agency reviews whether or not any drainage encroachment would be consistent with applicable District policies.[20]

State of California - Caltrans Aeronautics Program. The State of California, Department of Transportation (Caltrans) requires all state airports to maintain a current Airport Operating Permit. The airport maintains a currently valid permit issued by Caltrans' Aeronautics Program. The contemplated physical improvements may require an updated or amended Airport Operating Permit.

California Regional Water Quality Control Board. This agency has been delegated the responsibility of issuing a water quality certificate for any applicable project components as may be necessary under provisions of the Clean Water Act. [21]

1.8 AIRPORT MASTER PLAN PROJECT DESCRIPTION

1.8.1. Project Characteristics

Specific technical development components characterizing the proposed Yolo County Airport Master Plan are based on recommendations set forth in the "*Yolo County Airport Master Plan Report*." This report is hereby incorporated by reference in its entirety. A copy of the incorporated document is available for public review and inspection at the offices of the Yolo County General Services Agency.

17 The full authority of the ALUC is established by Article 3.5 of the State Public Utilities Code, Section 21670, et. Seq., as amended. (See also Appendix C for definitions).
18 Ibid., Section 21676 (a – c).
19 Yolo-Solano Air Quality Management District, *Sacramento Area Ozone Attainment Plan*, November 15, 1994.
20 The Yolo County Community Development Agency is responsible for floodplain management and the issuance of development permits.
21 Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977.

The existing airport layout is depicted on Figure 1-3. Both existing airport facilities and proposed improvements are illustrated in a Master Plan exhibit termed the Airport Layout Plan (ALP), which sets forth the location and extent of existing and future Airport facilities.[22] This illustration is reproduced as Figure 1-4.

Based on the aviation demand considerations discussed in Section 3, "Aviation Demand Forecasts" of the draft Airport Master Plan Report, the Yolo County Airport is expected to continue to fulfill its designated role as a general aviation facility through 2015. The existing airfield provides sufficient operational capacity to allow the airport to continue to function in this role, as explained in Section 4, "Demand/Capacity Analysis" of the Master Plan.

However, as noted in the draft Master Plan, in order to optimize the utility of the airfield and landslide facilities, certain improvements and upgrades will be required. Two principal design issues are addressed in the Master Plan in this regard:

- The classification and design standards most appropriate for the airfield; and,
- The appropriate setback dimensions for a future airport administrative complex and building area development.

1.8.2 Proposed Development (The Project)

The Master Plan recommends the following improvements be made at the Yolo County Airport:

1.8.2.1. Based Aircraft Facilities. Master Plan aviation demand forecasts suggest that based aircraft requirements will increase from a current level of 70 aircraft to 145 or more by 2015.[23] Facilities for up to an additional 75 based aircraft would be required as follows:

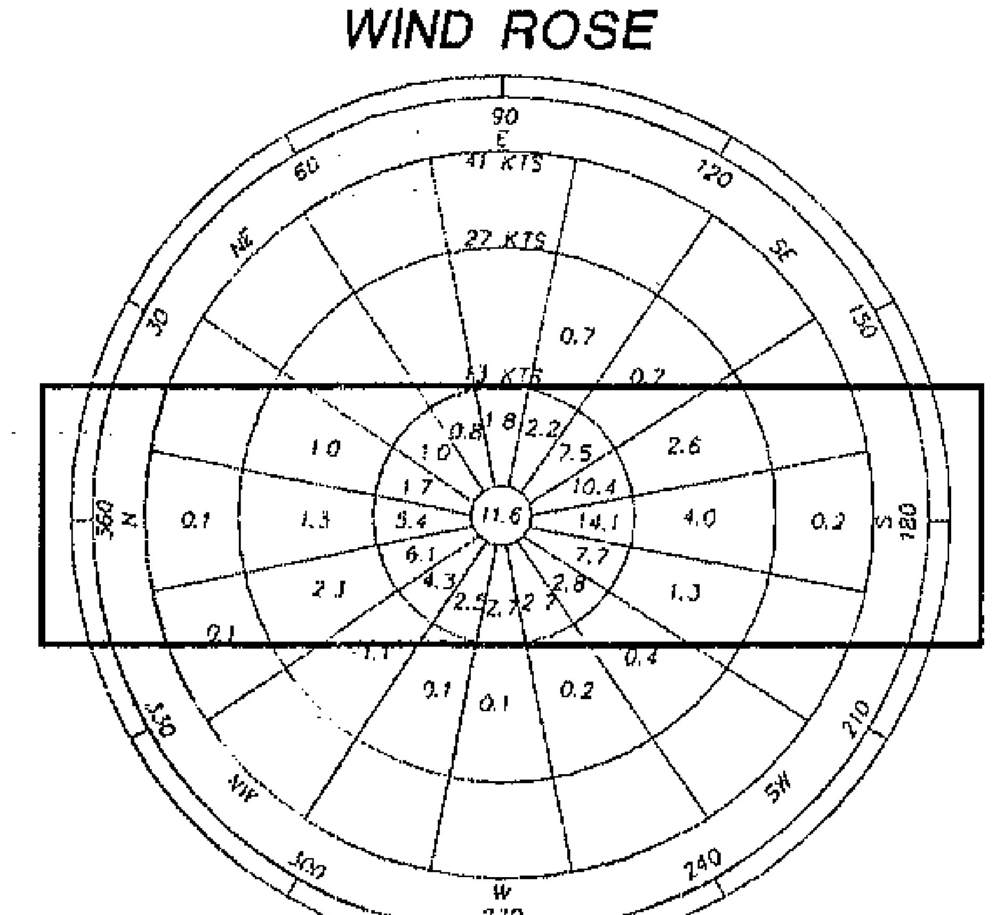
AIRCRAFT TYPE	BASED AIRCRAFT	PROJECTED NEED	TOTAL (2015)
SINGLE-ENGINE	57	39	96
MULTI-ENGINE PROP	7	14	21
LARGE PROP	0	3	3
TURBOPROP	3	11	14
TURBOJET	3	7	10
ROTOCRAFT	0	1	1
TOTALS	70	75	145

Source: *Master Plan, Table 3-4.*

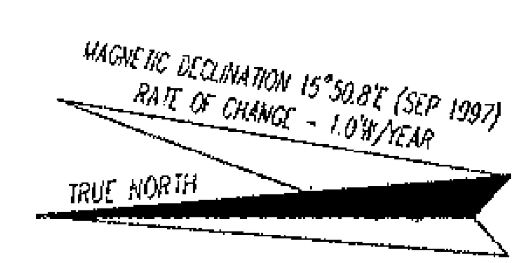
22. CEQA, Section 15124 requires that the *"precise location and boundaries of the proposed project...be shown on a detailed map..."*

23 *Master Plan*, P. 5-6. *Enhanced Case Projection.* For the Base Case scenario facilities for only 113 based aircraft would be required.

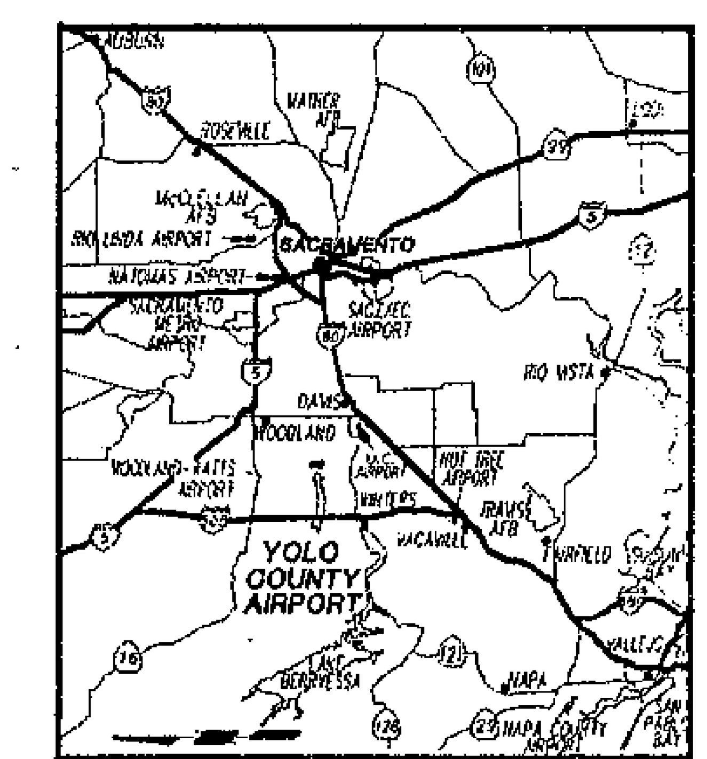
WIND ROSE



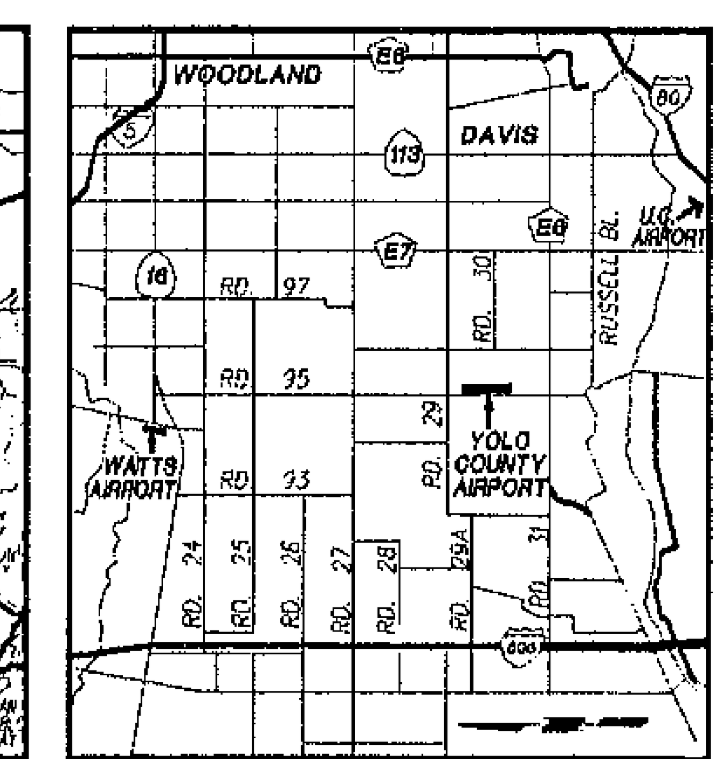
WIND DATA: U.S. DEPT OF COMMERCE WEATHER BUREAU 1951 - 1960
WIND COVERAGE: 11.6% CALMS (0-2.6 KNOTS) 97.4% WIND COVERAGE @ 13 KTS
SOURCE: AIR TRAFFIC CONTROL TOWER, SACRAMENTO METRO AIRPORT
PERIOD: JANUARY 1968 TO DECEMBER 1972



SCALE IN FEET
0 300 600



LOCATION MAP
SCALE IN MILES



VICINITY MAP
SCALE IN MILES

RUNWAY DATA

DESCRIPTION			EXISTING 1997	PROPOSED 1998-2002	PROPOSED 2003-2015
EFFECTIVE RUNWAY GRADIENT			0.03 %	SAME	SAME
% OF WIND COVERAGE @ 13 KTS.			97.4 %	"	"
RUNWAY PHYSICAL LENGTH x WIDTH			6000' x 100'	"	"
RW/TW PAVEMENT STRENGTH			30,000 lb S.W.L./ 45,000 lb D.W.L.	"	"
APPROACH SLOPES		RWY 16	34:1	"	"
		RWY 34	34:1	"	"
RUNWAY TYPE, MARKING & FAR 77 CAT.		RWY 16	VISUAL	N.P. INSTR.	N.P. INSTR.
		RWY 34	VISUAL	N.P. INSTR.	N.P. INSTR.
NAVIGATIONAL AIDS			NONE	MALSF/ PAPI	MALSF/ PAPI
RUNWAY/TAXIWAY LIGHTING			MIRL/NONE	HIRL/MITL	HIRL/MITL
RUNWAY SAFETY AREA		WIDTH	500'	SAME	SAME
		LENGTH BEYOND RUNWAY	1000'	"	"
RUNWAY PROTECTION ZONES	INNER WIDTH	RWY 16	500'	"	"
		RWY 34	500'		
	OUTER WIDTH	RWY 16	1,010'	"	"
		RWY 34	1,010'	"	"
	LENGTH	RWY 16	1,700'	"	"
		RWY 34	1,700'	"	"
RUNWAY END COORDINATES (NAD 83)	RWY 16	LAT	LAT 38°35'15.2"	"	"
		LONG	LONG 121°51'24.6"	"	"
	RWY 34	LAT	LAT 38°34'15.9"	"	"
		LONG	LONG 121°51'25.3"	"	"

LEGEND

DESCRIPTION	EXISTING 1997	PROPOSED 1998-2002	PROPOSED 2003-2015
AIRPORT PROPERTY/EASEMENT LINE			
BUILDINGS			
RUNWAY - TAXIWAY - APRON			
AIRPORT REFERENCE POINT		SAME	SAME
BOUNDARY FENCE		"	"
AIRPORT BEACON (ALNACO-RB2/1000A)		"	"
PAPI OR VASI	NONE		"
PROPERTY DIVISION OR LEASE LINE			
TREES		SAME	SAME
AIRCRAFT PARKING LINE / BUILDING RESTRICTION LINE - 21' BLDG.			
ELECTRIC POWER SERVICE		SAME	SAME
IRRIGATION CANAL/DITCH		"	"
SURFACE DRAINAGE DITCH		"	"
WATER MAIN		"	"
RUNWAY LIGHTS		"	"
APPROACH LIGHTS	NONE		
THRESHOLD LIGHTING			

FACILITIES LIST

DESCRIPTION	EXISTING 1997	PROPOSED 1998-2002	PROPOSED 2003-2015
1. WATER PUMP	X	SAME	SAME
2. WATER TANK	X	SAME	SAME
3. RESTROOMS	X	SAME	SAME
4. CARETAKER FACILITIES	X	SAME	SAME
5. ELECTRICAL BUILDING	X	SAME	SAME
6. ROTATING BEACON (35')	X	SAME	SAME
7. COUNTY OPERATIONS YARD	X	SAME	SAME
8. FUT. SHERIFF'S AERO FACILITY ON CONCRETE PAD		X	SAME
9. FUTURE TERMINAL BUILDING		X	SAME
10. FUT. TERM. PARKING AND SUPPORT FACILITY		X	SAME
11. HANGARS (13)	X	SAME	SAME
12. FUTURE HANGAR		X	SAME
13. EAA HANGAR	X	SAME	SAME
14. ALT. FUTURE HELIPAD		X	SAME
15. PRIVATE HANGAR (WOODLAND AV.)	X	SAME	SAME
16. PRIVATE HANGAR	X	SAME	SAME
17. T-HANGARS (2)	X	SAME	SAME
18. PRIVATE HANGAR (YOLO AV.)	X	SAME	SAME
19. CARETAKER'S RESIDENCE (TEMP.)	X	SAME	SAME
20. T-HANGARS (4)	X	SAME	SAME
21. HANGARS (20)	X	SAME	SAME
22. FUTURE HELIPAD		X	SAME
23. FUEL ISLAND	X	SAME	SAME
24. CARETAKER'S RESIDENCE (TEMP.)	X	SAME	SAME
25. FUTURE AIRCRAFT STORAGE		X	SAME
26. FUTURE AIRCRAFT STORAGE		X	SAME
27. OFFICE	X	SAME	SAME
28. QUONSET	X	SAME	SAME
29. PORTABLE HANGAR	X	SAME	SAME
30. OFFICE	X	SAME	SAME
31. RIFLE RANGE	X	SAME	SAME
32. CLUB HOUSE (YOLO SPORTSMAN)	X	SAME	SAME
33. TRAP AND SKEET RANGE	X	SAME	SAME
34. SHOOTING RANGE	X	SAME	SAME
35. CROP DUSTER LOADING AREA	X	SAME	SAME
36. LIGHTED WIND CONE	X	SAME	SAME
37. CARETAKER'S QUARTERS (WPFPD)	X	SAME	SAME
38. LIGHTED 58-FT. SIREN TOWER	X	SAME	SAME
39. FIRE STATION	X	SAME	SAME
40. LILLARD HALL	X	SAME	SAME
41. FUTURE HANGARS (9)		X	SAME
42. FUTURE HANGARS (9)		X	SAME
43. FUTURE MALSF APPROACH LIGHTS		X	SAME
44. FUTURE MALSF THRESHOLD LIGHTS		X	SAME
45. FUTURE PAPI LIGHTS		X	SAME

AIRPORT DATA

		EXISTING 1997		PROPOSED 1998-2002	PROPOSED 2003-2015
AIRPORT CLASSIFICATION		BASIC UTILITY	B-II	C-II	C-II
AIRPORT ELEVATION		98' MSL		SAME	SAME
AIRPORT REFERENCE POINT NAD 83		LAT 38°34'45.6"		"	"
		LONG 121°51'24.9"		"	"
MEAN MAX TEMPERATURE HOTTEST MONTH		97° F		"	"
INSTRUMENT APPROACH	RWY 16	GPS/VOR 1 mile vis.		"	"
	RWY 34	GPS/VOR 1 mile vis.		"	"
BASED AIRCRAFT		70		92	145
DESIGN AIRCRAFT		HA- 125 -800		CL601	CL601

FAA DISCLAIMER

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

SUBMITTED BY:

COUNTY OF YOLO
GENERAL SERVICES AGENCY
625 COURT STREET
WOODLAND, CALIFORNIA 95695

By ______________________ Date ________
Chair, Board of Supervisors

By ______________________ Date ________
Director, General Services Agency

NO.	DATE	REVISION	BY

YOLO COUNTY AIRPORT
WOODLAND, CALIFORNIA
AIRPORT LAYOUT PLAN

P&D AVIATION
A DIVISION OF P&D CONSULTANTS

DESIGNED: TGM	CHECKED: MRM
DRAWN: TGM, DL	DATE: APRIL 11, 1998

Fig. 1-4

It is important to note that these numbers are only generally representative of the actual numbers of aircraft of each class which might desire to be based at the airport over the forecast period. As noted in the Master Plan, various factors could affect actual demand over the 20-year time period. More importantly, it is not possible to identify, in advance, the specific locations (whether at FBOs or on County-operated facilities) where specific aircraft would be based, since these aspects of demand are largely indeterminate. Thus, the draft Master Plan defines only the broader areas that could be developed for aircraft basing purposes.

1.8.2.2. Land Acquisition. The Master Plan notes that most of the land required to support current needs and future improvements is already under fee ownership of the County.[24] With the exception of acreage required for FAA runway protection zone (RPZ) enlargement, the approximately 498 acre airport site satisfies all future needs for the airfield, aircraft operating areas, basing facilities and non-aeronautical support uses over the 20-year planning period. This includes more than adequate acreage for future FBOs and other airport businesses, land for industrial development, and aviation reserve.

The recommended improvement to the airport's low-visibility approach capabilities, i.e., a straight-in non-precision instrument approach, necessitates enlargement of the RPZs at both ends of Runway 16-34. Specific requirements include:

- Runway 16 RPZ 15.75 Ac. Acquisition in Fee
- Runway 34 RPZ 15 Ac. Fee Acquisition or Easement

1.8.2.3. Transient Aircraft Parking. Currently transient parking is provided at the two full-service FBOs (Prestar and Woodland Aviation). Limited transient capability is also provided at the County apron at midfield. An estimated total of 10 transient parking spaces are currently available. Additional transient parking spaces are proposed to be incorporated in the design for a new County Administrative Complex south of the present County operations area.

1.8.2.4. Helicopter Parking. Although used occasionally by transient helicopters, no designated operational or parking areas for helicopters has to date been provided at the airport. Provisions will be made to safely and efficiently accommodate helicopters by providing a permanent, dedicated rotorcraft parking area and preferred landing area.

The preferred helipad site would utilize a hardstand midway between the Prestar and Yolo Aviation lease areas. An alternate site would be located on the hardstand immediately south of the current, primary County operations area. Both the preferred and alternate helipad sites are illustrated on the Airport Layout Plan (ALP).

24 op. cit., p. 5-7.

1.8.2.5. Aircraft Storage. According to the Master Plan, hangar availability will strongly influence the realization of the based aircraft demand projections for Yolo County Airport.[25] Over the 20-year planning horizon, demand for hangars is estimated to remain as high as the present ratio wherein 3 out of 4 based aircraft are stored in hangars. Based upon the activity forecasts, the Master Plan proposes to provide for construction of at least 60 hangar units over the 20-year planning period.

Hangared storage should be expanded in association with growth in operations at the existing FBO facilities as well as at a future full-service FBO site. Further hangared storage recommended to be provided in connection with development of proposed new County Administrative Complex south of the present County operations area.

1.8.2.6. Terminal Building. The Master Plan recommends that a new terminal building should be developed as part of the proposed Administrative Complex and be targeted for construction toward the end of the planning period as warranted by traffic demand. Services to be provided include pilot's lounge, FAA flight service interlink, food/ beverage service and airport administration. A structure of approximately 2,500 square feet is recommended.

1.8.2.7. Fixed Base Operations. Although the full range of aviation services are currently available at Yolo County Airport, future traffic growth may justify creation of an additional FBO to supplement services presently available. Services that could be offered by a new FBO could be geared toward the growing market demand for corporate aviation users. A potential new FBO site, located between Prestar and Yolo Aviation, could accommodate a full-service FBO.

1.8.2.8. Fueling Facilities. Fueling facilities are currently provided by Prestar and Woodland Aviation. Future fueling services have been a subject of major concern to County management for several years and will result in a newly-adopted fueling services policy. In brief, the new fueling policy recommended by the Master Plan provides that:

- Fueling services/facilities at FBOs will require lease and/or license.
- All fuel tanks must be above ground.
- Minimum tank size of 5,000 gal., maximum - 20,000 gal.
- Installations will require an impermeable pad and containment wall.

1.8.3. Utilities and Infrastructure

The Master Plan notes that the availability of utilities and components of the airport's infrastructure can shape the pattern of development. The Yolo County Airport is

[25] op. cit., p. 5-10.

provided with the full complement of utilities and other infrastructure including water, electrical, gas, and telephone.

However, all of these major utility services need to be extended, upgraded and/or expanded to handle further airport facility improvements as shown on the ALP. Facilities to channel storm runoff are also provided but may be inadequate to serve future needs as paved areas are incrementally expanded. Certain infrastructure improvements are recommended to support the planned development depicted on the ALP, as follows:

1.8.3.1. Drainage System Improvements. The proposed drainage improvements are designed to facilitate the commercial development of the Yolo County Airport without adversely impacting existing drainage and/or resulting in any additional flooding in proximity to Airport Slough.[26]

Proposed drainage improvements will be designed to:

- Maintain current volume of floodplain storage capacity on Airport property (100-year flood = 88 ac. ft. ±).
- Provide phased on-site detention storage capacity for new development to reduce peak stormwater flows.
- Not increase stormwater runoff into Airport Slough beyond current conditions.
- Construct new building floors at least one foot above 100-year flood elevation.

1.8.3.2. Water System Improvements. The airport is currently served by three wells on airport property. The Master Plan proposes that a single looped closed water distribution system serving both domestic and fire flow needs be constructed.[27] To accommodate fire flow requirements of 2,000 gallons per minute (gpm) for two hours, the main airport well would have to be upgraded and larger pumps installed. A proposed new well would also be developed on the northern end of the airport, along with a 120,000-gallon ground water storage reservoir. The new water service would be by 10 and 12-inch diameter PVC piping, with fire hydrants installed every 600 feet.

1.8.3.3. Sewage System Improvements. The County proposes to install a central sewage collection system on the airport. The sewage collection system would also be a loop system, but instead of being closed would be a segmented circular pattern, which would collect wastewater from individual septic tanks, via 6-inch pipes.

According to the Master Plan, the leaseholder of each development parcel would be responsible for installing a properly sized septic tank on the individual parcel. The waste

26 Cunningham Engineers, Memorandum of April 27, 1998. See Appendix P.
27 *Master Plan*, P. 5-16.

water would flow by gravity to one or two package pump stations, where it would be pumped to 36 elevated leach beds, consisting of 3 sets of 3 mounds for each lease area.

1.8.3.4. Gas and Electricity. Pacific Gas and Electric Company (PG&E) is the primary provider of gas and electricity to the airport.[28] Proposed improvements to PG&E utilities serving the airport are based on preliminary plans generated by PG&E. Installation of proposed improvements will be accomplished concurrent with proposed water distribution system improvements. All future utility lines are proposed to be underground, where appropriate.

1.8.3.5. Telephone Service. Telephone service to the airport is provided by Pacific Bell. Telephone service upgrades are proposed concurrently with the proposed water distribution system improvements in accordance with a plan developed by PacBell.

1.8.4. Infrastructure and Development Phasing

The recommended Master Plan infrastructure development program has been proposed as a phased plan to accommodate long-range utilization of the facility. The support facilities consist of drainage improvements, a water distribution system, sewage system improvements, electrical and gas distribution system improvements, and upgraded telephone service.

In order to more effectively utilize funding for the development of the support facilities at the airport, the Master Plan proposes first, to install the water, electrical, gas and telephone lines in one main trench; and secondly, to phase the installation of the utility services by establishing a policy requiring the leasing of areas in phases. Through this process the development will have controlled growth, all necessary support facilities, and subsequent utilization of the proposed services. The proposed development phasing is as follows (project locations are as indicated on Figure 1-5):

28 Although the airport is not currently connected to natural gas service, a 4" gas line is located in the adjacent County Road 29 right-of-way.

STAGE I PROJECTS (1998-2002)

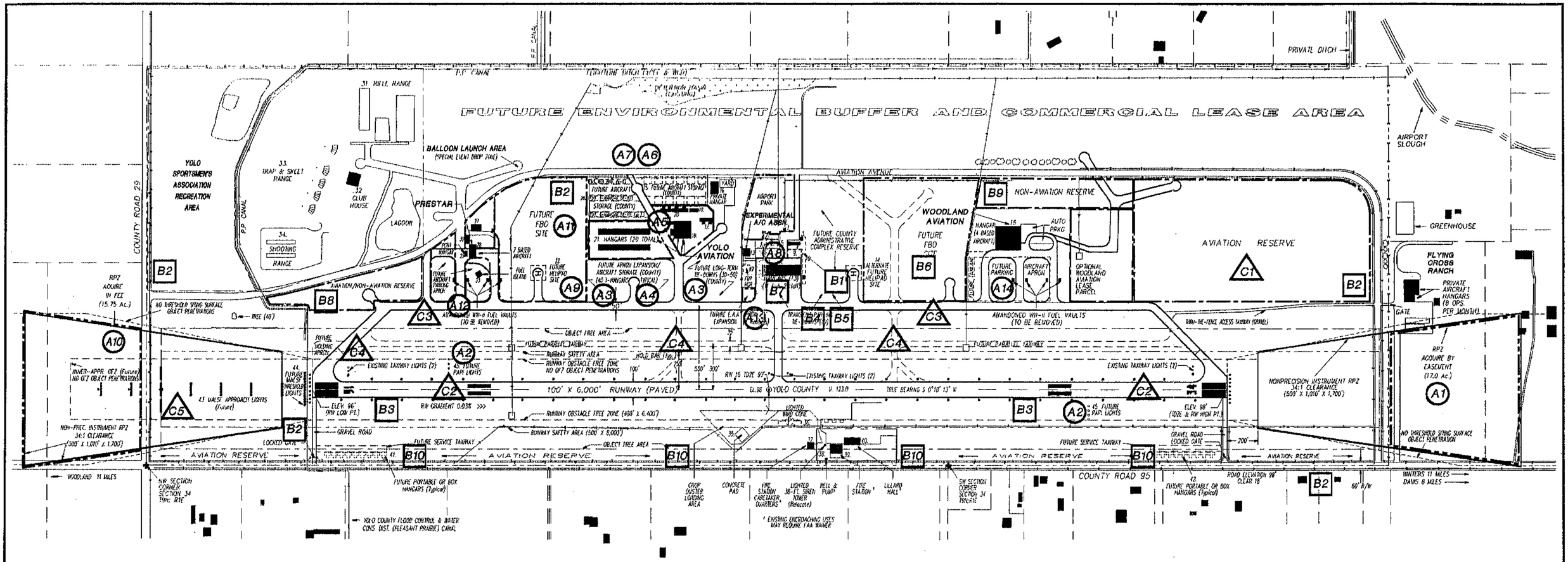
A1	RWY 34 RUNWAY PROTECTION ZONE (RPZ) EASEMENT
A2	INSTALLATION OF PRECISION APPROACH PATH INDICATORS (PAPI/VASI)
A3	COUNTY APRON EXPANSION
A4	T-HANGAR DEVELOPMENT
A5	REHABILITATE HARDSTAND TAXILANE
A6	HANGAR DEVELOPMENT
A7	COUNTY APRON EXPANSION
A8	EQUIPMENT STORAGE AREA FENCING & IMPROVEMENTS
A9	HELIPAD SITE DEVELOPMENT
A10	RUNWAY 16 RPZ ACQUISITION (FEE)
A11	FUTURE FBO SITE INFRASTRUCTURE
A12	PRESTAR AVIATION APRON EXPANSION
A13	E.A.A. APRON DEVELOPMENT
A14	WOODLAND AVIATION APRON EXPANSION

STAGE II PROJECTS (2003-2007)

B1	TERMINAL BUILDING DEVELOPMENT
B2	UPGRADE PERIMETER FENCING
B3	INSTRUMENT RUNWAY MARKING/LIGHTING (HIRL) UPGRADE
B4	COUNTY APRON EXPANSION
B5	T-HANGAR DEVELOPMENT
B6	FUTURE FBO SITE INFRASTRUCTURE
B7	SLURRY SEAL EXISTING COUNTY APRON
B8	LEASEHOLD SITE INFRASTRUCTURE
B9	LEASEHOLD SITE INFRASTRUCTURE
B10	WEST SIDE HANGAR SITE PREPARATION/DEVELOPMENT

STAGE III PROJECTS (2008-2015)

C1	INFRASTRUCTURE FOR LONG-TERM AVIATION DEVELOPMENT
C2	RESURFACE RUNWAY
C3	RESURFACE APRON TAXIWAY
C4	CONSTRUCTION OF PARALLEL/CONNECTING TAXIWAY AND HOLDING APRON
C5	APPROACH LIGHTING (MALSF)



Stage I (1998-2002)
(60,000 operations, 92 based aircraft) (A4)

A1	RWY 34 RPZ acquisition by easement
A2	PAPI/VASI installation
A3	County apron expansion (former Yolo Av.)
A4	T-hangar development
A5	Rehabilitate hardstand taxilane
A6	Hangar development
A7	County apron expansion (east of Yolo Av.)
A8	Equip. storage area fencing & related improvements
A9	Helipad site development
A10	RWY 16 RPZ acquisition in fee
A11	Future FBO site infrastructure
A12	Prestar Aviation apron expansion
A13	E.A.A. apron development
A14	Woodland Aviation apron expansion

Stage II (2003-2007)
(79,000 operations, 106 based aircraft) (B1)

B1	Terminal building development
B2	Upgrade perimeter fencing
B3	Instrument runway marking/HIRL upgrade
B4	County apron expansion
B5	Hangar development
B6	Future FBO site infrastructure (N of Woodland Av.)
B7	Slurry seal existing county apron
B8	Leasehold site infrastructure (N of Prestar)
B9	Leasehold site infrastructure (E of Woodland Av.)
B10	West side hangar site preparation/development

Stage III (2008-2015)
(101,000 operations, 145 based aircraft) (C1)

C1	Infrastructure for long term aviation development south of Woodland Aviation
C2	Resurface runway
C3	Resurface apron taxiway
C4	Parallel/connecting twy & holding apron const.
C5	MALSF approach lighting

NO.	DATE	REVISION	BY	APP

YOLO COUNTY AIRPORT
WOODLAND, CALIFORNIA

PROPOSED DEVELOPMENT PROGRAM

P&D AVIATION
A DIVISION OF P&D CONSULTANTS
1000 Broadway, Suite 300
Oakland, Ca 94607
(510) 839-1137

DESIGNED: TGM	CHECKED: MRM
DRAWN: TGM, DL	DATE: APRIL 11, 1998

Fig. 1-5

1.9 PURPOSE AND NEED

1.9.1 Problem Identification

The proposed Airport Master Plan was developed in part to respond to the problem that since publication of the first Airport Master Plan (circa 1976/77) and the County's proposed 1987 Airport Development Plan, the FAA has developed new standards for the design of airports. These standards are based on the physical and operational characteristics (e.g., weight, wingspan, approach speed, etc.) of the key aircraft types expected to use the facility in the future.[29] This system is termed the "Airport Reference Code, or "ARC" for short. The ARC system uses a two element code consisting of a letter and a Roman numeral which reference an aircraft's approach, speed and wingspan, respectively.

The design of runways and related airfield facilities are generally predicated on the approach speed of an aircraft, which are categorized as follow by the ARC system:

AIRCRAFT APPROACH CATEGORY (SPEED)

A	UNDER 91 KNOTS[30]
B	91 - 121 KNOTS
C	121-141 KNOTS
D	141-161 KNOTS
E	OVER 166 KNOTS

Airfield geometrics and separation criteria involving runways, taxiways and/or taxilanes are predicated on aircraft wingspan criteria, as follow:

AIRPLANE DESIGN GROUP (WINGSPAN)

I	UNDER 49 FEET
II	49 – 79 FEET
III	79 – 118 FEET
IV	118 – 171 FEET
V	171 – 214 FEET
VI	214 – 202 FEET

Based on these two key criteria, the Master Plan notes that the Yolo County Airport currently functions as a B-I airport wherein some 90 percent of operations involve

29 See FAA Advisory Circular 150/5300-13, *Airport Design*, 1989, as amended through change 5 (2/97).
30 To convert knots to miles per hour, multiply knots by 1.15.

aircraft with wingspans less than 49 feet and approach speeds less than 121 knots.[31] However, the airport also serves in excess of 10,000 operations of large aircraft which fall into Approach Categories "B" and "C" and Airplane Design Group "II." Thus, the airport currently functions under a "dual" classification, accommodating considerable activity of both light and larger, higher-performance aircraft (i.e., B-II and C-II).[32]

In addition to serving transient corporate aircraft on a regular basis, the airport also has some based corporate jet aircraft. These aircraft also fall within ARC B-II and C-II categories. With the exception of heavily loaded jet aircraft operating on hot days, the current runway length is sufficient to accommodate existing and forecast aircraft operations and does not seriously constrain aircraft operations under usual climatological conditions. Moreover, the majority of aircraft that currently use the airport are light single-engine and twin-engine types, typically weighing less than 12,500 pounds. These represent 90 percent of all operations while the remainder includes the Beech Super King Air B200, DHC-6 and the aforementioned turbojets.

In view of the regular use of the airport by corporate aircraft, perhaps the most conspicuous deficiency of the airfield, as noted in the Master Plan, was the absence of a published instrument approach procedure.[33] Thus, the Master Plan determined which ARC code was most appropriate to serve the future operations set forth in the aviation demand forecasts and has recommended an alternative means to accommodate demand during periods of low-ceilings and reduced visibility.

Over 2,000 operations per year by Approach Category "C" aircraft are conducted at the Airport (including operations by Woodland Aviation's Beech Starship and other executive jet aircraft.) Hence, the Master Plan recommends adoption of the ARC C-II Airport Design Standards, which are based on a "critical aircraft"[34] type having an approach speed of 121-141 knots and a wingspan of from 49 to 79 feet. This design goal is fully satisfied by the existing 6,000-foot long runway, and no runway extension is proposed by the Master Plan.

1.9.1.1. Required Design Upgrades. Based on the recommended ARC C-II design criteria, specific changes to existing airfield surfaces and safety areas will be required, and are depicted on the Airport Layout Plan as follow:

Runway Object Free Area (ROFA). The ROFA consists of a rectangular area centered on the runway centerline which must be kept free of objects except those fixed by function such as Aids to Navigation (AVAIDS). The ROFA for the existing B-II runway is 500 feet wide and extends 600 feet beyond each end of the runway. Both of the landing thresholds meet the requirements of being 600 feet from the property

31 op. cit., P. 5-2.
32 Prestar Aviation alone conducts about 6,000 operations per year with its Beech KingAir (B-II) aircraft.
33 See Section 2.6.1.2, below.
34 For airport design purposes, the critical aircraft represents the largest or fastest aircraft anticipated to use the airport on a regular basis in the future.

fences. For the proposed Master Plan C-II runway criteria, the required ROFA is 800 feet wide centered on the runway and extending 1,000 feet beyond the runway ends.

Runway Safety Areas (RSA). The RSA comprises a rectangular area centered on the runway that is graded to allow safety for aircraft which undershoot, overrun, or veer off the runway and for firefighting and rescue equipment. The RSA is to be kept free of objects including parked aircraft except those fixed by function and mounted on frangible supports.

The required RSA dimensions for the existing B-II runway is a minimum of 150 feet wide centered on the runway and extending 300 feet beyond each runway end. For the C-II runway as proposed, the required RSA is 400 feet wide centered on the runway and extending 1,000 feet beyond the runway ends.

Runway Protection Zones (RPZ). For each category of runway, the FAA has defined an RPZ, which is a trapezoidal area at ground level, which normally begins 200 feet from the threshold and is centered on the extended runway centerline. At Yolo County Airport, the RPZ's for Runway 16-34 have been upgraded from "visual" (visibility not less than three miles) to "visual and visibility not less than one mile" as a result of the FAA's publication on non-precision instrument approaches for each runway end. The upgraded RPZs are depicted on the Airport Layout Plan (Figure 1-4).

The FAA requires that the Airport sponsors establish control over land uses in the RPZs. The Master Plan recommends acquisition in fee of the area of the Runway 16 RPZ that extends beyond airport property (15.75 acres) and the acquisition of an easement for that portion of the Runway 34 RPZ which extends beyond airport property (17.0 acres).

1.9.1.2. Navigational Aids and Lighting. Although the airport could continue to function with limited instrument capability, The Master Plan deemed it essential that an all-weather capability be provided for the ultimate airport configuration. The ability of a pilot to locate the airport and successfully land an aircraft would be greatly enhanced by the provision of electronic navigational aids (NAVAIDS) which provide guidance to the runway during periods of poor visibility. Furthermore, effective runway visual aids would also be available to assist a pilot in identifying the runway end and landing the aircraft during periods of good visibility.

At the time the Draft Master Plan was prepared, the airport was not equipped with electronic NAVAIDS, and was only available during visual meteorological conditions. Major in-place visual landing aids were minimal, and the ability of the airport to attract greater numbers of corporate and other sophisticated users would require installation of additional approach aids.

In response to anticipated demand, the installation of a non-precision approach capability was recommended by the Draft Master Plan. Unlike existing technology

requiring costly and high maintenance on-site equipment, the utilization of emerging GPS technology would requires no new on-site electronic navigational aids.

A medium intensity runway lighting system (MIRL) is considered satisfactory for non-precision instrument operations with visibility minimums of one mile or greater by FAA. Runway 16-34 is equipped with MIRL as recommended. To complement the MIRL system, the Master plan recommends that medium intensity taxiway lights (MITL) be provided. In addition, upgrading of runway lights to high intensity (HIRL) may be required together with a Medium Intensity Approach Light System (MALSF) for more sophisticated approach procedures in the future.

Taxiways have reflectorized markers only. To facilitate nighttime operations in the future, all taxiways used for access to terminal areas should be equipped with MITL. Taxiway guidance signs should be considered to facilitate ground movements as nighttime operations of transient aircraft increase. The existing rotating beacon meets FAA criteria, as does the lighted wind tetrahedron.

Since the Draft Airport Master Plan was prepared, the FAA has published three nonprecision instrument approach procedures for the Yolo County Airport. The minimum descent altitudes (MDA) and minimum visibilities (VIS) required for the approaches vary depending on the approach speed of the aircraft and the type of approach (i.e., straight-in or circle to land), as follow:[35]

APPROACH PROCEDURE	AIRCRAFT APPROACH SPEED							
	A (UNDER 91 KNOTS)		B (91-121 KNOTS)		C (121-141 KNOTS)		D (141-161 KNOTS)	
	VIS	MDA	VIS	MDA	VIS	MDA	VIS	MDA
VOR RWY 34								
• STRAIGHT	1 MI	680'	1 MI.	680'	1.5 Mi.	680'	1.75 Mi.	680'
• CIRCLING	1 Mi	680'	1 Mi.	680'	1.5 Mi.	680'	2.0 Mi.	680'
GPS RWY 16								
• STRAIGHT	1 Mi.	540'	1 Mi.	540 '	1.25 Mi.	540'	1.5 Mi.	540'
• CIRCLING	1 Mi.	580'	1 Mi.	580'	1.5 Mi.	580'	2.0 Mi.	660'
GPS RWYS 4								
• STRAIGHT	1 Mi.	580'	1 Mi.	580'	1.25 Mi.	580'	1.5 Mi.	580'
• CIRCLING	1 Mi.	580'	1 Mi.	580'	1.5 Mi.	580	2.0 Mi.	660'

Source: FAA Forms 8260-5

35 The minimum descent altitude is the lowest altitude an aircraft is allowed to descend to when executing a standard instrument approach without having the runway in sight. The minimum visibility is the distance in statute miles required for a pilot to confirm visual contact with the runway. If the runway cannot be seen at this distance, the Aircraft cannot proceed below the MDA and must initiate a missed approach. The one exception to this is in an emergency.

From the above it can be determined that the minimum visibility required for any of the published procedures is one mile and the minimum descent altitude is 540 feet above mean sea level (MSL). The height above the airport (HAA) for such procedures ranges from a minimum of 443 feet to 582 feet.

The FAA has also published related departure procedures for the two runway ends, which are essentially straight out to 3,000 and 5,000 feet, respectively, for Runways 16 and 34.

1.9.2 Requested Federal Action and Timeframe

As noted in Section 1.2.5, Yolo County is requesting unconditional FAA approval of the proposed Airport Layout Plan and written Federal environmental approval for the Stage I (1998-2002) Master Plan Capital Improvement Program. Such approvals are anticipated in FY 1998.

1.9.3 Activity Statistics

Based on County and FAA estimates, the number of aircraft operations at the airport has remained relatively constant at around 60,000 annual operations since 1992. Based aircraft have grown from 29 in 1985 to 70 in 1996.

Forecasts of aviation activity were developed in the draft Airport Master Plan to help determine future aviation facility requirements.[36] Because of economic uncertainty and the speculative nature of long-term forecasting for general aviation airports, the draft Master Plan developed two sets of assumptions regarding future demand:

1.9.3.1. Base Case Forecast. The Base Case Forecast scenario assumed that demand would be generated entirely by the indigenous economy of Yolo County. Under this scenario it was presumed that current Aircraft Operations would grow from 60,000 operations per year to 78,464 annual operations in 2015, and based aircraft would grow from 70 to 113.[37] (see Table 1-1).

1.9.3.2. Enhanced Case Forecast. The Enhanced Case Forecast is based on the assumption that the Airport would draw from a service area extending beyond Yolo County and the airport would serve greater numbers of "Corporate" or "Business" aircraft as a result. Under this scenario, annual operations would grow from the current 60,000 to 101,309 in 2015, and based aircraft would increase from 70 to 145. In general terms, the Enhanced Case forecast would result in about 29% more operations and 28% more based aircraft than the Base Case scenario (see Table 1-2).

36 *Master Plan*, pp. 3-1 to 3-11.
37 op. cit., Table 3-3.

Table 1-1 *Aircraft Operations Forecast – Base Case* here

AIRCRAFT OPERATIONS FORECAST – BASE CASE

Yolo County Airport

Annual Civil Aircraft Operations

Aircraft Type	Operation Type	Actual 1993-96	2000	2005	2010	2015
S-E Prop. [1]	Local [4]	28,850	30,906	29,811	32,095	29,788
	Itinerant	16,150	16,769	21,102	22,260	26,810
	Total	45,000	47,676	50,913	54,355	56,598
M-E Prop. [2]	Local	1,050	1,152	1,260	1,379	1,472
	Itinerant	5,950	6,526	7,143	7,816	8,342
	Total	7,000	7,677	8,403	9,195	9,814
Large Prop. [3]	Local	0	0	0	0	0
	Itinerant	400	424	453	483	503
	Total	400	424	453	483	503
Turboprop	Local	0	0	0	0	0
	Itinerant	3,000	3,348	3,709	4,109	4,440
	Total	3,000	3,348	3,709	4,109	4,440
Turbojet	Local	0	0	0	0	0
	Itinerant	4,350	4,938	5,539	6,211	6,795
	Total	4,350	4,938	5,539	6,211	6,795
Rotorcraft	Local	100	106	113	121	126
	Itinerant	150	159	170	181	189
	Total	250	265	283	302	314
Total	Local	30,000	32,164	31,185	33,595	31,386
	Itinerant	30,000	32,164	38,115	41,060	47,078
	Total	60,000	64,328	69,300	74,655	78,464

Based Aircraft

Aircraft Type	Actual 1993-96	2000	2005	2010	2015
S-E Prop. [1]	57	61	65	70	76
M-E Prop. [2]	7	10	12	13	16
Large Prop. [3]	0	1	1	1	2
Turboprop	3	5	6	8	10
Turbojet	3	5	6	7	8
Rotorcraft	0	1	1	1	1
Total	70	83	91	100	113

Source: P & D Aviation

1. Light, single-engine piston propeller aircraft.
2. Light, twin-engine piston propeller aircraft.
3. Reciprocating engine aircraft over 12,500 pounds.
4. The term "local" in this context means traffic remaining in a closed pattern.

Table 2-2 *Aircraft Operations Forecast – Enhanced Case* here

AIRCRAFT OPERATIONS FORECAST -- ENHANCED CASE

Yolo County Airport

Annual Civil Aircraft Operations

Aircraft Type	Operation Type	Actual 1993-96	2000	2005	2010	2015
S-E Prop. [1]	Local [4]	28,850	32,397	33,121	37,891	37,903
	Itinerant	16,150	18,425	24,356	27,078	33,725
	Total	45,000	50,822	57,477	64,969	71,628
M-E Prop. [2]	Local	1,050	1,248	1,464	1,717	1,963
	Itinerant	5,950	7,074	8,298	9,728	11,125
	Total	7,000	8,323	9,762	11,444	13,088
Large Prop. [3]	Local	0	0	0	0	0
	Itinerant	400	452	511	578	637
	Total	400	452	511	578	637
Turboprop	Local	0	0	0	0	0
	Itinerant	3,000	3,690	4,435	5,326	6,240
	Total	3,000	3,690	4,435	5,326	6,240
Turbojet	Local	0	0	0	0	0
	Itinerant	4,350	5,351	6,430	7,722	9,049
	Total	4,350	5,351	6,430	7,722	9,049
Rotorcraft	Local	100	113	128	144	159
	Itinerant	150	169	192	217	239
	Total	250	282	319	361	398
Total	Local	30,000	33,759	34,713	39,752	40,025
	Itinerant	30,000	35,162	44,221	50,648	61,014
	Total	60,000	68,921	78,934	90,400	101,039

Based Aircraft

Aircraft Type	Actual 1993-96	2000	2005	2010	2015
S-E Prop. [1]	57	65	74	84	96
M-E Prop. [2]	7	11	14	17	21
Large Prop. [3]	0	1	1	2	3
Turboprop	3	7	8	11	14
Turbojet	3	7	8	9	10
Rotorcraft	0	1	1	1	1
Total	70	92	106	124	145

Source: P & D Aviation

1. Light, single-engine piston propeller aircraft.
2. Light, twin-engine piston propeller aircraft.
3. Reciprocating engine aircraft over 12,500 pounds.
4. The term "local" in this context means traffic remaining in a closed pattern.

1.9.4 Implications of "No Action"

If the recommended improvements to the Yolo County Airport were not implemented, it is quite likely that the air service needs of Yolo County would have to be met by other area airports. As a result, the County could be left with an under-capitalized, underused facility, which could become a drain on County financial resources.

1.10 APPLICABLE FEDERAL, STATE OR LOCAL LAWS AND PERMITS

Key federal, state and local statues, regulations, and guidelines with which the FAA and Yolo County must comply as related to implementation of the Proposed Master Plan project are presented in Appendix D. Types of federal and federally mandated permits that may be required of Yolo County in implementing the Master Plan project are listed in Appendix E.

1.11 AREAS OF POTENTIAL SIGNIFICANT IMPACT

Table ES-2 (Executive Summary Section) provides a tabular listing of the potential environmental consequences of the proposed project and alternatives to the project.

2.0 PROJECT ALTERNATIVES

A preferred alternative, the Yolo County Airport Master Plan (Study Alternative F) as described in Section 1.0 and two alternatives to the project have been identified and are examined in Section 3.0 (Affected Environment and Environmental Consequences). The two alternatives defined for purposes of this EA/EIR are:

- Upgrade Runway to ARC C-II with Enhanced Non-Precision Instrument Approach (Enhanced C-II Runway Alternative)
- No Project (No Action) Alternative

The alternatives presented range from maintaining the status quo (no project) to a higher intensity development based on superior navigational aids.

2.1 DESCRIPTION OF ALTERNATIVES

The proposed Airport Master Plan Project is described in Section 1.8 (Project Description), and the alternatives to the project are described as follows:

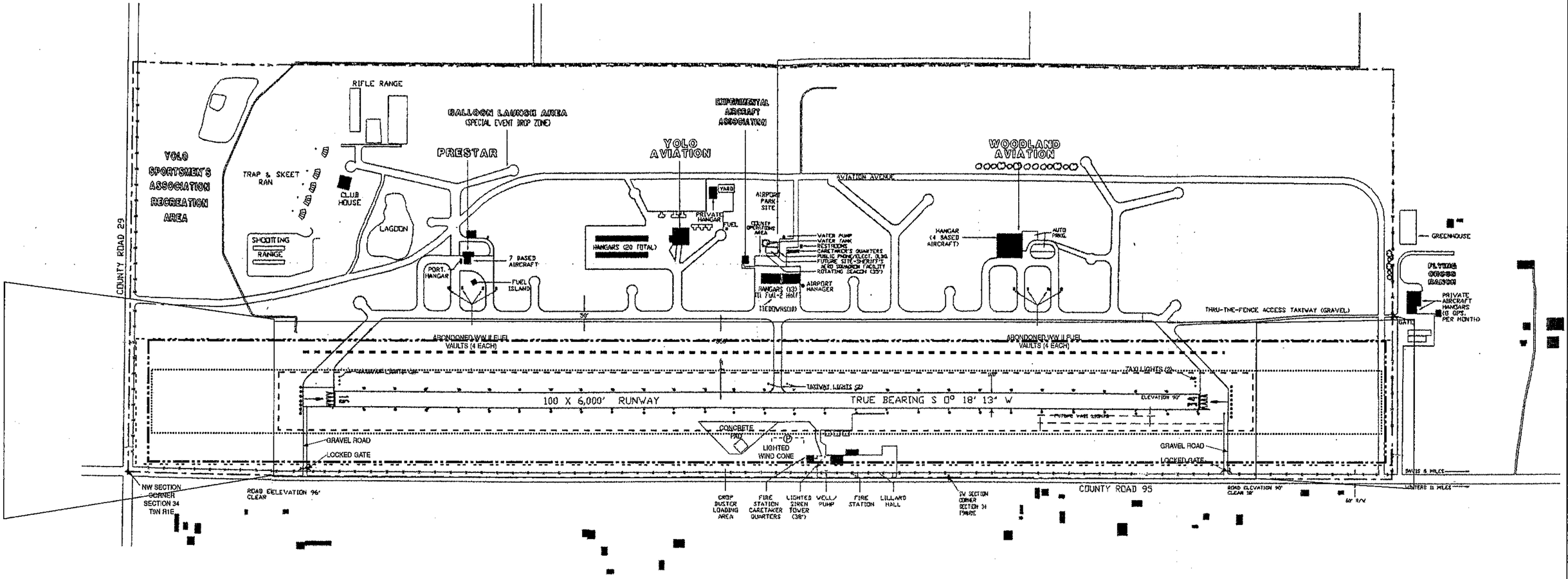
2.1.1 Upgrade Runway to ARC C-II With Enhanced Non-Precision Instrument Approach

This alternative is described in the Master Plan as Study Alternative G. It differs from the Master Plan's preferred alternative (Study Alternative F) in that it is designed to serve 75% of large airplanes of 60,000 pounds or less at 90% load. (The Master Plan Alternative would serve 75% of large airplanes of 60,000 pounds or less at 60% load.) This alternative, designated the "Enhanced C-II Runway Alternative," incorporates an enhanced nonprecision instrument approach to Runway 16 (see Figure 2-1). The proposed nonprecision approach associated with the alternative would have visibility minimum as low as ¾ mile. The existing published instrument approach to Runway 16 has a visibility minimum of one mile.

This approach procedure would require increasing the dimensions of the Runway Protection Zones (RPZs) for Runway 16-34, and increasing the building setback requirements by 250 feet (see Table 2-1).

2.1.2 No Project Alternative

This alternative considers existing conditions with respect to airport facilities and anticipates what might reasonably be expected to occur in the foreseeable future under the Base Case forecast scenario if the proposed project were not approved based on current plans and consistent with available infrastructure and community services. Under this alternative, some limited airport growth is anticipated, but facilities will not be present to meet demand. No construction impacts would occur.



Study Alternative G
Aircraft Approach Category: C (121-141 knots)
Airplane Design Group: II (49'-79' wingspan)
Runway Category: Large, higher-performance aircraft
Runway Type: Non Precision =.75/Visual

Obstacle Free Zone (OFZ)
Object Free Area (OFA)
Aircraft Parking Limit Line
Parallel Taxiway Setback
Runway Safety Area (RSA)
Runway Protection Zone (RPZ) and FAR 77 Primary Surface

Fig 2-1

2.2 COMPARISON OF ALTERNATIVES

Table 2-1 compares the key components of the project as proposed with the alternatives to the project.

TABLE 2-1
COMPARISON OF ALTERNATIVES

COMPONENT	AIRPORT MASTER PLAN (THE PROJECT)	ENHANCED C-II RUNWAY ALTERNATIVE	NO PROJECT ALTERNATIVE
BASED AIRCRAFT (1996/2015)	70/145	70/145	70/92
OPERATIONS (1996/2015)	60,000/101,039	60,000/101,039	60,000/69,300
AIRPORT CLASSIFICATION [a] (1996/2015)	B-II/C-II	B-II/C-II	B-II/B-II
DESIGN AIRCRAFT [b]	CL601	CL601	BAE 125-800
BUILDING RESTRICTION LINE			
15' STRUCTURE	355'	605'	355'
20' STRUCTURE	390'	640'	390'
25' STRUCTURE	425'	675'	425'
RUNWAY PROTECTION ZONE			
PRIMARY END (RWY. 16)			
INNER	500'	1,000'	500'
OUTER	1,010'	1,510'	1,010'
LENGTH	1,700'	1,700'	1,700'
OTHER END (RWY 34)			
INNER	500'	1,000'	500'
OUTER	1,010'	1,510'	1,010'
LENGTH	1,700'	1,700'	1,700'

Notes:

a. Airport Reference Code (ARC) B-II includes aircraft with approach speeds of from 91 to 121 knots and wingspans of from 49 to 79 feet. ARC C-II aircraft have approach speeds of 121 to 141 knots.
b. The CL601 is a 19 passenger executive jet. The Bae 125-800 is a popular business jet capable of carrying up to 14 passengers.

2.3 ALTERNATIVES CONSIDERED AND REJECTED

Among the airport development alternatives considered, the closure and relocation of the Airport, and its associated traffic, to a new or existing airport site was the most significant alternative eliminated from further study. The prospective closure of the Yolo County Airport and development of a new replacement airport was eliminated for the following reasons:

- Potentially excessive capital costs;
- Lack of availability or confirmation of federal funding assistance; and
- Lack of identified ability to recover full asset value from sale and conversion of facilities.

The closure of the Yolo County Airport and the relocation of based aircraft to another existing airport (e.g., U.C. Davis, Watts-Woodland, or Nut Tree Airports) was eliminated for the following reasons:

- Although similar in nature to the Yolo County Airport, the U.C. Davis, Watts-Woodland and Nut Tree Airports are constrained by their runway lengths (less than 4,000 feet); and
- Airport closure (without building a replacement airport) would be in conflict with FAA grant conditions.

The use of other transportation modes, including passenger rail and inter-city buses was also rejected as not being a reasonable or feasible alternative. Although such services are available to travelers in Yolo County, the decision to use the airport is not one in which a choice is made between bus, rail or air transportation modes. This is principally due to the fact that unlike rail or bus transit, the Yolo County Airport does not offer scheduled passenger service.

In addition to the project as proposed and the Enhanced C-II Runway Alternative, the Draft Airport Master Plan also considered, and rejected, five additional study alternatives to balance the costs and other implications of meeting projected community air service needs. These alternatives included:

STUDY ALTERNATIVE [a]	AIRPORT REFERENCE CODE	APPROACH TYPE
A	B-I	Visual
B	B-II	Visual
C	B-II	NPI 1 mile [b]
D	B-II	NPI ¾ mile [c]
E	C-II	Visual
G	C-II	NPI ¾ mile

(Notes on next page.)

Notes:

a. Draft Master Plan, pp. 5-4 through 5-6. Study Alternative G is an alternative to the Project in this EA/EIR and Study Alternative F became the Project.
b. Non-precision instrument approach with visibility minimums as low as 1 mile.
c. Non-precision instrument approach with visibility minimums as low as ¾ mile.

2.3.1. Master Plan Alternatives Rejected

The design considerations applicable to each of the above study alternatives and the reason(s) for their rejection are summarized below:

2.3.1.1. Alternative A – B-I Existing Runway. The existing runway and taxiway system (including runway length/width, taxiway width and the runway/parallel taxiway separation) would remain the same as currently exist. The full 6,000 foot length would be available for arrivals and departures. The calculated FAR Part 77 Building Restriction Line (BRL) for a 25' structure is well within the existing airport property line and lies clear of the West Plainfield Fire Station on the airfield's west side. The RPZs for both runway ends extend beyond fenced airport property.

This alternative accommodates the current aircraft fleet without provision of an instrument approach procedure, and was rejected as being the equivalent of the No Project Alternative, and less than the current B-11 configuration of the airport in terms of design criteria. It would be neither prudent nor feasible to redesign the airport to less than its current configuration.

2.3.1.2. Alternative B – B-II Visual Runway. In terms of physical facilities, this alternative is virtually identical to Alternative A, but alternative B would establish design setbacks, FAR Part 77, and runway protection zone (RPZ) dimensions to conform with ARC B-II criteria. As with alternative A, the 25-foot BRL lies entirely within existing airport property. However, the BRL would be repositioned to reflect a 500-foot wide FAR Part 77 primary surface (Alternative A used 250 feet) and corresponding widening of the RPZ. No existing airport uses conflict with the ARC B-II criteria. This alternative also accommodates the current aircraft fleet without provision of an instrument approach procedure. Alternative B was rejected because it would not suitably accommodate higher performance aircraft and the desired non-precision instrument approach procedure.

2.3.1.3 Alternative C – B-II Runway Upgraded with a Non-Precision Instrument Approach. This alternative was similar to the project as proposed, except that the design aircraft is ARC B-II, instead of C-II. This alternative was rejected in favor of the project alternative due to the County's stated desire to accommodate the C-II aircraft, which currently use, and will continue to use, the Airport.

2.3.1.4. Alternative D - B-II Runway Upgraded with a Superior Non-Precision Instrument Approach. This alternative provides an upgraded instrument approach to Runway 16 with visibility minima as low as ¾ mile. FAA criteria for this approach category would require enlargement of the primary surface and obstacle free area to a width of 1,000 feet. This alternative was rejected because it would extend the 10-foot BRL beyond County Road 95 and would require relocation of structures on the airport's west side (including the fire station). This alternative was rejected because it did not seem reasonable or prudent to undertake such action for B-II aircraft only.

2.3.1.5. Alternative E - C-II Visual Runway. This alternative was rejected because the visual runway would likely constrain operations by C-II aircraft to the point that such aircraft would no longer be the critical aircraft for airport design purposes. In addition, without the operational and safety enhancements afforded by a nonprecision instrument approach, the airport would not be available during periods of inclement weather (i.e., when visibility is below three miles or ceiling is less than 1,000 feet).

2.3.2. Selection of Preferred Alternative

Master Plan Alternative F (the project) was selected by the ad hoc Master Plan Technical Advisory Committee and subsequently endorsed by the Yolo County Board of Supervisors on September 27, 1994 as the design goal for this study. All subsequent discussions of the preferred alternative are reflective of the project as proposed and are based on the criteria applicable to airport Reference Code C-II aircraft, with a non-precision, straight-in approach to Runway 16/34 (visibility = 1 mile).

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES - SPECIFIC IMPACT CATEGORIES AND MITIGATION

This Affected Environment and Environmental Consequences chapter combines sections that are usually separated in an EA. For this EA/EIR, the two sections have been combined for several reasons: (1) to provide a document which combines the NEPA requirement for a discussion of the "affected environment" and the CEQA requirement for a discussion of the environmental setting (both are virtually the same, but handled differently under NEPA and CEQA), (2) to reduce the overall length of this document; and (3) to improve the readability of this document.

Twenty-four separate specific impact categories are discussed in this section in accordance with FAA Order 5050.4A and CEQA. The "Setting/Affected Environment" subsections identify the existing baseline environmental conditions in the vicinity of the airport for the various environmental impact categories under evaluation. The impact evaluation subsection ("Environmental Impacts") describe any significant adverse environmental effects from the project and compares them with the alternatives to the project. Mitigation measures to reduce negative environmental impacts are also presented in this section, as are other CEQA-required elements not related to NEPA. Maps depicting the airport's location and its vicinity are contained in Section 1.0 of this report. The Airport Layout Plan, which depicts the "precise location and boundaries of the project," is located in Section 1.8.

Both NEPA and CEQA require the identification and analysis of any significant or potentially significant environmental impacts associated with the proposed project or project related actions.[1] This section analyzes the potential environmental impacts of the Yolo County Airport Master Plan project as proposed, and alternatives to the project on the basis of the specific impact categories set forth in paragraph 47(e) of FAA Order 5050.4A and other categories of impact as may be required by CEQA. The following Specific Impact Categories are analyzed in this section:

1. Noise
2. Compatible Land Use
3. Social Impacts
4. Induced Socioeconomic Impacts
5. Air Quality
6. Water Quality
7. Department of Transportation Act, Section 4(f)
8. Historic, Architectural, Archeological and Cultural Resources
9. Biotic Communities

[1] FAA Order 5050.4A, op. cit., para. 47(e) and CEQA Guidelines, op. cit., Sec. 15126.

10. Endangered and Threatened Species of Flora and Fauna
11. Wetlands
12. Floodplains
13. Coastal Zone Management Program
14. Coastal Barriers
15. Wild and Scenic Rivers
16. Farmland
17. Energy Supply and Natural Resources
18. Light Emissions
19. Solid Waste Impacts
20. Construction Impacts
21. Traffic and Transportation*[2]
22. Geology and Seismology*
23. Public Utilities*
24. Hazardous Materials*

Classes of potential project impacts are identified in accordance with CEQA environmental impact assessment criteria, as follows:

Class I Impact: A significant, unavoidable, adverse impact for which the CEQA decision-makers must approve a "Statement of Overriding Considerations."[3] These are impacts for which *"specific economic, social or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR."*

Class II Impact: A significant adverse impact that can be feasibly mitigated to a less than significant level. CEQA Section 15091(a)(1) requires that "Findings" be made indicating that changes or alterations have been required in the project to substantially lessen impacts.

Class III Impact: An adverse impact that has been found to be less-than-significant.

Class IV: A beneficial impact.

Mitigation measures to reduce significant impacts to less-than-significant levels are also included, where appropriate.

2. * = This is not a NEPA specific impact category as set forth in FAA Order 5050.4A.
3. op. cit., Sec 15093(b)

3.1 NOISE

3.1.1 Setting/Affected Environment

The off-airport effects of aircraft noise emissions are and will continue to be an important planning consideration as part of the Yolo County Airport Master Plan implementation process. The forecast growth in aircraft operations and projected changes to the aircraft fleet mix at Yolo County Airport has the potential to affect a small but growing population in the vicinity of the airport. The contributions of other potential noise sources in the airport environs, particularly from surface vehicle traffic and construction activities, are also considered.

The objectives of the noise analyses in this section are to:

1. Illustrate and authoritatively describe aircraft overflight and the derivative noise exposure effects of aircraft operations on the airport environs (to comply with the noise analysis requirements of CEQA and the FAA, noise contours have been developed in terms of the Community Noise Equivalent Level (CNEL) metric (see Appendix C for definition). The noise contours were prepared on the basis of generally accepted noise modeling techniques approved by the FAA and the State of California.

2. Graphically compare the relative noise effects of present-day and forecast aircraft operations.

The results of these analyses are described in Section 3.1.2 below.

3.1.1.1 Aircraft Noise Descriptors. This analysis is concerned primarily with cumulative descriptors of aircraft noise. A cumulative noise metric provides a single measure of continuous or multiple noise events over an extended period of time. Single-event noise metrics, as the name implies, measure the sound level of a single noise event (e.g., an aircraft flyover). Appendix F, *"Characteristics of Noise and Noise Regulations,"* provides additional background and details on these and other noise descriptors.

Cumulative Noise. Cumulative noise contours for 1993-96 historical and 2015 forecast noise exposure conditions were prepared using the FAA's Integrated Noise Model (INM) Version 5.1.[4] The validity of noise modeling conducted for this study is

4. The FAA's Integrated Noise Model (INM), Version 4.11, was originally used to perform calculations and produce contours of equal noise exposure for this study. The noise contours used in the Draft EA/EIR were originally prepared in 1995 as part of the Airport Master Plan Study. Since then, newer versions of the INM have been developed and released. However, the modifications to these models had very little impact on general aviation noise impact analysis. This, coupled with the fact that since 1995 aircraft operations have grown less than 5% overall at the Yolo County Airport, suggests that the noise model and assumptions used in modeling the noise impacts are still valid (e.g., it would take a 26% increase in overall aircraft operations to result in a 1.0dB increase in the noise contours. This is within the model's accuracy tolerance of 1.5dB). Nevertheless, in

supported by thorough inventory of all pertinent variables that influence aircraft noise generation.[5] Specific variables in the noise modeling effort include runway configuration and utilization, flight track utilization, existing and forecast levels of aircraft activity, the time of day of operations and flight procedures in use. Table 3-1, *"INM Input Data for Yolo County Airport"* summarizes the data used in the preparation of the noise contours.

The data describing these variables were arranged and input to a computer model to produce contours of equal cumulative noise levels expressed in Community Noise Equivalent Level (CNEL) metric (see Appendix G, *"Noise Model Inputs").* CNEL is the methodology specified in the California Airport Noise Standards[6] and is nearly identical to the yearly Day-Night Average Sound Level (DNL) described in federal regulations. Both metrics penalize individual aircraft events by 10dB for increased annoyance during nighttime (10:00 p.m. to 7:00 a.m.) hours. CNEL adds an additional 5dB penalty to events occurring during evening (7:00 p.m. to 10:00 p.m.) hours.

Single-Event Noise Exposure. Annoyance has been identified as the most common outward symptom of stress related to noise. Acoustical studies have indicated that annoyance due to aircraft noise is directly proportional to the intensity and duration of the noise event. The continued use of Yolo County Airport will perpetuate effects which are perceived on a single flyover basis, but which may be masked by conventional cumulative noise (CNEL) analysis techniques. However, the duration and intensity of existing and proposed aircraft operations at Yolo County Airport are significantly below the threshold levels identified as having any long lasting or harmful effects. Such effects are typically associated with residents living close-in to major air carrier and military airports.

Surface Vehicle Noise. Primary sources of surface-generated noise in the vicinity of the Yolo County Airport include area streets and highways and agricultural operations, Only County Road 95 and County Road 29 have the potential for increased surface traffic noise impacts as a result of project implementation.

Construction Noise. Construction noise associated with project implementation, or the implementation of project alternatives (with the exception of the no-project alternative), also has the potential for significant noise impacts.

September 1997, the noise input files were re-run for 1996 conditions using INM 5.1. The results were comparable, although the same input data resulted in slightly smaller and more compact contours when modeled using INM 5.1.

5. In the absence of specific records, estimates were made of operations of specific types of aircraft (see Master Plan text, op. cit.).
6. State of California, Code of Regulations, Title 21, Subchapter 6, *"Noise Standards."*

TABLE 3-1
INTEGRATED NOISE MODEL INPUT DATA FOR YOLO COUNTY AIRPORT

INPUT PARAMETER	EXISTING 1993 - 1996	FORECAST 2015
AVERAGE DAILY OPERATIONS		
LARGE PROP	1.1	1.7
SINGLE ENGINE PISTON	123.3	196.2
MULTI-ENGINE PISTON	19.2	35.9
TURBOPROP	8.2	17.1
TURBOJET	11.9	24.8
HELICOPTER	0.7	1.1
TOTAL	164.4	276.8
PERCENT OF OPERATIONS BY TIME PERIOD		
DAY (7:00AM - 7:00PM)	90%	90%
EVENING (7:00PM - 10:00PM)	9%	9%
NIGHT (10:00PM - 7:00AM)	1%	1%
TOTAL	100%	100%
PERCENT OF OPERATIONS BY RUNWAY END	70%	70%
RUNWAY 16	30%	30%
RUNWAY 34		
TOTAL	100%	100%
PERCENT TOUCH-AND-GO*	50%	40%

* Includes "stop and go" traffic pattern training.

Source: Yolo County Airport Master Plan, Table 3-4.

3.1.1.2 Policies. The analysis of potential noise impacts from implementation of the proposed airport master plan or master plan alternatives must be conducted on the basis of applicable state and local standards and policies for compliance with the California Environmental Quality Act and federal standards and criteria for compliance with the National Environmental Policy Act as set forth below:

State Policies and Standards. The State of California has specified a cumulative noise level of CNEL 65dB as the standard which airports must meet to protect existing residential communities and schools from unacceptable aircraft noise

levels.[7] The State has determined that a criterion noise level of CNEL 65dB is the level deemed acceptable to a reasonable person residing in urban residential areas where residences are of typical California construction and may have windows partly open. It has been selected with reference to speech interference, sleep interference and community reaction. Single and multiple family residences, schools, medical facilities, and churches are deemed incompatible uses if located within the CNEL 65dB noise contour for an airport unless there is an avigation easement for noise or sufficient acoustical insulation in the structure.[8]

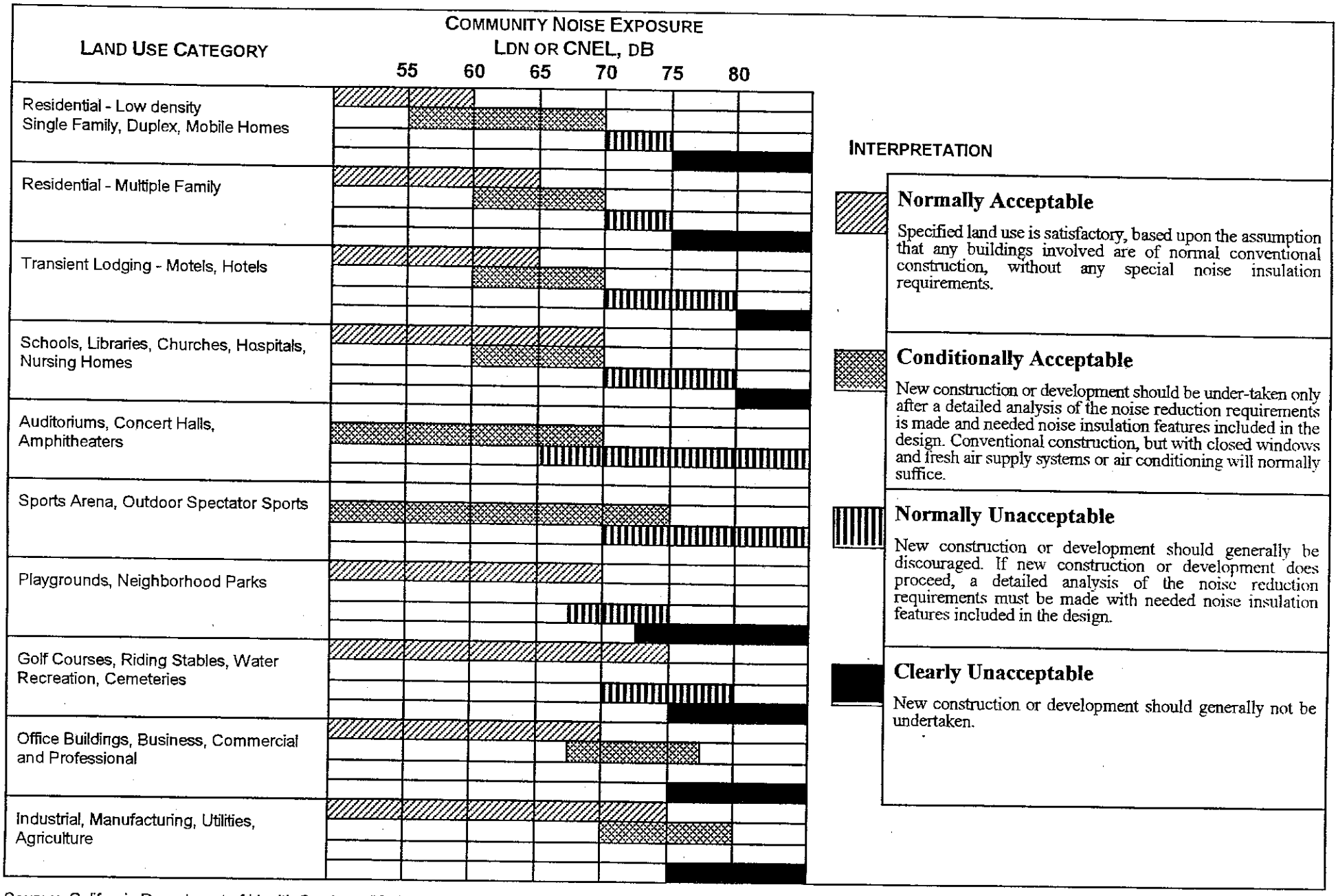
The State Department of Health Services has developed criteria and guidelines for local agencies to use in setting standards for human exposure to noise and establishing compatible land uses. These guidelines are set forth in Table 3-2.

Where land use is denoted as "Normally Acceptable" in Table 3-2, the highest noise level in that range should be considered the maximum desirable for existing or conventional building construction which does not incorporate any special acoustic treatment. The acceptability of noise environments classified as "Conditionally Acceptable" or "Normally Unacceptable" should include consideration of the type of noise source, the sensitivity of the noise receptor, the noise reduction likely to be provided by structures, and the degree to which the noise source may interfere with speech, sleep or other activities that are characteristic of the land use.[9] As can be determined from Table 3-2, the recommended outdoor noise limit for single-family residences is CNEL 60dB, and CNEL 65dB for multiple-family residences.

The state noise insulation standards[10]establish minimum noise insulation performance standards to protect persons within new hotels, motels, apartment house and dwellings other than detached single-family residences. The standards state that interior noise levels with windows closed shall not exceed a noise level of CNEL 45dB in any habitable room. In addition, residential buildings or structures within a CNEL 65dB CNEL contour from airport, highway, railroad, or industrial noise sources shall require an acoustical analysis showing that the proposed building has been designed to limit intruding noise to the allowable CNEL 45dB interior noise standard. An exception is made for railroads where there is no nighttime (10 p.m. to 7 a.m.) operation and where daytime (7 a.m. to 10 p.m.) operations do not exceed four per day.

7. *Airport Noise Standards,"* op. cit., Section 5000, et seq.
8. Ibid.
9. Ibid.
10. California Code of Regulations, Title 24.

TABLE 3-2 -- LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Source: California Department of Health Services, *"Guidelines for the Preparation and Content of the Noise Element of the General Plan,"* Revised 1987.

County Policies and Standards. The Yolo County General Plan contains specific policies relating to noise, including:[11]

N1 **Noise Basic.** Yolo County shall regulate, educate, and cooperate to reduce excessive noise levels within the environment and particularly those noise levels that impinge upon the home environment.

N2 **Noise/Land Use.** Yolo County shall regulate the location and operation of land uses to avoid or mitigate harmful or nuisance levels of noise.

N3 **Noise, Prevent and Control.** Noise shall be prevented, avoided, and suppressed by controlling noises at the source, providing barriers or buffers, by the implementation of a noise ordinance and by means of wise land use planning and implementation.

N12 **Noise and Safety/Airports.** Yolo County shall regulate and guide land use in the vicinity of airports to ensure the safety of surrounding persons and those in the aircraft. Plans and regulations to avoid conflicts, minimize safety hazards, and to minimize the level and effects of noise shall be applied.

LU51 **Plans Around Airport.** Specific Airport related land use plans shall be prepared for lands on and around airports.

LU52 **Airports.** Lands in the vicinity of airports shall be especially designed and controlled by means of the Yolo County General Plan.

The County's General Plan Noise Element establishes land use compatibility criteria for land uses in the county (reference Table 3-2). Cumulative Noise levels of up to CNEL 60dB[12] are considered acceptable for all forms of residential land users, including low density single family homes and mobile homes. Cumulative noise levels of CNEL 60-65dB are considered "normally" acceptable for residential development, and levels of CNEL 65dB and above are considered "unacceptable."

11 op. cit., pp. 35-37.

12 The intensity, or acoustic energy of sound is measured in decibels (dB). The A-weighted decibel scale (dBA) corrects for those frequencies heard by the human ear. Ambient noise levels generally range from 30 dbA (very quiet) to 100dBA (very loud). The state of California has established CNEL 65dB as the threshold level for determining noise/impact.

Federal Aviation Administration Policies. FAA Order 5050.4A, "*Airport Environmental Handbook*," states that "*No noise analysis is needed for proposals involving Design Group I and II airplanes on utility...or transport...type airports whose forecast operations in the period covered by the environmental assessment do not exceed 90,000 annual adjusted propeller operations or 700 annual adjusted jet operations*," since these levels of activity would not result in cumulative noise levels exceeding CNEL 60dB more than 5,500 feet from start of takeoff roll or CNEL 65dB on the runway itself.[13]

However, the proposed Master Plan's Enhanced Case forecast scenario, assumed 91,592 annual operations by propeller aircraft, and over 9,000 turbojet operations. Hence, noise impact analyses were prepared.

3.1.2 Environmental Impacts

3.1.2.1 Master Plan Project. Potential noise impacts resulting from the implementation of the Yolo County Airport Master Plan project can be broken down into three separate categories: aircraft noise, surface traffic noise, and construction noise impacts.

Aircraft Noise Impacts. Figure 3-1 sets forth the calculated cumulative noise exposure contours, as expressed by the CNEL metric, for existing (1993-1996) operational conditions at Yolo County Airport.[14] Figure 3-2 depicts projected 2015 aircraft noise exposure conditions at the Airport under the Master Plan's Enhanced Case Scenario (101,039 annual operations).

Agricultural Aircraft. The noise effects of agricultural aircraft operations at Yolo County Airport was raised as an issue during the public review period for the Draft EA/EIR. Although included in the total count of historical and forecast aircraft operations, these aircraft were not modeled separately in the Draft EA/EIR. In response to this issue, P&D contact the acoustical consulting firm of Harris Miller Miller & Hanson, Inc. (HMMH) of Sacramento and requested that they contact the agricultural operators (crop dusters) and determine specifics about their operations which could be used to re-run the noise model. HMMH's noise analysis was based on information obtained during on-site and telephone discussions with the primary crop duster operator at the Airport, Growers Air Service. Updated Community Noise Equivalent Level (CNEL) contours were developed using the information provided to modify the Integrated Noise Model Version 5.1 input files developed by P&D for the Airport Master Plan. HMMH's research is reflected in Figures 3-1 and 3-2.

13. op. cit., para. 47(e)(1)(a).
14. Based on 1993 operational data factored up to 1996 conditions, i.e., 1993 conditions are still representative of conditions in terms of airport activity levels.

The resulting CNEL 65dB contour for current aircraft operations at the Airport are illustrated in Figure 3-1. The results indicate that the 65dB CNEL contour falls primarily within the Airport boundaries, except to the west near the runway ends where it extends across County Road 95 as follows:

- On the north, just to the west of the Runway 16 landing threshold, the 65dB CNEL contour extends approximately 100 feet west of the Airport.

- On the south, just to the west of the Runway 34 landing threshold, the 65dB CNEL contour extends approximately 50 feet west into the community.

As with the previous noise contour map (i.e., in the Draft EA/EIR), there are no residences located within the 65dB aircraft noise contour.

The updated 2015 CNEL contour is depicted in Figure 3-2. This contour is slightly larger due to the projected increase in aircraft operations at the Airport. there appears to be a total of three (3) residences within the 2015 65dB CNEL contour. This would represent an increase of two dwelling units over what was set forth in the Draft EA/EIR. However, one of the potential dwelling units is a free-standing garage or accessory building. The complete HMMH report is included as Appendix N.

On the basis of the information set forth in figures 3-1 and 3-2, and the speculative nature of predicting actual aircraft operations and fleet mix in 2015, implementation of this proposed Airport Master Plan would not result in a significant noise impact (Class III impact – less-than-significant).

Surface Vehicle Noise Impacts. Noise impacts from surface vehicles resulting from Master Plan implementation would result in an estimated increase of vehicle trips at the airport from approximately 190 average daily weekday trips in 1996[15] to an estimated 380 average daily weekday vehicle trips in 2015.[16]

For existing (1996) conditions, the exterior noise exposure levels at 50 feet from the nearest roadways (County Roads 95 and 29) to the Airport are CNEL 65 dB for County Road 95, and CNEL 60 dB on County Road 29. These data include the 190 average daily trips currently generated by the Airport.

15 Yolo County Dept. of Public Works and Transportation, (August 1996).
16 Based on buildout under the Master Plan's Enhanced Case forecast scenario.

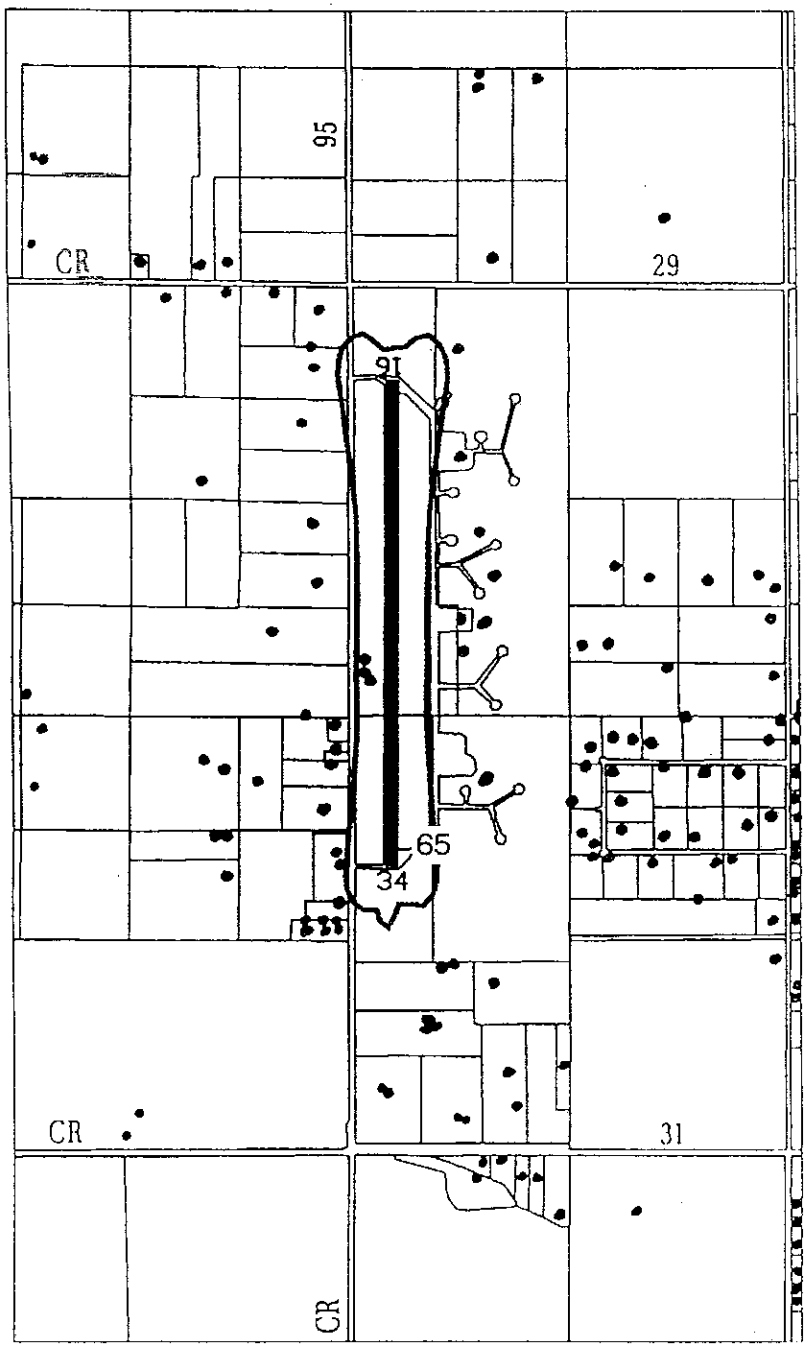


Fig. 3-1

1993-1996 Airport Noise Contours

(60,000 Annual Operations)

INM 5.1

Buildings

Yolo County Airport

Scale in Miles
0 1/4 1/2
1 : 28 000

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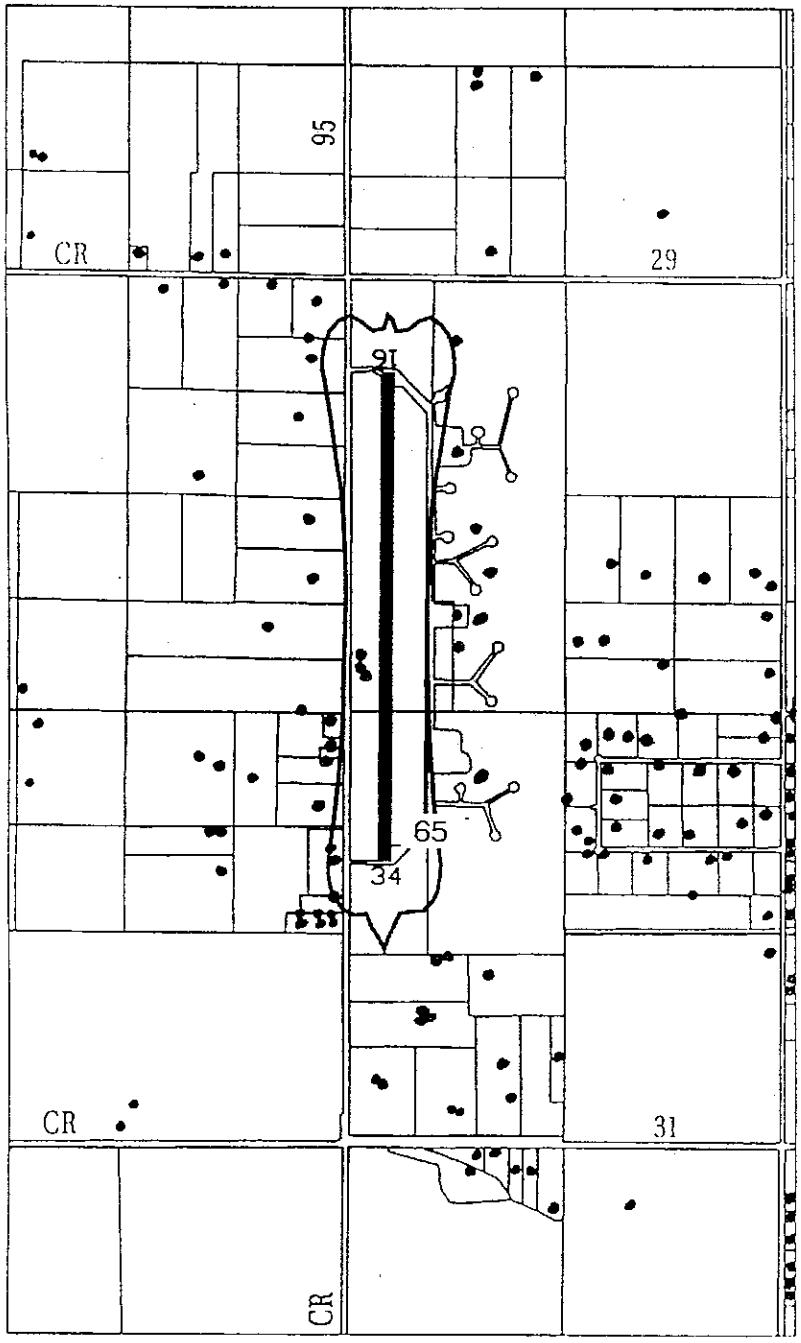

Fig. 3-2

2015 Forecast Airport Noise Contours

(101,039 Annual Operations)

INM 5.1

Buildings

Yolo County Airport

Scale in Miles
0 1/4 1/2
1 : 28 000

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By 2015, with the implementation of the Master Plan project, an additional 190 ADT would be anticipated from the airport. These 380 total ADT represent approximately 15.3 percent of the existing total average daily two-way traffic volume on County Roads 95 and 29. To result in a 1dB increase in surface traffic noise levels on County Roads 95 or 29 the proposed Master Plan project would have to generate additional traffic to a level equivalent to 26 percent of the total ADT on either roadway.

Therefore, the resultant contribution of Master Plan-generated traffic to cumulative highway noise levels would be only marginal, and, on the basis of the fact that it would require a 26 percent increase in total traffic volume to raise cumulative traffic noise levels by 1.0dB, this would not result in a significant noise impact. Therefore, surface traffic noise resulting from project implementation by 2015 is classified as a Class III (less-than-significant) impact.

Shooting Range Noise Impacts. A question was raised with respect to noise from the shooting ranges at the Yolo Sportsmen's Association and how this would affect total noise at the Airport. Even though the Yolo Sportsmen's Association complex is located on land leased from the Airport, the Sportsmen's Association is a separate and distinct operation from the Airport and is not part of the Master Plan Project (i.e., the Airport Master Plan does not envision any County involvement with the operation of, or improvements to, the Sportsmen's Association property.

Regardless, and in response to the expressed concern, P&D retained the services of HMMH, a nationally-recognized acoustical consulting firm to evaluate the irregular and relatively unpredictable noise events associated with the firing ranges at the Sportsmen's Association. The HMMH report quantified the contribution of on-airport firing range noise with respect to the CNEL noise contours developed for aircraft operations.

HMMH's noise analysis was based on information obtained during on-site and telephone discussions with the firing range operator, and on noise data and assessment methods available in the literature. Community Noise Equivalent Level (CNEL) calculations for the firing ranges were based on an average Sound Exposure Level (SEL) per round fired for typical shooting activities, and on rough estimates of the yearly average number of rounds fired during different periods of the day. The calculated levels were adjusted to account for distance, atmospheric effects and shielding, and a penalty was applied to account for heightened annoyance response due to the highly impulsive character of the noise.

The resulting "normalized" CNEL contours for the firing ranges are illustrated in Figure 3-3 along with the updated CNEL 65dB aircraft noise contour for the Airport. The results indicate that the shooting range's normalized 65dB CNEL contour falls primarily within the airport boundaries, except to the east where it extends off the property. There are ***no*** residences located within the 65dB firing range contour.

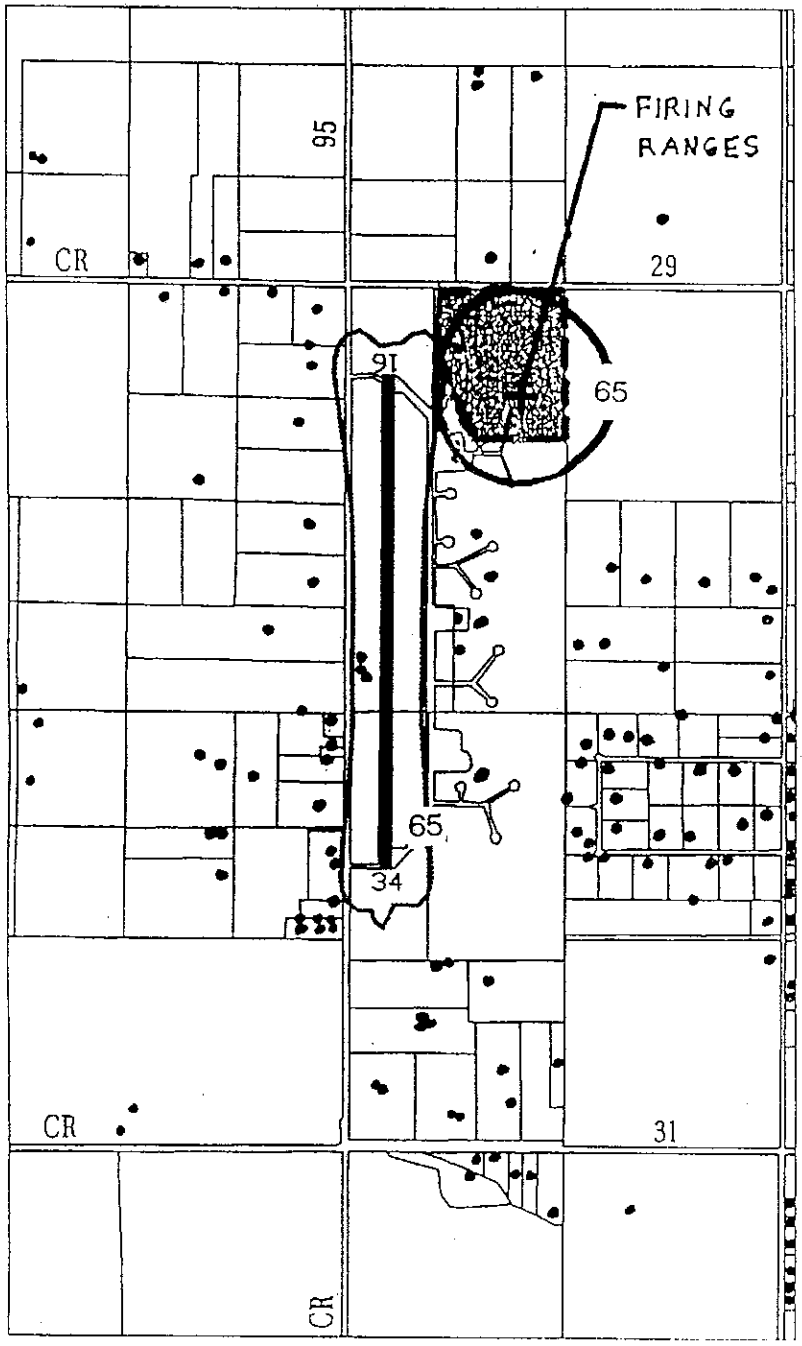

Fig. 3-3

Firing Range and Aircraft CNEL Contour

CNEL Contour

Buildings

Scale in Miles
0 1/4 1/2
1 : 28 000

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With regard to cumulative effects, the HMMH report demonstrated that the CNEL 65dB firing range and airport noise contours overlap primarily within the airport boundaries. Thus, the cumulative effect of these two noise sources on the community would be minimal. The complete HMMH report is attached as Appendix O.

Construction Impacts. Noise from construction equipment on the project site may create adverse environmental impacts. The various development components of the project, including proposed infrastructure capital improvements in particular, will involve a significant amount of construction. As a result, exterior locations within 1,000 feet of the construction site could experience occasional noise levels in excess of 65dBA. Heavy trucks transporting materials to and from the construction sites would also present a potential source of excessive noise. The extent of this impact would be highly variable and dependent upon the intensity of construction activities, the amount of material that must be transported, the number of access routes, and the location of noise-sensitive use in relation to the construction site and access points. This must be considered a Class II impact (a significant adverse impact that can feasibly be mitigated to a less-than-significant impact.)

3.1.2.2 Enhanced C-II Runway Alternative. Implementation of this alternative would also result in the following classes of noise impacts:

Aircraft Noise Impacts. Under this alternative, aircraft operations would be approximately the same as for the project as proposed. Hence, this alternative would result in noise contours comparable to the Master Plan Project, and, as with the Master Plan Project, result in no noncompatible land uses being located within the CNEL 65dB and above noise contours. This alternative would result in a Class III (less-than-significant) impact.

Agricultural Aircraft. Same as per the Master Plan Project: Class III (less-than-significant) impact.

Surface Vehicle Noise Impacts. This alternative would generate essentially the same number of ADT as the project as proposed. As a result, traffic noise impacts resulting from the implementation of this alternative would represent a Class III (less-than-significant) impact.

Construction Noise Impacts. As with the proposed project, capital and infrastructure improvements proposed for the Airport would result in ongoing construction activities at the Airport. This would also represent a Class II (potentially significant) impact.

3.1.2.3 No Project Alternative. Under the no project alternative, none of the Master Plan project components would be implemented.

Aircraft Noise Impacts. As a consequence of not developing the airport facilities recommended in the Airport Master Plan to accommodate projected aviation demand, it is unlikely that aircraft operations would reach even Master Plan Base Case forecast activity levels by 2015 (78,464 operations)[17]. Hence, aircraft noise levels in 2015 would be less than projected for the Master Plan project. Given that no significant aircraft noise impacts would accrue from Master Plan project implementation in 2015, the No Project Alternative would also have no significant adverse impacts. This would also be a Class III impact (i.e., **no noise-sensitive land uses would be located within the CNEL 60dB and above noise contours**).

Agricultural Aircraft. Class III (less-than-significant) impact.

Surface Vehicle Noise Impacts. Since this alternative would result in less overall aviation and aviation-related activity in 2015, the surface vehicle noise impacts would also be less than that of the Master Plan project. (Class III impact).

Construction Noise Impacts. No impact. Class IV (beneficial) impact since none of the project components would be implemented. Thus, the No Project Alternative would not produce any construction noise impacts.

3.1.3 Mitigation Measures

Mitigation measures are required only in those cases where significant adverse impacts have been found to occur, and where such impacts can be feasibly mitigated to less-than-significant levels. Such impacts are classified as Class II impacts. Class II noise impacts were identified only for construction noise with respect to the Master Plan project, and the Enhanced C-II Runway alternative.

The following noise mitigation measures, which when implemented, will reduce potential construction noise impacts to a less-than-significant level:

1. Restrict construction within 1,000 feet of noise-sensitive uses to the daytime period between 8:00 a.m. and 6:00 p.m. In addition, no construction within 1,000 feet of noise-sensitive uses shall be permitted on weekends or on legal holidays.

2. Construction equipment shall have sound-control devices (i.e., mufflers) that are as or more effective than those provided on original equipment. No equipment with unmuffled exhaust systems shall be permitted.

[17] This is because the Master Plan's enhanced operations scenario is based upon the assumption that additional aviation activity would occur at the airport as a result of the provision of additional facilities designed for larger corporate and business aircraft.

3. Construction equipment shall comply with any and all federal, state, and local standards for noise control.

4. At the direction of the County, contractors shall implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, shutting down idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction activity, installing acoustic barriers around stationary noise sources, designating haul routes or rerouting heavy trucks to avoid noise-sensitive uses.

3.1.4 Residual Impacts

With implementation of the above noise mitigation measures, no residual noise impacts are anticipated from either the Master Plan project, or any of the project alternatives.

3.2 COMPATIBLE LAND USE

3.2.1 Setting/Affected Environment

The area surrounding Yolo County Airport includes a mix of agricultural and noise-sensitive, large-lot, suburban residential land uses.

3.2.1.1 Existing Land Uses.

Yolo County encompasses both rural and urban areas, yet over 90 percent of the County's 1,034 square mile area is used for agricultural production. Only about 3 percent of the county is developed, and the remaining 6-7 percent is open space of one form or another. Of the developed land, the majority is used for housing, followed by commercial and public uses (including the University of California's Davis Campus). Industrial use represents a small, but growing percentage of overall development.

The Yolo County Airport site is an area that the County has previously identified as suitable for development in the 1977 *Airport Specific Plan* and various *County General Plan* policies. The airport site is also considered for economic growth and development in the *Yolo County Overall Economic Development Program Plan* (see Figure 3-4).[18] The Airport provides general aviation operations and the potential for business-related aviation that allows access to smaller communities not contingent on airline schedules and destinations.

[18] County of Yolo, *Yolo County Overall Economic Development Program Plan*, August 23, 1994.

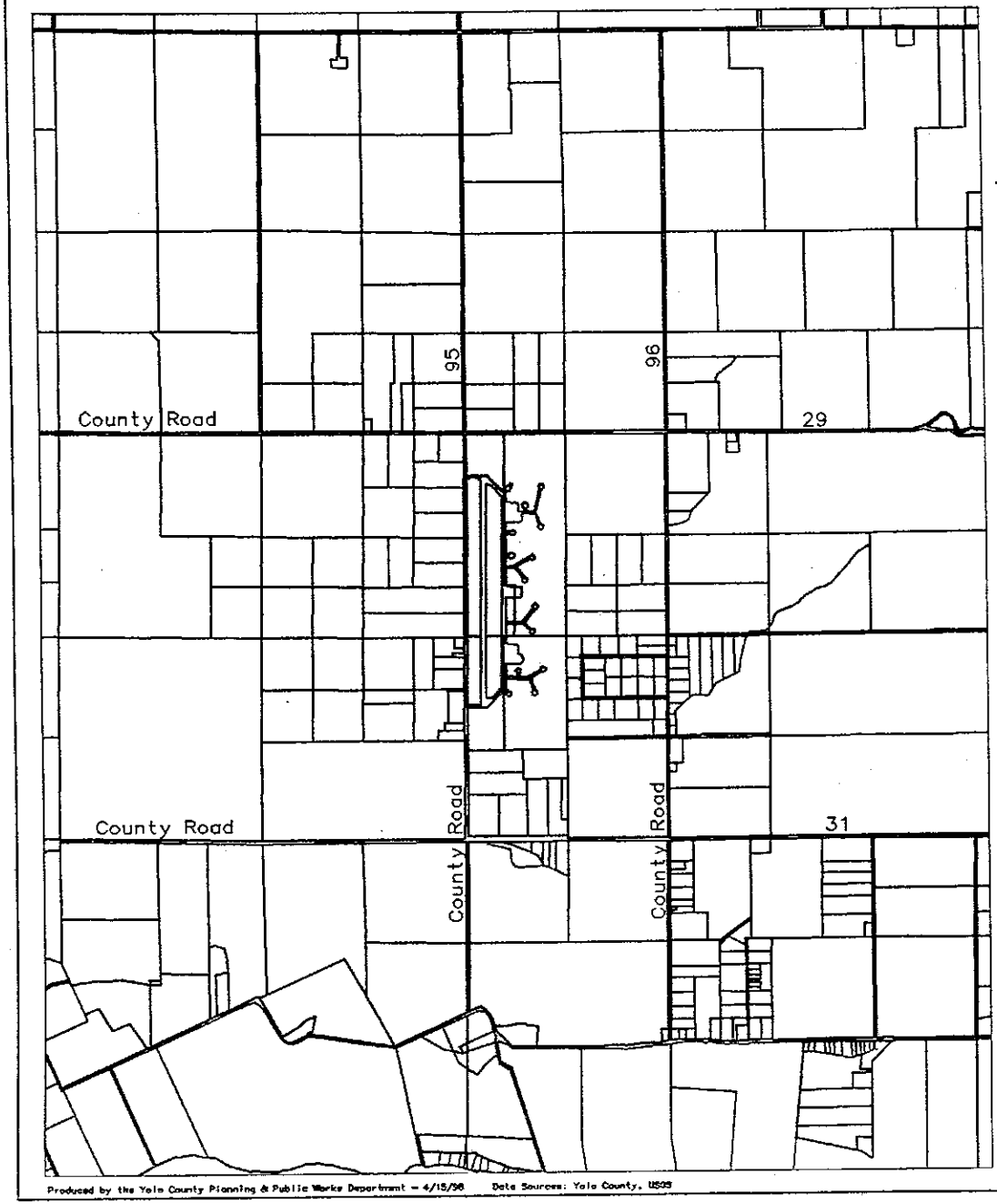

Fig. 3-4

Airport Growth Development Area

N

Scale In Miles

1 : 55 000

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Most of the land around the Yolo County Airport is designated for agricultural use in the County's General Plan.[19] The Airport site, however, is designated for future growth and development, and the area to the south and southeast of the airport has been subdivided for 5-acre residential lots. This latter area is known as the Rolling Acres subdivision.

In addition to Rolling Acres, new homes have been constructed on 20-acre parcels along County Roads 29, 31 and 95 within a quarter mile of the Airport. In 1977, the Yolo County Board of Supervisors enacted a policy that stated that no further subdivision of agricultural lands into parcels of less than 20 acres would be allowed within the vicinity of the airport. This policy effectively confined the development of new residential uses to existing approved subdivisions, and in 1980, the County extended the 20-acre minimum lot size policy to all sites abutting the Airport. These land use designations are depicted on Figure 3-5.

3.2.1.2 Airport Zoning. From Figure 3-5 it can be determined that several zoning classifications reflect the influence of the Airport, including:

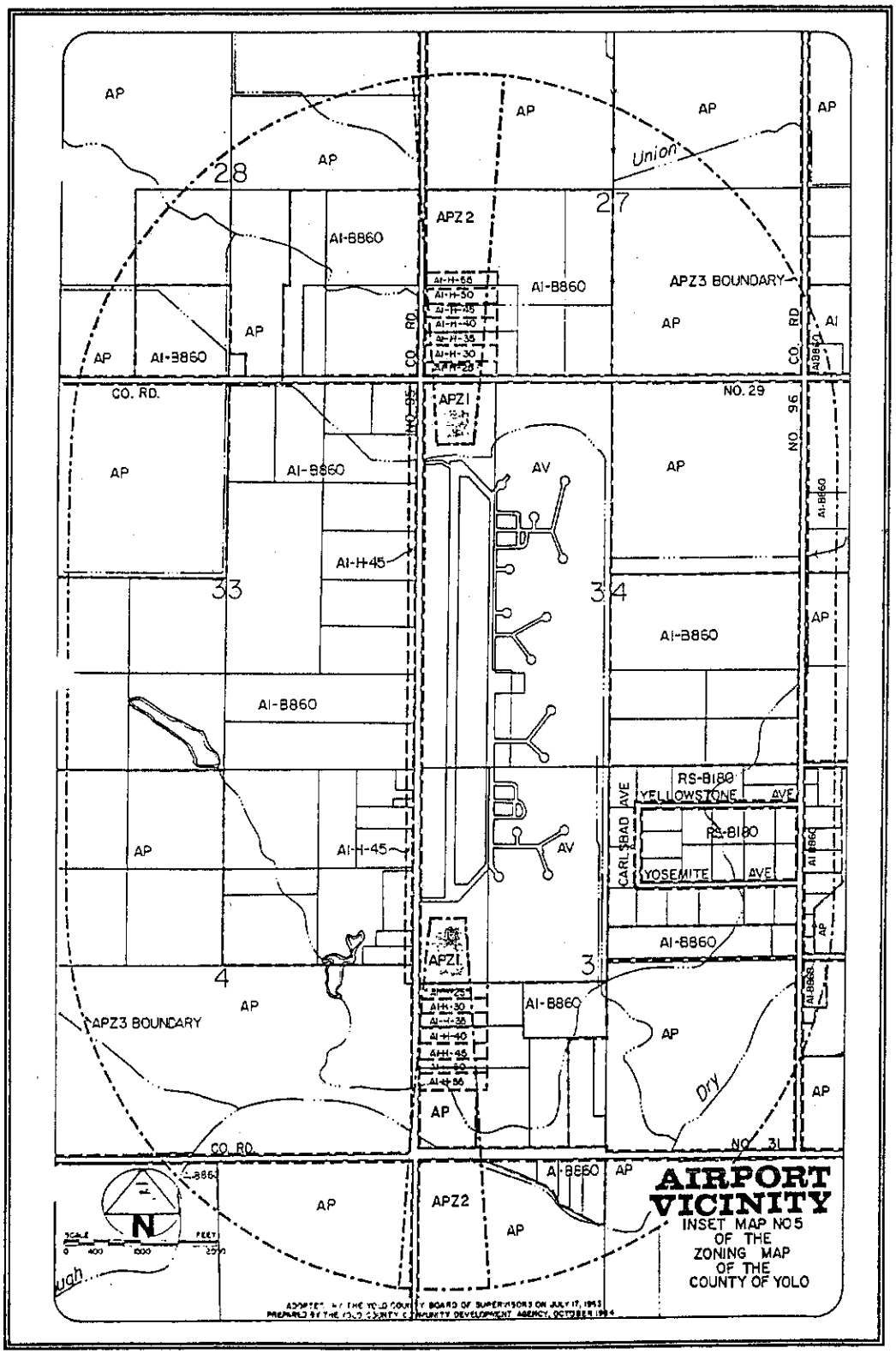
Airport Zone (AV). The AV zoning classification is intended to be applied on properties used, or planned to be used as airports and where special regulations are necessary for the protection of life and property. Such regulations include height, use, and safety restrictions.

Combining Zones. The Yolo County Code provides for combining zones which are combined with basic zoning categories in areas requiring use restrictions. For example, the "-B180" classification requires a minimum lot size of 180,000 sq. ft. (4 acres). The "B860" classification restricts lot size to no less than 860,000 sq. ft. (20 acres). The "H-25" to "H-55" classifications limit the heights of objects in the approaches to the airport in 5-foot increments consistent with FAA obstruction clearance criteria.

3.2.1.3 Schools and Places of Public Assembly. There is only one church and no hospitals located within two statute miles of the Airport. The nearest school site is the Fairfield School, which is located approximately 1.85 miles southeast of the end of Runway 34. The West Plainfield Fire District maintains a hall (Lilliard Hall) used for public assembly and meetings on property leased from the Airport off County Road 95 (see Figure 3-6). The D.Q. University is located approximately 1.5 miles southwest of the Airport off County Road 31 (Covell Boulevard).

19 County of Yolo, *"Yolo County General Plan,"* July 17, 1983.

Fig.3-5 Existing Land Use Designations



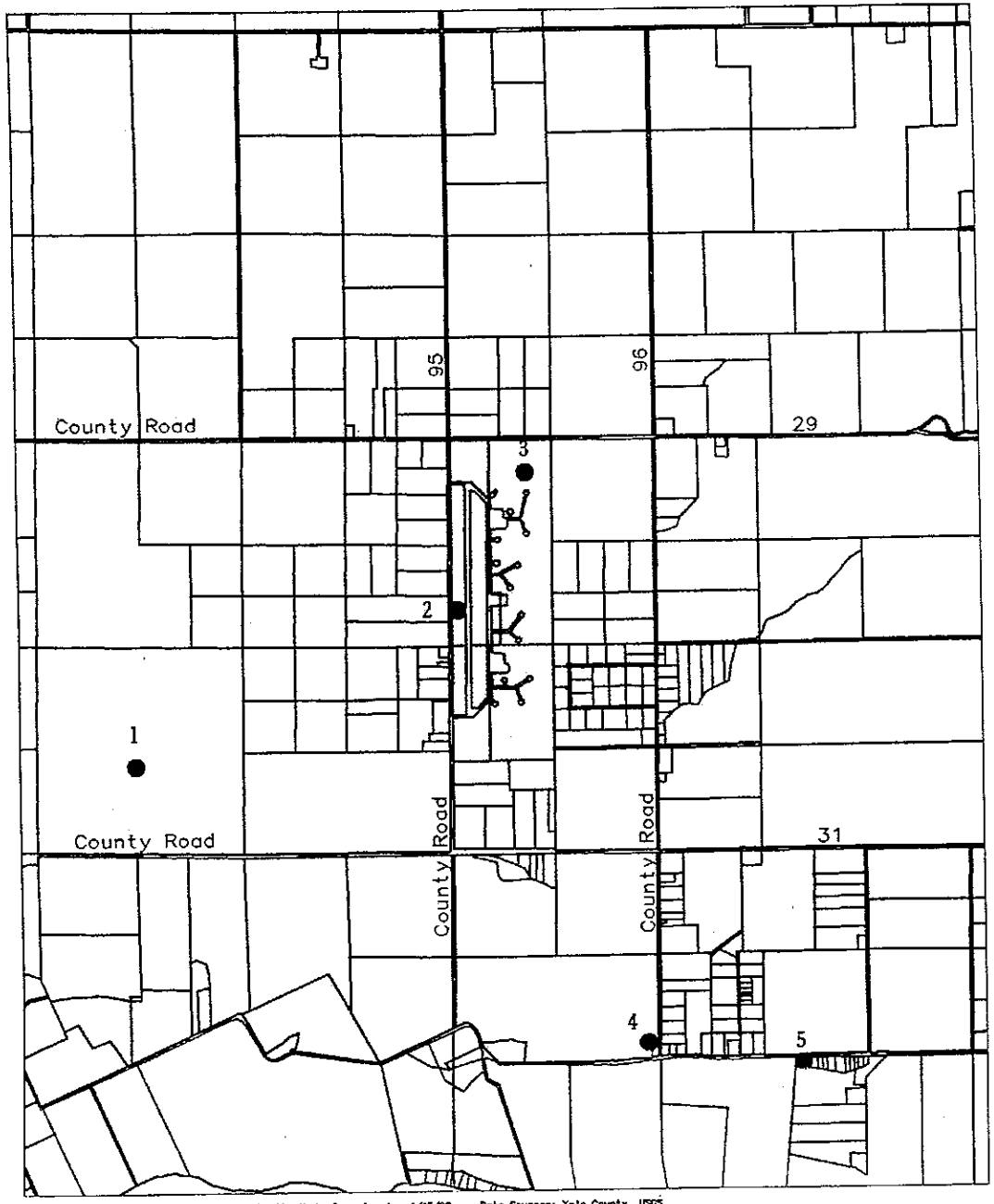


Fig. 3-6

Schools and Places of Public Assembly

1. D.Q. University
2. Lillard Hall
3. Yolo Sportsmen's Association Recreation Area
4. Fairfield School
5. Jehovah's Witnesses

N

Scale In Miles
0 1
1 : 55 000

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3.2.1.4. Population, Industrial and Commercial Growth Characteristics.

Population. In 1996, Yolo County had an estimated population of 152,112. Of these people, a total of 131,203, or about 86.3%, lived in the incorporated cities of Woodland (43,254), Davis (52,551), West Sacramento (30,231) and Winters (5,167).[20] By 2010, the County's total population is projected to increase to 232,934, with approximately 88.3% of the populace residing in the four cities.

Industrial and Commercial Growth Characteristics. The economy of Yolo County is based on agricultural production and related commercial, service, and industrial uses, with small retail and service sectors in the urbanized areas. There are an estimated eight to nine thousand businesses in the county, which employ close to 90,000 people.

Agriculture has been the mainstay of Yolo County since its formation in the 1800's, and has made it one of the most productive counties in the nation. Total gross sales from agricultural production in the county in 1993 exceeded $236 million.[21]

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Agriculture has been the mainstay of Yolo County since its formation in the 1800's, and has made it one of the most productive counties in the nation. Total gross sales from agricultural production in the county in 1993 exceeded $236 million.[22]

New technologies are expanding commodity production throughout the County, while improving the quality of marketability of harvested crops. While agricultural production has been increasing, agricultural jobs have decreased, making economic diversification an important factor in the County's future economic growth.

Manufacturing experienced a 10 percent increase in jobs from 1988-1992, and West Sacramento and Woodland were the principal locations for manufacturing and industrial activities. Manufacturing activities in these areas included plastics, farm machinery, manufactured housing, medical supplies, irrigation pipe, fire apparatus and food processing.[23]

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20 Yolo County Community Development Agency, May 1997.

21 Ibid, p. 15. The data from the County's 1994 Overall Economic Development Program Plan are the most recent available data.

22 Ibid., p. 15. The data from the County's 1994 Overall Economic Development Program Plan are the most recent available data.

23 Ibid, p. 18.

In 1993, the construction industry employed approximately 4,000 people in the county. The industry was subject to fluctuations as a result of seasonal adjustments and economic variables.

Sand and gravel mining also plays an important, albeit small, role in the Yolo County economy. Gravel from Cache Creek has been used in many local and regional construction projects. In 1993, the industry employed 150 people.

Nearly 3,700 people are employed in the transportation and public utilities sectors in Yolo County, with the most jobs located in Woodland, West Sacramento, and Davis. Agricultural commodity hauling, non-agricultural trucking and distribution firms make up the largest segment of transportation, with rail and bus services providing a smaller component. Utility employment is centered around PG&E, with 280 employees in the County.

Retail trade accounted for approximately 10,000 jobs in the County. These jobs are primarily associated with the shopping areas of Woodland, Davis and West Sacramento.

The service sector has been one of the largest and fastest growing components of the Yolo County economy with close to 19,000 jobs in 1993. This is due in part to the wide range of businesses, including financial, insurance, real estate, repairs, health and other personal services, which comprise this category.

Government is, and has been, the largest employer in Yolo County. The University of California at Davis had 15,000 regional and student employees. The U.S. Postal Service, School Districts, County government, and City, State and Federal offices employed close to 12,000 additional people in the County.

Yolo County's economic future is keyed to both the state and regional economies. As California continues to recover from the economic recession of the early 1990's, the County will benefit from its proximity to the Sacramento Metropolitan Area and its location along the Interstate 80 corridor linking Sacramento and the San Francisco Bay Area.

3.2.1.5 Public Parks and Recreation Areas, and Wildlife and Waterfowl Refuges. There are no public parks within two miles of the Airport. A small local waterfowl refuge has been developed on property leased from the Airport by the Yolo County Sportsmen's Association. This site also serves as a recreation area for its members and guests.

3.2.1.6 Wetlands. The Yolo County Airport is situated in the midst of a countywide system of creeks and sloughs which drain from higher elevations in the west into the Sacramento River to the east (see Figure 3-7). However, the only statutorily designated "wetlands" on Airport property are located on property leased to the Yolo Sportsmen's

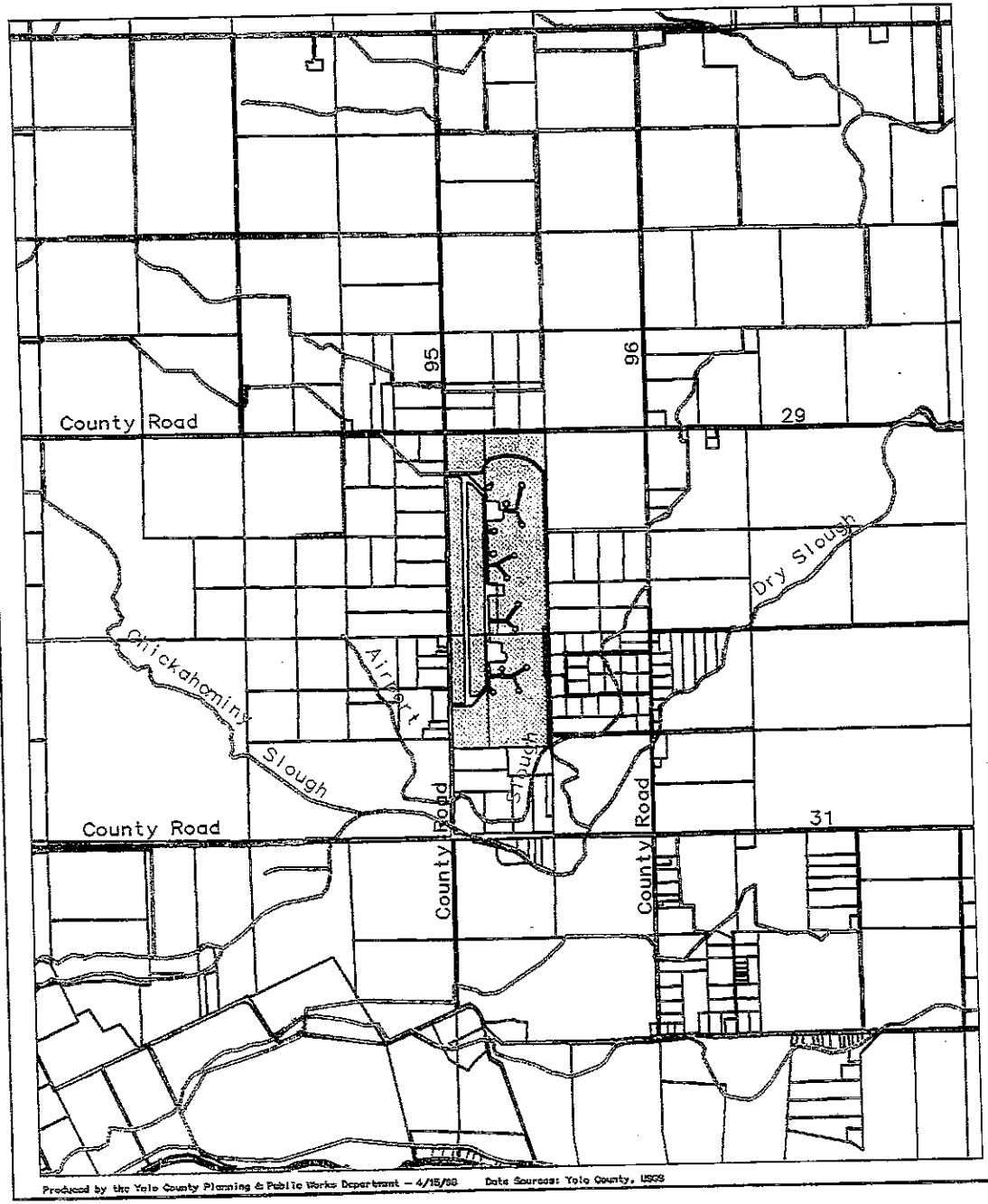

Fig. 3-7

Major Creeks & Sloughs

N

Scale In Miles
0 5 1
1 : 55 000

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Association and are not a part of the Master Plan Project development. The U.S.D.A. Natural Resources Conservation Service has determined that approximately 3.3 acres of "farmed wetland" and 19.3 acres of "artificial wetland" exist on the Airport. These categories are not subject to the same restrictions as "wetlands" per se (see Section 3.11 for discussion).

3.2.1.7 Floodplains. A portion of the Airport is located within the 100-year floodplain, as defined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) (see Figure 3-8 and Section 3.12 for discussion).

3.2.1.8 Farmlands. The Airport is located in a region classified as having Farmlands of Prime, Statewide and Local Importance (see Figure 3-9). The Airport site has farmland of local importance (see Section 3.16 for further discussion).

3.2.1.9 Historical and Archaeological Sites. No sites of known historical or archaeological significance are located on the Airport. (see Section 3.8 for further discussion.)

3.2.1.10 Contemplated Future Actions and Other Planned and Developed Activities. No specific contemplated future development actions of a significant nature in the area are known at this time.

3.2.1.11 Policies. Land use compatibility standards and criteria promulgated by state and local agencies, and the federal government must be considered in land use compatibility planning and analysis.

State Land Use Compatibility Standards. Under current California Airport Noise Standards residential areas subject to aircraft noise levels of CNEL 65dB and above are considered to be noise-impacted. The CNEL 65dB value has been determined to be the "acceptable" standard for aircraft noise exposure within residential areas. This value became the State standard for determining "Noise Impacted Areas" on January 1, 1986.

The CNEL 65dB criterion for establishing the state's noise impact boundary was based on the noise-sensitive nature of residential land uses, including single-family and multiple-family dwellings, trailer parks, and schools of standard construction. Certain other land uses which may occur within the CNEL 65dB and above noise contour may be deemed compatible uses, and have been excluded from the calculation of the airport noise impact area. From the standpoint of the State Airport Noise Standards, the following land uses have been deemed to be compatible:

- Agricultural;
- Airport Property;
- Industrial Property;
- Commercial Property;

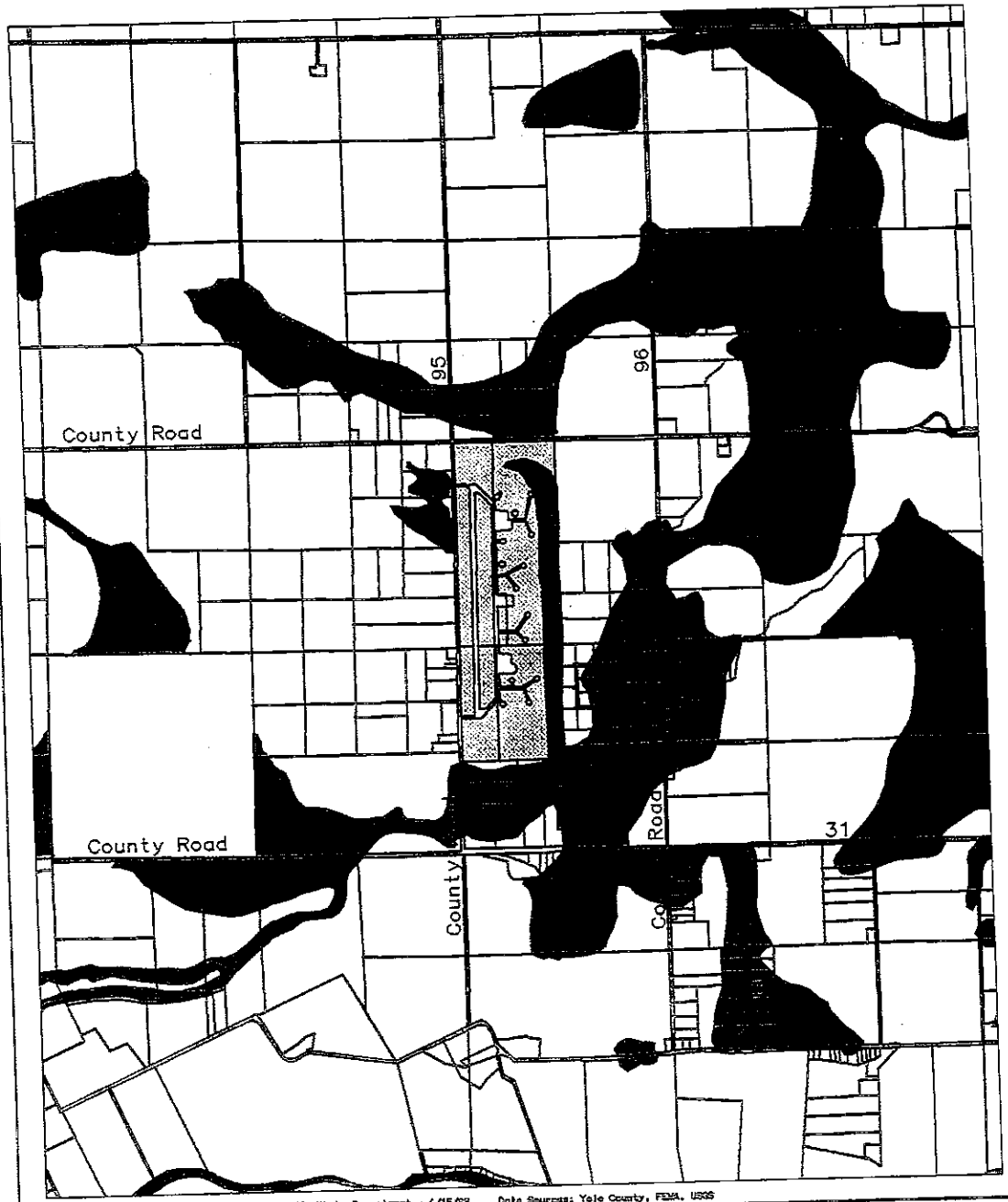

Fig.3-8

Flood Zones

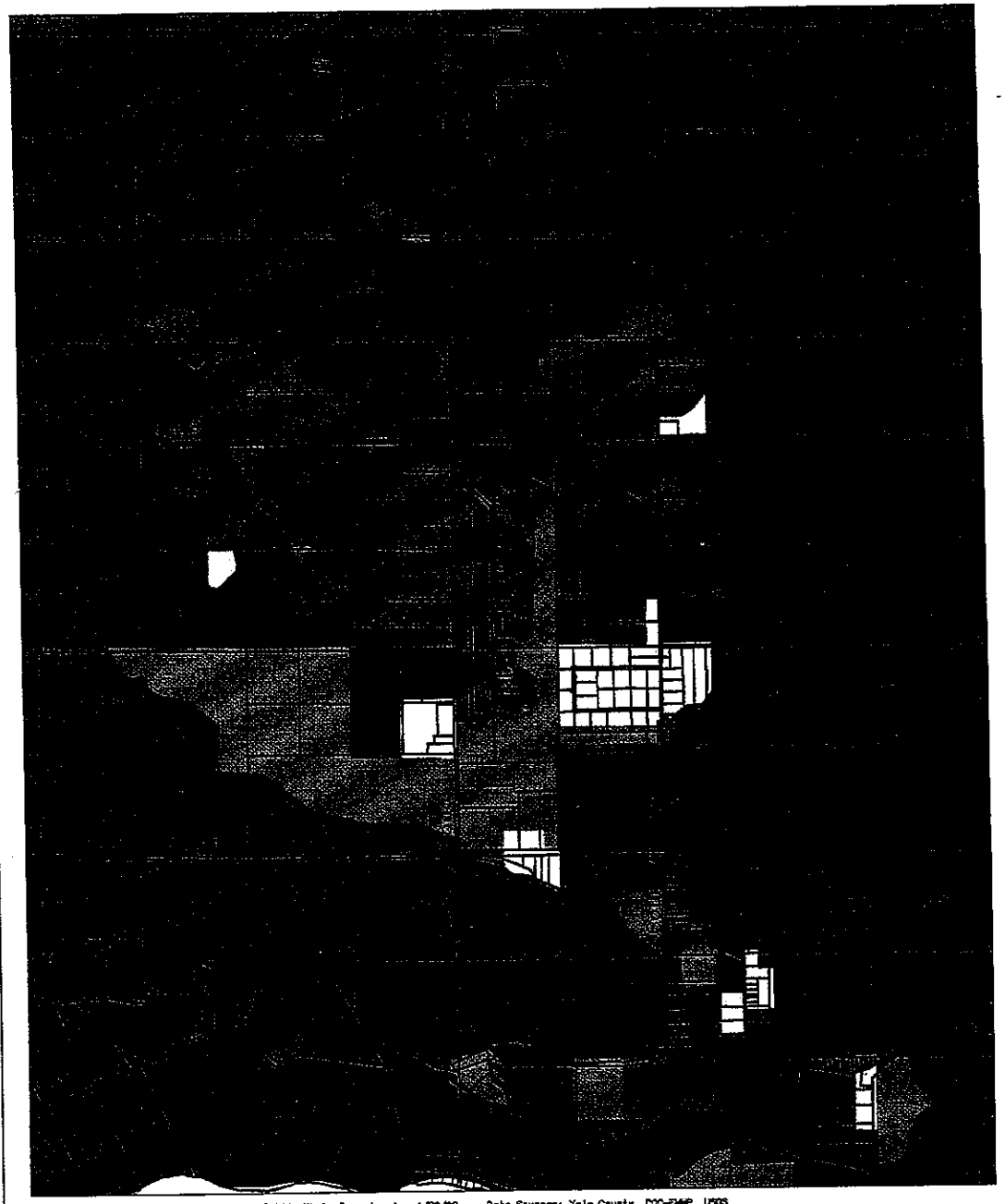

Fig. 3-9

Important Farmlands

- Urban & Built-Up
- Grazing
- Local Importance
- Local Potential
- Prime
- Statewide Importance
- Unique
- Other

N

Scale In Miles

0 .5 1

1 : 55 000

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Produced by the Yolo County Planning & Public Works Department – 4/20/98 Data Sources: Yolo County, DOC-FMMP, USGS

- Property subject to an avigation easement for noise; and
- Zoned open space.

Local Land Use Compatibility Standards and Land Use Control Authority. The airport environs consists of lands located entirely within unincorporated Yolo County. California counties are required to adopt general plans and zoning regulations to guide land use within the county and its sphere of influence. Land use within all counties and general law cities is subject to state zoning law. Zoning regulations identify the location of specific land uses, types of uses, and specific design criteria such as building height, density and setbacks. Zoning must be consistent with the County's general plan. Variances and conditional use permits are subject to review and approval by the local administrative agency (Zoning Administrator, Planning Commission, Board of Supervisors, etc.) of the County. Land subdivisions are governed by the State Subdivision Act and must be approved by the County and must be consistent with the General Plan. Land development proposals within the Yolo County generally follow the planning and regulatory guidelines outlined above.

Under provisions of the state Public Utilities Code,[24] the Sacramento Area Council of Governments (SACOG) has been designated the Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo and Yuba Counties. The State's Airport Land Use Commission Law charges ALUCs with the responsibility to:

- Protect public health, safety, and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise.

- Prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utility of these airports into the future.

These purposes are implemented through Airport Land Use Commissions, which are required in every county with a public use airport or with an airport served by a scheduled airline. The Sacramento Area Council of Governments (SACOG) has been designated the ALUC for the counties of Sacramento, Sutter, Yolo and Yuba. Under the provisions of the law, the ALUC has certain responsibilities conferred upon it and specific duties to perform. While ALUCs work closely with cities, counties, and airport operators, they are autonomous agencies.

It should be noted that ALUC law does not give the Airport Land Use Commission jurisdiction over the operation of any airport. The ALUC, therefore, has no power over such things as the number of aircraft that can be based at an airport, the number of operations that can occur, the flight patterns which aircraft use, or the hours during which aircraft can use an airport.

24 Chap. 4, Article 3.5, Sec. 21670.1, *"Airport Land Use Commission Law."*

The Airport Land Use Commission fulfills its responsibilities in four basic ways:

1. The adoption of a basic Airport Land Use Commission Policy Plan;

2. The adoption of land use plans for individual airports called "Comprehensive Land Use Plans" (CLUPs) which contain land use compatibility guidelines for height, noise, and safety;

3. The incorporation of the land use compatibility guidelines contained in the CLUP into the general plan and land use regulations by cities and counties with jurisdiction over any geographic area subject to the CLUP; and
4. ALUC review and determination of compatibility of individual development proposals, general plan amendments, and other land use plans and regulations around airports, including Airport Master Plans.

The Comprehensive Land Use plan (CLUP) is the key to implementation of the ALUC Plan. It provides the land use compatibility guidelines on which compatibility of land uses are determined. It also establishes the planning boundaries around the airport. Planning boundaries are established for height, noise, and safety.

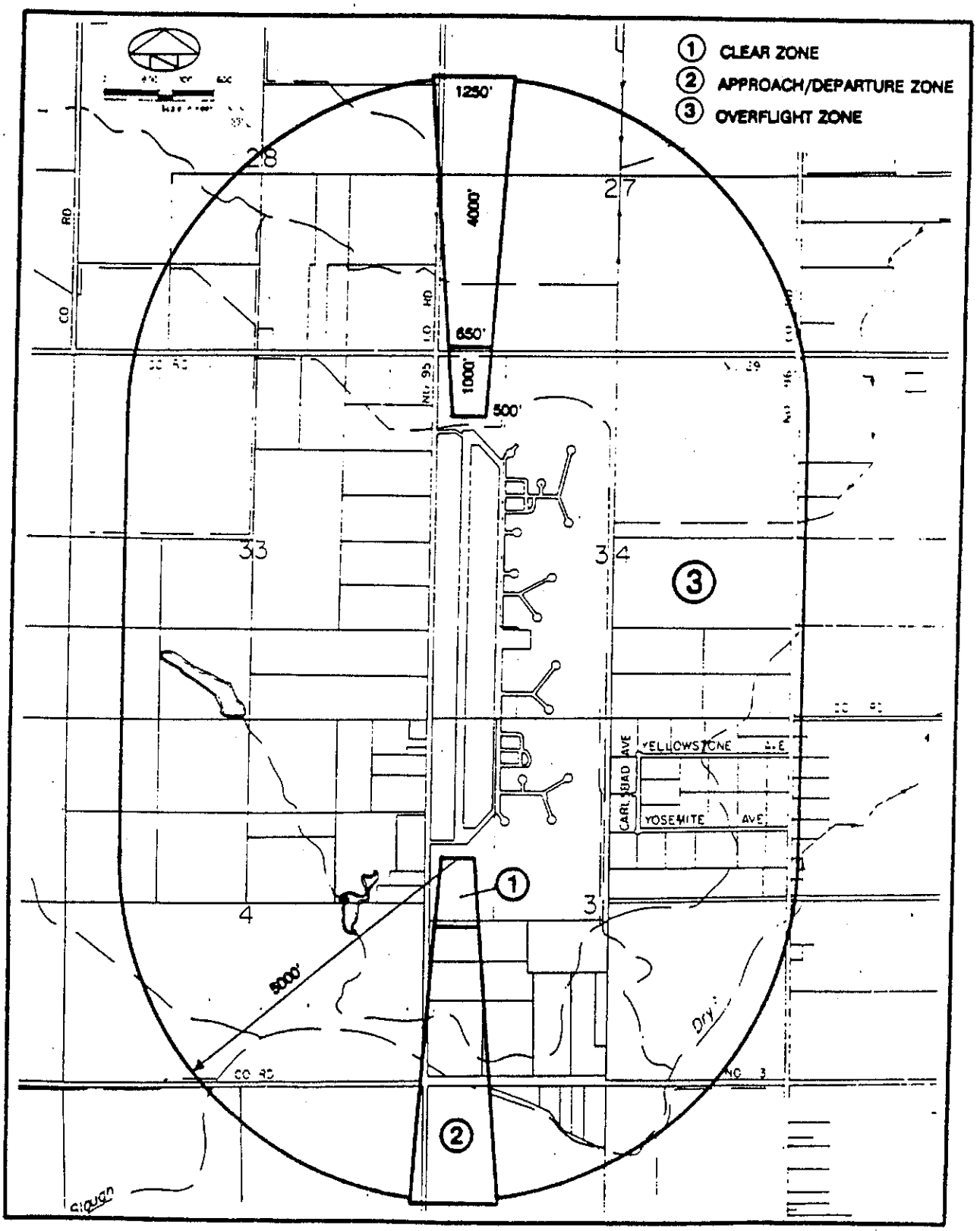
In December 1981, the ALUC adopted the "Yolo County Airport Comprehensive Land Use Plan," or "CLUP." The Yolo County Airport CLUP was amended in December 1992. Under ALUC law, Airport Land Use Commissions are required to "review the compatibility of airport Master Plan modifications with adopted ALUC plans..."[25] The ALUC's review of the draft Yolo County Airport Master Plan found it to be compatible with the existing Yolo County Airport CLUP, and the ALUC will use the Master Plan as the basis for an amendment to the CLUP's height, noise and safety policies when adopted (see Figure 3-10).[26]

Federal Land Use Compatibility Standards. Federal Aviation Regulations (FAR) Part 150 *"Airport Noise Compatibility Planning"* is the FAA standard for land use compatibility in the airport environs. Noise exposure levels of CNEL 65dB and above are considered to be incompatible with residential land uses, schools, and other public facilities. However, the FAA leaves local zoning and land use planning determinations up to the local jurisdiction, unless the proposed use would represent a demonstrated hazard to air navigation.

25 ALUC, Letter to Larry Rillera, Manager of Parks and Facilities. May 29, 1997.
26 Ibid.

Fig. 3-10

YOLO COUNTY AIRPORT SAFETY ZONES



Source: SACOG/ALUC (1992)

3.2.2 Environmental Impacts

3.2.2.1 Master Plan Project. As was discussed in Section 3.1 of this chapter, CNEL contours describing current (1993-96) conditions are shown in Figure 3-1. This exhibit would normally depict the locations of noise-sensitive, non-compatible land use and public facilities for CNEL levels of 65dB and accrue, in accordance with FAA requirements and local noise and land use compatibility planning guidelines. For 1993-96 operational conditions at Yolo County Airport there were no noise-sensitive land uses exposed to noise levels of CNEL 65dB or greater. The criterion CNEL 65dB contour lies almost entirely within airport property.

Figure 3-2 presents the long-range (Enhanced Case) forecast CNEL noise contours associated with the airfield. As is the current case, there would likely be no forecast noise-sensitive land uses exposed to noise levels of CNEL 65dB or greater by the year 2015. Similarly, the criterion CNEL 65dB contour lies almost entirely within airport property.

3.2.2.2. Enhanced C-II Runway Alternative. As with the above, this alternative would not result in any significant adverse noise impacts which would affect the compatibility of existing or proposed land uses in the airport environs.

However, because of the requirements for a larger primary surface (i.e., 1,000 feet wide) and Runway Object Free Area (ROFA – 800 feet wide), this alternative would encroach into existing land uses on the airfield's west side, including the West Plainfield fire Station and Lilliard Hall. If this alternative were to be adopted, it would require the relocation of both facilities, as well as the agricultural aircraft operations area and any other proposed west side development. This would represent a Class I impact, which is a significant, unavoidable impact for which a "statement of overriding considerations" would be required if it were to be adopted.

3.2.2.3 No Project Alternative. As with the Project, this alternative would have no significant land use compatibility impacts (Class III impact).

3.2.3 Mitigation

Although Class III impacts do not require mitigation, two factors suggest that the County nonetheless consider a comprehensive preventive operational and land use compatibility control program: (1) the demonstrated overflight of populated areas, and (2) the FAA requires that appropriate action has or will be taken to restrict the use of land in the vicinity of the airport to "activities and purposes compatible with normal airport operations:"[27] (A statement by the County to this effect is contained in Appendix M, "Other Documentation")

20. FAA Order 5050.4A, op. cit., para. 47(e)(2)(b).

3.2.3.1 Master Plan Project. The following operational mitigations will be implemented by the County:

- The County will continue implementation and enforcement of all applicable (adopted) Airport. Management Policies, as well as consider new airport management policies designed to (1) ensure safe operating practices at the Airport, (2) to help provide a base of understanding for both existing and new operators, and (3) help ensure the self- sufficiency of the Airport.

- Yolo County and airport users will continue to implement operational noise abatement measures designed to lessen single-event noise impacts, including preferred aircraft approach and departure flight tracks to help reduce noise impacts over existing and planned residential areas.

The following specific land use control measures are recommended to be adopted by the County of Yolo County and the Yolo County ALUC by the year 2000, including:

Easement Dedication. Avigation easements are not a requirement of law. However, they are particularly useful in protecting designated approach and clear zone areas that fall outside the Airport boundary. The proposed County policies with respect to avigation easements are to (1) seek avigation easements only within designated approach and clear zones, and (2) maintain all currently held avigation easements.[28]

Requirement for Notice of Airport Noise. The County of Yolo and the Yolo County ALUC shall encourage the Yolo County Board of Realtors to adopt a fair disclosure requirement for the sale or lease of homes or other noise-sensitive real property within the airport area of influence boundary. Whenever such property is offered for sale, rent or lease, the seller, lessor, broker, or agent should notify the prospective owner or tenant that the property is located in an area subject to potentially high levels of aircraft noise.

3.2.3.2 Enhanced C-II Runway Alternative. Although the above-discussed mitigation measures could be applied to this alternative, they would not lessen its impacts on on-airport land uses located on the Airport's west side. As a result, significant unmitigated impacts would remain, including the potential dislocation of some existing west side airport facilities (e.g., Lilliard Hall and the West Plainfield Fire Station).

3.2.3.3 No Project Alternative. The No Project Alternative is not a "no-growth" alternative. Hence some increase in aircraft operations is also anticipated under this alternative as well. The above-mentioned land use control mitigation would similarly apply.

28 County of Yolo, General Services Agency, *"Draft Airport Management Policies,"* April 21, 1998.

3.2.4 Residual Impacts

Implementation of the above-recommended mitigation measures would maintain compatible land use impacts at a less-than-significant level for the Project and No Project Alternatives. The Enhanced C-II Runway Alternative would have significant unmitigatable impacts if adopted.

3.3 SOCIAL IMPACTS

3.3.1 Setting/Affected Environment

The Yolo County Airport is located on a site dedicated specifically to airport and airport-related activities.

3.3.1.1 Policies. FAA Order 5050.4A requires that the Environmental Assessment considers the impacts of the proposed project and project alternatives on "*relocation or other community disruption which may be caused by the proposal.*"[29] Executive Order 12898, "*Environmental Justice*," requires that a proposed project may not result in any "*disproportionately high and adverse human health or environmental effects...on minority populations and low income populations.*"[30]

3.3.2 Environmental Impacts

3.3.2.1 Master Plan Project. Implementation of the Master Plan project would not result in the need to relocate residents or businesses; significantly alter surface transportation patterns; disrupt orderly, planned development; or create any appreciable change in employment. Nor would it result in any "disproportionately" high or adverse human health or environmental effects. Class III (less-than-significant impact).

3.3.2.2 Enhanced C-II Runway Alternative. Adoption and implementation of this alternative would require the relocation of the existing on-airport West Plainfield Fire Station and Lilliard Hall. This would represent a significant disruption of community facilities (Class I impact).

3.3.2.3 No Project Alternative. No significant impacts (Class III).

29 op. cit., para. 47(e)(3).
30 op. cit., February 11, 1994.

3.3.3. Mitigation

Mitigation is not required for Class III impacts. The relocation of the West Plainfield Fire Department and Lilliard Hall is potentially feasible, but cannot be mitigated to a less-than-significant level as a result of the significance these facilities have for the community in their present location.

5.3.4 Residual Impacts

None for the Project and No Project Alternatives. Significant unmitigatable impacts would remain as a result of the dislocation of the West Plainfield Fire Station and Lilliard Hall.

3.4 INDUCED SOCIOECONOMIC IMPACTS

3.4.1 Setting/Affected Environment

For major airport development proposals there is the potential for induced or secondary impacts on surrounding communities.[31] Such impacts would include recognizable shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity.

3.4.1.1 Policies. FAA Order 5050.4A notes that "*induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use, or direct social impacts.*"[32]

3.4.2 Environmental Impacts

3.4.2.1 Master Plan Project. Implementation of the Master Plan project would not trigger the FAA's threshold of significance for an analysis of induced socioeconomic impacts. The magnitude of the proposed project is not sufficient to result in such factors as shifts in patterns of population movement and growth, public service demands, or significant changes in business and economic activity. Class III (less-than-significant) impact (see also Appendix L – Response to Debbie Parrella letter of 12/11/97).

3.4.2.2 Enhanced C-II Runway Alternative. Implementation of this alternative would result in the relocation of some on-airport activities, including the agricultural aircraft operations area, West Plainfield Fire Department and Lilliard Hall, However, in the

31 FAA Order 5050.4A, "*Airport Environmental Handbook*" defines "major airport development: as requiring shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity."

32 op. cit., para. 47(e)(4).

context of the thresholds of significance set forth in FAA Order 5050.4A, it would not result in any significant induced socioeconomic impacts (Class III impacts).

3.4.2.3 No Project Alternative. This alternative would have no induced socio-economic impacts (Class III impacts).

3.4.3 Mitigation

Mitigation not required for Class III impacts.

3.4.4 Residual Impacts

None.

3.5 AIR QUALITY

3.5.1 Setting/Affected Environment

The project is located within the Sacramento Valley Air Basin. The air quality of the basin is determined by the primary pollutant emissions added daily and by the primary and secondary pollutants already in the air mass. Primary pollutants are those emitted directly from a source and include: carbon monoxide (CO), nitric oxide (NO), sulfur dioxide (SO_2), particulates (PM) and various hydrocarbons (HC). Motor vehicles are the most significant source of air pollutants within urban areas of the Sacramento Valley. Secondary pollutants are created from chemical reactions in the air mass and include ozone (O_3), nitrogen dioxide (NO_2) and photochemical aerosols. Thus, air quality in the study area is a function of the primary pollutants emitted locally, the existing regional ambient air quality, the meteorological and topographic factors which influence the dispersion of locally emitted pollutants and the intrusion of pollutants into the area from sources outside the immediate vicinity (i.e., the Bay Area).

3.5.1.1. Climate and Meteorology. The Sacramento Valley Air Basin is characterized by a semi-arid, temperate climate with hot and dry summers, and cool, wet winters. Airflow patterns in the air basin vary over the course of a year, but during the spring and summer, the sea breeze pattern is dominant, especially during the afternoon. This pattern is characterized by westerly winds flowing in through the Golden Gate, up the Sacramento River to the east, and then to the north up the Valley. In the winter, windless (calm) conditions and poor ventilation are characteristic of the late evening and early morning.

Located at the southerly end of the air basin, the Yolo County Airport is strongly influenced by the maritime and marine climatic conditions associated with the San

Francisco Bay Area. Average annual rainfall is about 17 inches per year, and generally falls in the period of November through March. Annual temperatures range between 114 degrees Fahrenheit and 15 degrees Fahrenheit. The mean maximum temperature of the hottest month is 97 degrees Fahrenheit.

Prevailing winds at the Airport are from the southwest, with an average speed of 10 miles per hour. Wind speeds of up to 50 MPH occur infrequently, about once every ten years. Visibility is characterized by 196 clear days, 65 partially cloudy days and 104 cloudy days per year. Heavy fog conditions have been recorded for 36 days per year. During the winter, there are occasional periods when a fog layer will last for two or three days, and, at times, last up to two or three weeks.[33]

3.1.1.2 Air Quality Standards. The responsibility for air quality regulation and monitoring lies with a number of federal, state and local agencies. Regulation of air quality occurs through the attainment of standards for ambient air concentrations of specific pollutants and the enforcement of emission limits for individual sources.

Applicable State and Federal ambient air quality standards are set forth in Table 3-3.

Federal Standards. The U.S. Environmental Protection Agency (EPA) has put forth national ambient air quality standards (NAAQS) for a variety of pollutants as required by the Clean Air Act Amendments of 1977. The Clean Air Act requires that the standards be set at a level that protects public health and welfare, and allows for an adequate margin of safety. NAAQS have been established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2) sulfur dioxide (SO2), suspended particulate matter (PM_{10}), and lead (Pb) as well as a small number of other pollutants. The Federal Clean Air Act provides that NAAQS can be exceeded no more than once a year. Areas that exceed the standard two or more times per year can be considered "non-attainment areas" and are subject to more stringent planning and pollution control requirements.

The Sacramento Air Quality Maintenance Area (SAQMA), which includes the project area, has been designated as a non-attainment area for ozone by the Federal government.

State and Local Standards. Responsibility for regulation of air quality in California lies with the California Air Resources Board (ARB), the multi-county Air Quality Management Districts and single-county Air Pollution Control Districts (APCDs) with oversight responsibility held by the EPA. California state ambient air quality standards are set by the State Air Resources Board which is responsible for regulation of mobile source emissions, establishment of state ambient air quality standards, research and development, and oversight and coordination of the activities of the regional and local

33 County of Yolo, *"Yolo County Airport Development Plan."* 1987.

TABLE 3-3
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	FEDERAL PRIMARY STANDARD	STATE STANDARD
OZONE (OXIDANT)	1-HOUR	0.12 PPM	0.09 PPM
CARBON MONOXIDE	8-HOUR	9.0 PPM	9.00 PPM
	1-HOUR	35.00 PPM	20.00 PPM
NITROGEN DIOXIDE	ANNUAL	0.05 PPM	---
	1-HOUR	---	0.25 PPM
SULFUR DIOXIDE	ANNUAL	0.03 PPM	---
	24-HOUR	0.14 PPM	0.04 PPM
	1-HOUR	---	0.25 PPM
SUSPENDED PARTICULATES (PM_{10})	ANN. AVG.	50 UG/M3	30 UG/M3
	24-HOUR	150 UG/M3	50 UG/M3

PPM = Parts Per Million
ug/m3 = Micrograms per cubic meter
Source: State of California, Air Resources Board, December 1994.

air quality agencies. The regional and local air quality agencies are primarily responsible for regulating stationary source emissions and for monitoring ambient pollutant concentrations. The ARB also classifies air basins or portions thereof as "attainment" or "non-attainment" with respect to the NAAQS. The classification is based on air quality monitoring data.

California standards are more stringent than their corresponding NAAQS. Therefore, past air quality planning activities have focused on attaining the NAAQS. The state air quality standards are levels that are not meant to be equaled or exceeded.

Under the provisions of the California Clean Air Act, which became law on January 1, 1989, Sacramento, Yolo, and parts of Placer and Solano counties must submit a plan to meet state air standards. Every district violating state standards must prepare air quality management plans and submit them to the California Air Resources Board for approval. In compliance with this the Yolo-Solano Air Quality Management District (YSAQMD) has developed an Air Quality Attainment Plan.[34]

Although measurements made within the YSAQMD have shown attainment of the federal ozone and PM_{10} standards, the District is technically a non-attainment area for these pollutants because of its inclusion within the SAQMA. The SAQMA is within the

34 Yolo-Solano AQMD, *Sacramento Area Regional Ozone Attainment Plan*, November 15, 1994.

state and federal standards for carbon monoxide, nitrogen dioxide, lead, sulfate and sulfur dioxide. Due to the non-attainment of ozone and PM_{10}, the YSAQMD is required to demonstrate in the Plan how the region:

- Will not increase emissions from industrial sources after 1997;
- Will reduce air pollution five percent a year;
- Will not increase vehicle emissions after 1997;
- Will decrease by 1999 the number of cars on the road, increasing vehicle occupants to at least 1.4 persons per commuter car. Currently, the average is between 1.1 and 1.2.

The focus of the Plan is to expeditiously bring the District into compliance with the federal and state ambient air quality standards for all pollutants that exceed the standard concentrating on ozone precursors. However, even with the adoption of all feasible measures the SAQMA has not demonstrated attainment. The result has been the enactment of an EPA Federal Implementation Plan (FIP) in the region.

3.1.1.3 Ambient Air Quality. The Yolo-Solano Air Quality Management District (YSAQMD) maintains ambient air quality monitoring stations at two locations near the project site. These are The Woodland-West Main Street, and Davis-UC-Davis stations. Together, the stations monitor three of the criterion pollutants for which state and federal health standards exist. They are ozone, carbon monoxide, and PM_{10}. Air quality trends which have developed at the Yolo County monitoring stations between 1990 and 1992 (the most current data available) are discussed below.

Ozone (O_3). The most pervasive air quality problem in the Sacramento Valley Air Basin is high O_3 concentrations. Ozone is not emitted directly, but is a secondary pollutant produced in the atmosphere through a complex series of photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (No_x) in the presence of sunlight. Ozone is a regional air pollutant because it is transported and diffused by wind concurrent with the photochemical reaction process. Motor vehicles are the major source of ozone precursors in the basin. Light winds, low mixing heights and abundant sunshine combine to produce conditions favorable for maximum production of O_3. Exposure to ozone concentrations of 0.30 ppm for 1 hour may cause eye and respiratory irritation, reduce resistance to lung infection and may aggravate pulmonary conditions in persons with lung disease. Headaches, coughing and dizziness are other symptoms related to ozone exposure. It is also damaging to vegetation and untreated rubber.

The entire Sacramento Valley Basin has been designated a non-attainment area for the state ozone standard. Since 1990, Yolo County has experienced between 2 and 18 days per year on which the state ozone standard has been exceeded (see Table 3-4). During the period 1990-1996, the Federal Ozone Standard has been exceeded twice in the Yolo-Solano AQMD Area.

TABLE 3-4
COMPARISON OF YOLO COUNTY AMBIENT AIR QUALITY WITH FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	FEDERAL PRIMARY STD.	STATE STANDARD	MAX. VALUE OF EXCEEDANCE [1]
OZONE (OXIDANT)	1-HOUR	0.12 PPM	0.09 PPM	0.12 PPM
CARBON MONOXIDE	8-HOUR 1-HOUR	9.0 PPM 35.00 PPM	9.00 PPM 20.00 PPM	5.00 12.00
SUSPENDED PARTICULATES (PM_{10})	ANN. AVG. 24-HOUR	50 UG/M^3 150 UG/M^3	30 UG/M^3 50 UG/M^3	- 103 UG/M^3

[1] Based on observation period of 1990 through 1996.
PPM = Parts Per Million
ug/m^3 = Micrograms per cubic meter

Source: Yolo-Solano Air Quality Management District

Carbon Monoxide (CO). Carbon Monoxide is a colorless, odorless, toxic gas produced by incomplete combustion of carbon-containing substances. Carbon monoxide concentrations are generally higher in the winter when meteorological conditions favor the build-up of directly emitted contaminants. Internal combustion engines, principally in automobiles, contribute carbon monoxide due to incomplete fuel combustion. Various industrial processes also produce carbon monoxide emissions through incomplete combustion. Gasoline-powered motor vehicles are the major source of this contaminant in the Basin.

Carbon monoxide does not irritate the respiratory tract, but passes through the lungs directly into the blood stream and, by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen. Exposure of individuals to concentrations in excess of 15-18 ppm over an 8-hour period can cause decreased exercise capacity in individuals with heart problems. No recent exceedances of the state and federal carbon monoxides standards have been recorded in the county.

Particulates (PM_{10}). Atmospheric particulates are made up of finely divided solids or liquids such as soot, dust, aerosols, fumes and mists. In areas close to major sources, particulate concentrations are generally higher in the winter, when more fuel is burned, and meteorological conditions favor the buildup of contaminants that are directly emitted. However, in those areas remote from major sources and subject to photochemical smog, particulate concentrations are higher during summer months.

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions In the respiratory tract very small particles of certain substances may produce injury by themselves, or may contain absorbed gases that are injurious. Suspended in the air, particulates of aerosol size can both scatter and adsorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials. Yolo County complies with the federal annual standard for suspended particulates, but exceeded the state standard 18 percent of the time from 1990-1992.

3.5.1.1 Policies. The Federal Clean Air Act Amendments of 1990 required that areas which had not attained the federal ozone standard, to prepare a plan to achieve the standard. The Yolo-Solano Air Quality Management District prepared a "*Clean Air Plan*" as the County's plan to attain the federal and state ozone standards.

Likewise, the Yolo County General Plan contains policies that are designed to assist in maintaining and improving air quality. The Circulation Element of the General Plan contains actions that indirectly improve air quality, and support appropriate transit planning to reduce or mitigate air pollution problems.

Conservation Element Policy CON15 consists of the following:

- Coordination with the Yolo-Solano Air Quality Management District.
- Coordination with the Sacramento Council of Governments, Air Quality Management Plan.
- Development or redevelopment project approval only with avoidance or appropriate mitigation of probable air pollution.
- Land use and transportation planning and implementation.
- Support of transportation systems that generate less air pollution problems.
- Planning and implementing more compact urban forms to stabilize or reduce aggregate commuting and other travel distance requirements.
- Continue to improve County waste collections and disposal to avoid waste burning.
- Protect air quality levels required for agricultural productivity.

The following air quality analyses are directed at determining the effects of the proposed Master Plan project and project alternatives on ambient air quality and general conformity with the Federal Clean Air Act Amendments of 1990, section 176(c); which states:

> *"A Federal action must not adversely affect the timely attainment and maintenance of National Air Quality Standards or emission reduction progress plans, cause or contribute to any new violations of an air quality standard, increase the frequency of severity of any exiting violation, or*

delay 'Timely Attainment' of any standard or required interim emission reductions or milestones in any applicable area."[35]

3.5.2 Environmental Impacts

Sources of air pollutants at airports include:

- exhaust gases from aircraft
- fuel evaporation during aircraft refueling
- exhausts from aircraft service vehicles and equipment
- combustion of fuels for space and water heating in terminals and other buildings
- exhausts from autos, buses, taxis and other vehicles which utilize the airport

Of these sources, exhaust gases from aircraft and surface vehicles are the primary generators of pollutant emissions. Automobile traffic, like aircraft operations, has an effect on air quality outside the immediate airport environs. Trips to and from the airport create air pollutant emissions over the entire area served by the airport. Current and future year airport-related automobile emissions have been calculated using the URBEMIS computer program, version 5.0 (URBEMIS 5.0) developed by the California Air Resources Board (see Table 3-5 and Appendix I).

The Yolo-Solano Air Quality Management District (YSAQMD) has established specific thresholds to be used in determining the level of impact significance for increases in various pollutants. Table 3-5 summarizes the airport's estimated pollutant emissions for 1996 conditions:

TABLE 3-5
1996 AIRPORT EMISSIONS INVENTORY
AND YSAQMD THRESHOLDS OF SIGNIFICANCE

	POUNDS/DAY		
	NO_x	ROG	PM_{10}
THRESHOLD VALUE	82.0	82.0	82.0
MOTOR VEHICLES	2.0	2.6	0.2
AIRCRAFT	5.3	32.4	0.0
TOTAL	**7.3**	**35.0**	**0.2**

Source: URBEMIS 5 Model and data (see Appendix I for surface vehicle emissions calculations and aircraft emissions calculations).

35 Federal Register, Vol. 58, No. 228, 40 CFR Parts 6,51 and 93.

As can be determined from Table 3-5, 1996 pollutant emissions for both automobile and aircraft sources did not exceed any of the above-listed YSAQMD thresholds of significance, and the airport operated within the limits of the regional air quality plan for both NOx and hydrocarbons (ROG).

3.5.2.1 Master Plan Project. As can be determined from Table 3-6, buildout of the project by 2015 would result in 11.2 pounds per day of NO_2 and an estimated 56.0 pounds per day of hydrocarbons/ROG from both motor vehicle trips and aircraft operations.[36] This would be less than the YSAQMD level of significance of 82 pounds per day for each of these emissions. This would be a Class III (less-than-significant) impact.

TABLE 3-6
CURRENT AND FUTURE AIRPORT-RELATED REGIONAL EMISSIONS
(POUNDS PER DAY)

POLLUTANT	SOURCE	1996 BASE YEAR	2015 PROJECT	2015 ENHANCED C-II RUNWAY ALTERNATIVE	2015 NO PROJECT
NITROGEN DIOXIDE	AUTOS	2.0	2.2	< PROJECT	< PROJECT
	AIRCRAFT	5.3	9.0		
TOTAL		7.3	11.2		
HYDROCARBONS /ROG	AUTOS	2.6	1.5	< PROJECT	< PROJECT
	AIRCRAFT	32.4	54.5		
TOTAL		35.0	56.0		

Source: P&D Consultants from California Air Resources Board (ARB) URBEMIS 5 Model and YSAQMD (autos), and APR-42 (Aircraft).

Construction Impacts. Over the anticipated twenty-year life of the project, several construction projects have the potential to generate air pollutants during their respective periods of construction. Key among these projects are the construction of new airport pavement areas for both aircraft and surface vehicle parking. These projects, in particular, would have the greatest potential for short-term pollutant emissions. Sources of pollutants include exhaust emissions and dust from additional construction vehicle traffic, heavy trucks, and grading equipment. The evaporation of hydrocarbons from curing asphalt, drying paint, solvents, and adhesives are also potential sources of pollution.

[36] See Appendix I for emissions calculations.

Of the above construction sources, fugitive dust is the most significant and has the greatest nuisance potential. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Grading and earth-moving activities comprise the major source of construction dust emissions, but traffic on and off paved areas and general disturbance of the soil also generate significant dust emissions. Dust generation is not constant but highly variable. The amount of dust generated on a given day is highly dependent on the types and amount of construction activity, and the meteorological and soil conditions. The highest potential for dust generation occurs during the summer months when winds are highest on average and soil moisture is lowest.

Short-term increases in localized pollutant emissions from construction equipment and activities is anticipated. But, with the exception of fugitive dust, is considered to have a less-than-significant (Class III) impact. The generation of fugitive dust has the potential for significant adverse (Class II) impacts, but can be mitigated to a less-than-significant level.

Airport Fuel Facilities. The project anticipates the installation of new aircraft fuel storage tanks over the life of the project. The fuel storage facilities will be designed to applicable YSAPCD standards, and the standards of The Yolo County Fire Department. Accordingly, the installation of the fuel facility would represent a Class III impact.

Conformity Determination. The minimum thresholds for ozone that forms from volatile organic compounds (VOCs) or nitrogen oxides (NO_X) vary according to the air quality classification of each non-attainment area or region. The following "de minimis" thresholds would apply to the Master Plan project and any project alternatives requiring the use of federal funds:

Ozone (VOCs or NO_X)	=	100 tons/year
Nitrogen Dioxide (NO_2)	=	100 tons/year
Carbon Monoxide (CO)	=	100 tons/year

The year 2015 regional emissions projected for the Master Plan project are all well below the "de minimis" thresholds which would require a federal conformity determination. This is a Class III (less-than-significant) impact, and has been confirmed through correspondence with the YSAPCD.[37]

3.5.2.2 Enhanced C-II Runway Alternative. This alternative would result in the same regional emissions and impacts as the Project, and would also represent a Class III impact.

37 See Appendix M, "Other Correspondence," for YSAPCD letter of 1/5/98.

3.5.2.3 No Project Alternative. This alternative would also result in less overall regional emissions and impacts than the Project. Class III impact (less-than-significant).

3.5.3 Mitigation

3.5.3.1 Master Plan Project. Because the Master Plan project would not exceed existing YSAQMD thresholds of NO_x or hydrocarbon/ROG thresholds of significance, mitigation is not required for these emissions. Project implementation would not create carbon monoxide "hot spots" at any intersections in the project vicinity, hence mitigation for this class of impact is not required.

Construction. Implementation of the Project would result in no significant adverse air quality impact, except for short-term construction impacts that can be mitigated to a less-than-significant level by the following means:

a. All construction projects on sites larger than 20,000 square feet shall prevent dust from leaving the site during construction activities and off-hours.

   a1. During construction, water trucks or sprinklers shall be used to keep areas of disturbed soil damp enough to prevent significant amounts of dust from leaving the site.

   a2. If significant amounts of dust, as determined by the County inspector(s), leave the site for prolonged periods of time, all grading and excavation activities shall stop until sufficient watering is applied to prevent dust from leaving the site. Reclaimed water shall be used and such use shall be pursuant to County Code.

b. In order to form a crust on the soil, all areas of disturbed soil that can be reached by a water truck or sprinklers shall be watered at the end of the work day after all vehicle movement (except the water truck) has stopped. Reclaimed water shall be used and such use shall be pursuant to County Code.

c. If areas of disturbed soil and/or stockpiles have been left unworked for more than two weeks, causing significant amounts of dust to leave the site, the County Inspector may require that a non-toxic soil stabilizer be applied.

d. Vehicle speeds shall not exceed 15 miles per hour on unpaved areas of the site.

e. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering as necessary, in order to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress. They shall be available during construction activities and their name(s) and telephone number(s) shall be provided to the County staff.

f. If enough soil material to create airborne dust is carried onto paved roads, the roads shall be swept at the end of the day with water sweepers.

g. All construction equipment engines and emission systems shall be maintained in proper operating order, in accordance with manufacturer's specifications, to reduce ozone precursor emissions from stationary and mobile construction equipment.

h. All construction projects on sites larger than 15 acres shall provide temporary traffic control (e.g., flag person) to avoid unnecessary delays to traffic during construction activities that interrupt normal traffic flow.

i. If feasible, electricity from power poles or ground lines shall be used in place of temporary diesel - or gasoline powered generators.

With implementation of the above measures, fugitive dust may be reduced by up to 50 percent and mitigated to a less-than-significant level of impact.

Airport Fuel Facilities. The proposed airport fuel storage facilities will be designed and constructed in accordance with YSAQMD air quality standards, and Yolo County fire safety and spill prevention/control criteria. Implementation of these measures will ensure that the replacement fuel facility will have no significant adverse air quality effects on the environment.

3.5.3.2 Enhanced C-II Runway Alternative. The mitigations for this alternative would be the same as for the Project.

3.5.3.3 No Project Alternative. No mitigation would be required for this alternative.

3.5.4 Residual Impacts.

None.

3.6 WATER QUALITY

3.6.1 Setting/Affected Environment

The Airport is located within the Plainfield Ridge ground water basin and in the Airport Slough surface water hydrologic basin. The Plainfield Ridge is an isolated body of dissected alluvial deposits, which tends to impede the movement of ground water between the Upper and Lower Cache-Creek and Putah-Creek Basins. The Airport Slough Basin is fed by several canals, irrigation ditches, and small streams whose flow is often sporadic. The principal drainage course, Airport Slough, receives winter runoff and summer irrigation drainage from the entire central portion of the County and spills into the Yolo Bypass (see Figure 3-11). The sources of water in this area are runoff from the foothills and south central portion of the County and diversions from Cache Creek at Capay.

The groundwater table is affected by the underlying geology of the Plainfield Ridge. Due to the structure of the Plainfield Ridge, there are many pockets of water located in the airport vicinity, but a deep 500-foot well would not be an uncommon occurrence.

Wells drilled through the airport area are subject to the complexities of the underlying geology since the Plainfield Ridge is an anticline that is partially exposed in this vicinity.

Currently, there are three wells that serve the airport area. The original well which was constructed by the United States Army at the time the airport was established, was originally a 17 inch diameter casing which deteriorated and was replaced by a 12 inch casing which further was replaced by an 8 inch so that the well could continue operating. In 1991 a new 5 horsepower pump was placed on the original well so that there is more than adequate power and water available. Storage is provided by two 1,000-gallon hydropneumatic tanks and one 166,000-gallon tank. The groundwater level is approximately 18 feet and well depth is 265 feet, and the pump depth is 105 feet. It has a current production capacity of 75 gallons per minute (gpm) against a discharge pressure of 50 pounds per square inch (psi).

The Yolo County Sportsmen's Association has the second well, which is operated from a five horsepower pump and is used for irrigation, providing domestic water for the users of the Sportsmen's Association, and maintaining the water level in the Association's lake.

The third well is located on property leased by the West Plainfield Fire Department. This well has a 500-600 gallon per minute capacity and is the newest of the wells on the airport property. Currently, crop dusters utilize lines from this well for the mixing of their wet mix chemicals, to the east of the Plainfield Fire Station.

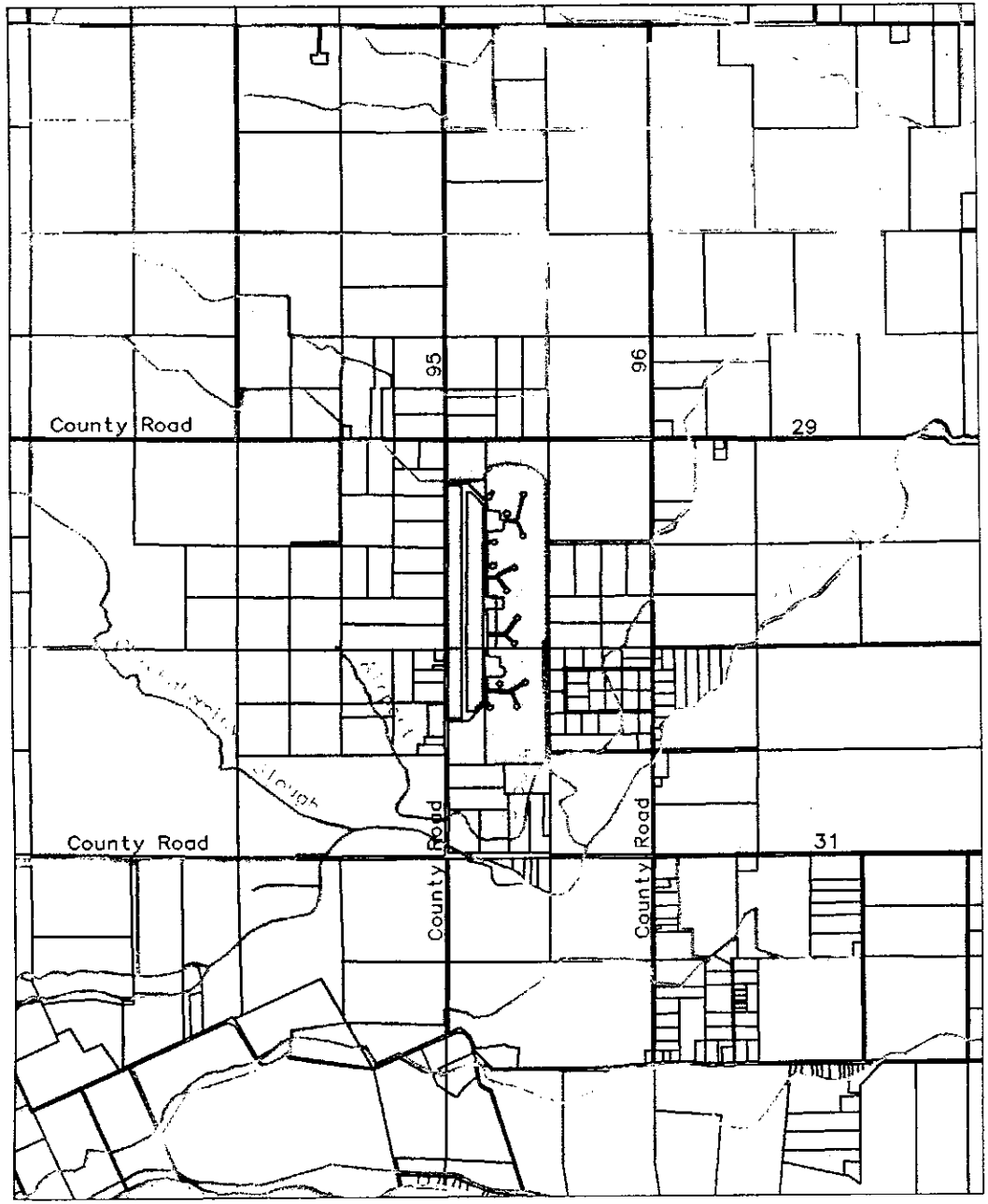


Fig. 3-11

Airport Drainage Area

Major Creeks & Sloughs

N

Scale In Miles
0 .5 1
1 : 55 000

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In correspondence received from the Yolo County Department of Public Health, concerns were expressed over the lack of availability of a reliable, safe water supply and long term sewage disposal.[38]

3.6.1.1 Policies. The Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, provides the authority to establish water quality standards, control discharges into surface and subsurface waters, develop waste treatment management plans and practices, and issue permits for discharge. FAA Order 5050.4A requires the environmental assessment to describe the means to be used in the design, construction, and operation of the proposed project to meet state water quality standards and permit requirements.

Section 402 of the Clean Water Act also requires that facilities discharging storm water runoff into navigable waters have a National Pollutant Discharge Elimination System (NPDES) permit. The County's Airport SWPPP was developed in compliance with this requirement, and is so permitted.

3.6.2 Environmental Impacts

The 498-acre airport site currently has about 53 acres of pavement and other impervious surfaces.[39] The remaining area (445 acres) is currently undeveloped. In an April 27, 1998 report prepared by Cunningham Engineering Company for the Yolo County Airport, it was determined that the Airport property an be separated into three distinct drainage shed areas (see Figure 3-12).[40]

Shed Area 1 (48 acres) is located on the north end of the Airport, immediately north of the Pleasant Prairie Canal. Runoff from this area appears to flow to the north and northwest toward the drainage ditch located on the south side of County Road 29 and does not enter Airport Slough on the south side of the Airport.

Shed Area 2 (28 acres) is located at the southwest corner of the Airport property. Runoff from this shed area appears to flow to the south and southwest into drainage ditches on the north side of Aviation Avenue and east of County Road 95. These ditches drain to the south towards Airport Slough.

Shed Area 3 (422 acres) makes up the remaining portion of the Airport property. The runoff from this area drains into Airport Slough at the southeast corner of the Airport. The western portion of the Airport appears to drain towards the west into a north-draining ditch on the east side of County Road 95. The runoff flows back onto the Airport north of the West Plainfield Fire Department facilities and is then conveyed to

38 Yolo Co. Dept. of Public Health, June 4, 1997.
39 Cunningham Engineering Company, Memorandum dated April 27, 1998. See Appendix P.
40 op. cit.

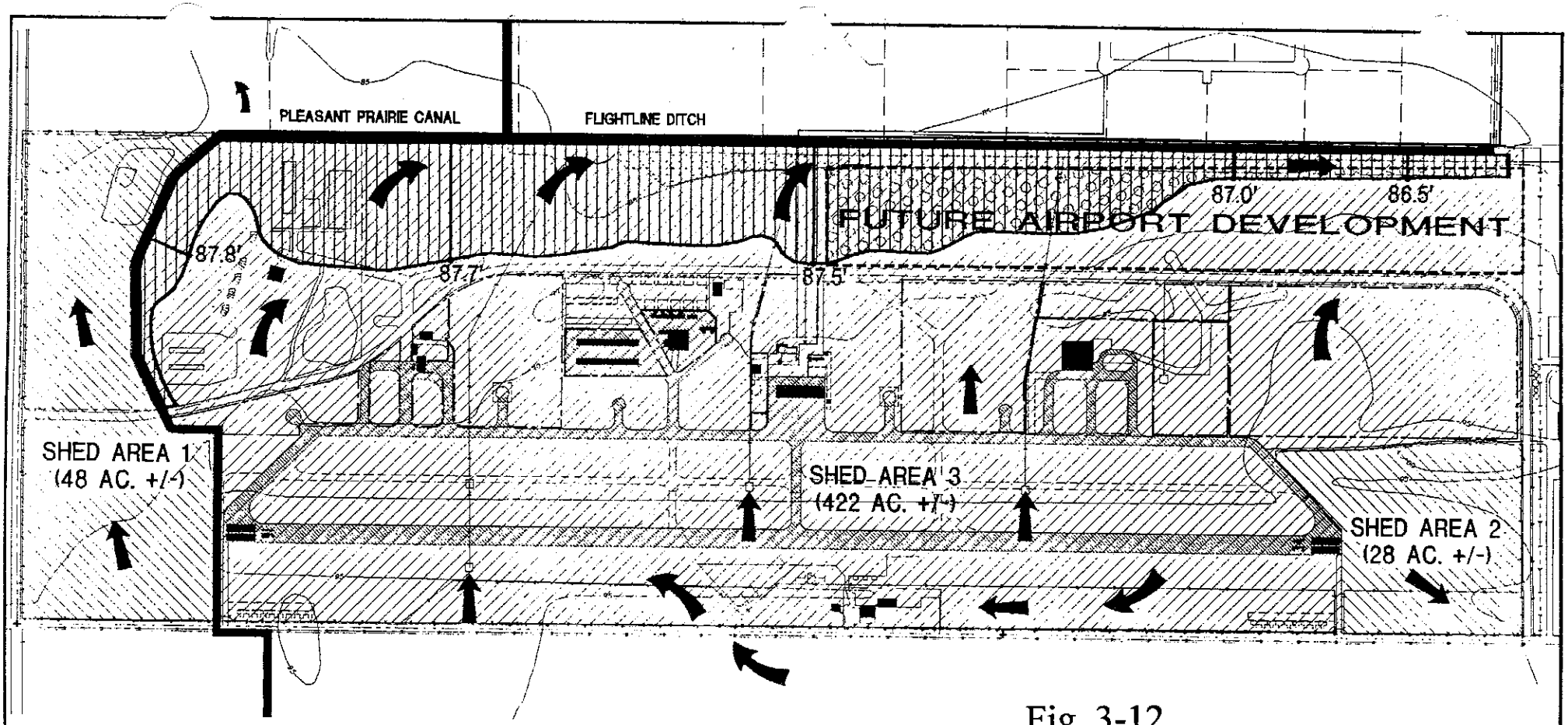

Fig. 3-12

Airport Drainage Shed Areas

LEGEND

- PLEASANT PRAIRIE CANAL AND FLIGHTLINE DITCH (IRRIGATION)
- PRELIMINARY UPDATED 100 YEAR FLOOD ZONE (88 +/- ACRE FT)
- DRAINAGE SHED AREAS
- AREA OF POTENTIAL FLOOD ZONE ENCROACHMENT (15 +/- ACRES)
- 87.8' BASE FLOOD ELEVATION IN FEET
- STORM WATER DRAINAGE FLOW

SCALE IN FEET

0 600 1200

TOTAL AIRPORT AREA - 498 ACRES

EXISTING PAVEMENT AND OTHER IMPERVIOUS SURFACES - 52.8 ACRES

POTENTIAL FUTURE DEVELOPMENT - 160.3 ACRES

YOLO COUNTY AIRPORT
WOODLAND, CALIFORNIA

P&D AVIATION
A DIVISION OF P&D CONSULTANTS

DESIGNED: TGM | CHECKED: MRM
DRAWN: TGM, DL | DATE: APRIL 27, 1998

the east through a series of earth and grass-lined channels, an underground pipe and ultimately into a low-lying area (floodwater/buffer area) on the east side of the Airport. Runoff from the remaining portion of Shed Area 3 flows east through a series of underground pipes and channels and/or overland into the floodwater/buffer area. The majority of runoff that enters the detention basin flows south through a small channel located along the east boundary of the Airport. The runoff then flows off-site at the southeast corner of the Airport, into Airport Slough.

Soils in the vicinity of the airport are classified as Hillgate Loam (HdA) and Myers Clay (MS).[41] The Hillgate Loam series is characterized by low permeability and high runoff, with little to no erosion hazard. Because of its lack of permeability, its use for the surface disposal of sewage is considered to be limited without soil amendments of special design considerations.

Myers Clay is also characterized by low permeability, high runoff potential, little or no erosion hazard, and severe limitations for septic tank filter fields. As a result of these soil conditions, peak flow runoff from the main airport site (Shed Area 3) is estimated to be on the order of 156 cfs, and 120 acre-feet for a 100-year 24-hour duration storm event.[42]

3.6.2.1 Master Plan Project. Implementation of the Master Plan project by 2015 would result in approximately 160 acres of new development area with approximately 128 acres of new or additional pavement and other impervious surfaces on the site. The resultant peak flow storm water runoff for the project is estimated at about 204 cfs, and 145 acre feet of runoff, a net increase of 48 cfs and 25 acre feet.[43] This is considered a Class II (significant, but mitigatable) impact.

Fuel Facilities. The proposed airport fuel storage facilities have the potential to generate a significant water quality impact if not properly designed, operated and maintained. These facilities are proposed to consist of above-ground tanks, with capacities of from 5,000 - 20,000 gallons of aviation fuel. The storage of fuel, transfer of fuel from tank trucks to storage tanks, and from storage tanks into aircraft represent a potential for fuel spills through leaks, carelessness, or upset. Although the possibility of a major spill is deemed to be rather low, the amounts of fuel that could be spilled is relatively high.

Aviation fuel, particularly Jet-A fuel, contains petroleum-based mid-distillate hydrocarbons, primarily kerosene. Benzene is the other component of Jet-A fuel. Benzene amounts to less than 0.05 percent by volume. It is the more soluble constituent of jet fuel and is highly toxic. For example, the recommended maximum

[41] U.S. Dept. of Agriculture, Soil Conservation Service, *"Soil Survey of Yolo County, California,"* undated.
[42] Cunningham Engineering Company, op. cit.
[43] Ibid.

concentration of benzene in drinking water is less than 1 part per billion. Therefore, the relatively small amount of benzene in jet fuel has the potential to contaminate large volumes of ground or surface water unless adequate precautions are taken to prevent spills or upset. Gasoline has similar concentrations of these volatile organic compounds, and the storage of this material as part of the fuel farm would also represent a potentially significant impact on the quality of water resources if mismanaged. Development of the proposed facilities in accordance with State and local design criteria, including spill prevention, monitoring, and cleanup systems and procedures (i.e., built-in mitigation measures) would result in a Class III (less-than-significant) impact.

Water Distribution System. The proposed Airport water distribution system improvements will result in upgrades to both the potable water system and the Airport fire protection system. This is a Class IV (beneficial) impact.

Sewage Disposal. The proposed central sewage collection system for the Airport would replace the existing system of separate septic tanks and consolidate the collection of effluent into one single system. This would be a Class IV (beneficial) impact.

Construction Impacts. Construction activities associated with the project implementation have the potential to result in significant water quality impacts, if not properly mitigated. These activities have the potential to 1) cause some erosion; 2) create sedimentation; and 3) cause off-site contamination.

Sediments resulting from the excessive erosion of disturbed soils is the primary pollutant of concern. However, other pollutants of concern include construction chemicals and construction vehicle fuels, oils, and lubricants, which can be washed into Airport Sough in storm water runoff. The potential for the degradation of local water quality from surface runoff as a result of construction activities is judged to be a Class II (significant) impact, which can be mitigated to a less-than-significant level.

3.6.2.2 Enhanced C-II Runway Alternative. Because this alternative would result in comparable development as compared to the project, its hydrologic impacts would be the same as the project (Class III Impact).

Fuel Facility. Since the proposed fuel facilities for this alternative could be identical to the project facilities, potential water quality impacts would be as per the project as well (Class II Impact).

Water Distribution. This system would be as per the project (Class IV--Beneficial Impact).

Sewage Disposal. This system would be as per the project (Class IV Impact).

Construction. As a result of the similar natures of the project and this alternative in terms of relative pavement area, the impact of construction activities on water quality associated with this alternative would be comparable to the project. (Class II impact).

3.6.2.3 No Project Alternative. This alternative would not result in increased runoff, or any potentially adverse water quality impacts from either the proposed fuel storage facilities or project construction activities, since these projects would not be built under this alternative. This alternative would represent a Class III (less-than-significant) impact on hydrology and water quality.

3.6.3 Mitigation

3.6.3.1 Master Plan Project. In order to mitigate the increased rate of runoff due to Airport buildout, stormwater detention facilities shall be incorporated into site planning for new development at the Airport. These facilities shall be designed to limit the future rate of runoff into Airport Slough to the current rate. Detention facilities shall operate by temporarily storing the peaks of stormwater runoff, with discharge occurring at a lower rate over a longer period of time. (This is a commonly used stormwater management strategy in Davis, Woodland and many other Central Valley communities.) Such detention facilities can consist of vegetated basins, slightly depressed parking lots and/or open channels. Small pump stations shall be installed as necessary to fully drain the detention facilities. Detention facilities may be placed at one or more locations on the Airport property in response to phased development.

The proposed fuel storage facilities and construction activities will require the following mitigation measures to be built-in to reduce potential impacts to a less-than-significant level:

Fuel Storage Facilities. The following preventive mitigation measures shall be "built in" to the proposed above-ground airport fuel storage facilities (subject to the review and approval of the State Fire Marshall, Yolo County Fire Chief, YSAQMD, and the Regional Water Quality Control Board, as may be appropriate):

1. The proposed fuel farm will incorporate standard engineering and monitoring techniques and measures for fuel storage, spill containment, and cleanup as required by current federal, state and local regulations.

2. Regular fill stand and hard stand cleaning will be carried out to minimize potential discharge of pollutants into surface runoff.

3. A fuel facility spill prevention control and countermeasure (SPCC) plan will be adopted to provide procedures for mitigating any fuel,

lubricant, or hydraulic fluid spill which might occur. The SPCC plan will also include provisions for fueling personnel to be trained in the recovery of spilled substances.

4. All above-ground tanks will be constructed in accordance with American Petroleum Institute (API) standards for Zone 4 earthquake potential (API 650).

5. The principal means of controlling spillage or leakage from any above-ground tanks in the fuel storage area will be by means of a concrete pad with an impervious epoxy coating with manual drain valves to direct any spillage to an oil/water separator. The drain valves would be maintained in a closed position to prevent any inadvertent or premature diversion of spillage or leakage to the oil/water separator.

6. Spill containment for the truck fill stands and truck unloading areas will be accomplished by impervious diversion pads. These pads will be capable of accommodating a spill from the largest truck, tender or lighter (i.e., small trucks used to transport fuel to aircraft for fueling) using the facility.

Implementation of these measures will reduce potential water quality impacts from the proposed airport fuel storage facility to a less-than-significant level.

Water System Mitigation. Mitigation not required for Class IV Impacts.

Sewage Mitigation. Mitigation not required for Class IV impacts.

Construction Mitigation. The following mitigation measures are set forth to reduce potential project construction impacts on water quality to a less-than-significant level:

1. A separate construction storm water pollution prevention plan (CSWPPP) will be prepared by the contractor prior to the beginning of construction.

2. During construction the CSWPPP shall be referred to frequently and refined as changes occur in construction operations which may have a significant effect on the potential for the discharge of pollutants. The County's existing SWPPP will be used as the basis for monitoring the effectiveness of the CSWPPP.

3. The CSWPPP will contain approved Best Management Practices (BMP) to be used to (a) minimize erosion and sedimentation during construction, (b) describe measures to eliminate pollution of storm

runoff by any chemicals and materials used during construction, and (c) show areas of long-term post-construction control measures.

4. BMPs selected for erosion and sediment control shall be designed to meet water quality protection objectives based on specific site conditions, construction activities, and cost-effectiveness. The following BMPs shall be considered to minimize the area of construction disturbance:

   a) Do not disturb any portion of the site unless an improvement is to be constructed there.

   b) The staging and timing of construction can minimize the size of exposed areas and the length of time the areas are exposed and subject to erosion.

   c) The staging of grading operations should limit the amount of areas exposed to erosion at any one time. Only the areas that are actively involved in cut and fill operations or are otherwise being graded should be exposed. Exposed areas should be stabilized as soon as grading is complete in that area.

   d) Retain existing vegetation and ground cover where feasible, especially along watercourses and along the downstream perimeter of the site.

   e) Do not clear any portion of the site until active construction begins.

   f) Quickly complete construction on each portion of the site.

   g) Install landscaping and other improvements that permanently stabilize each part of the site immediately after the land has been graded to its final contour.

   h) Minimize the amount of denuded areas and any new grading activities during the wet months of October through April.

   i) Construct any required post-construction storm water control facilities (e.g., detention basins) early in the project and use for sediment trapping, slope stabilization, velocity reduction, etc. during the construction period.

3.6.3.2 Enhanced C-II Runway Alternative. All mitigation measures set forth for the project would be applicable to this alternative as well.

3.6.3.3 No Project Alternative. No mitigation is required.

3.6.4 Residual Impacts

Implementation of the above mitigation measures would reduce any residual impacts from the project or any project alternative to a less-than-significant level.

3.7 DEPARTMENT OF TRANSPORTATION ACT SECTION 4(F)

3.7.1 Setting/Affected Environment

The U.S. Department of Transportation (DOT) Act, Section 4(f)[44] is concerned with publicly owned parks, recreation areas, wildlife and waterfowl refuges, or historic sites or national, state or local significance.

3.7.1.1 Policies. Section 4(f) of the U.S. Department of Transportation Act provides that the Secretary of Transportation "*shall not approve any program or project which 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 of an historic site...*"[45]

3.7.2 Environmental Impacts

3.7.2.1 Master Plan Project. None of the land areas affected by the proposed Yolo County Airport Master Plan qualifies as DOT Section 4(f) land (i.e., no lands subject to acquisition or development under the Master Plan are used as a public park, recreation area, or wildlife or waterfowl refuge. The Yolo Sportsmen's Association maintains an area of wildlife habitat on its property, but this is a private refuge and not subject to development). Consequently, there would be no significant impact (Class III impact).

3.7.2.2 Enhanced C-II Runway Alternative. Impacts as per above (Class III impacts).

3.7.2.3 No Project Alternative. No impacts anticipated (Class III impacts).

3.7.3 Mitigation Measures

Class III impacts do not require mitigation.

3.7.4 Residual Impacts

None.

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44 Recodified at 49 USC, Subtitle I, Sec. 303.
45 FAA Order 5050.4A, para 47(e)(3).

3.8 HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

3.8.1 Setting/Affected Environment

Cultural resources include places of historic, cultural, archaeological or architectural significance.

3.8.1.1 Policies. Two basic federal laws apply to this category of impact: (1) the National Historic Preservation Act of 1966, as amended; and (2) the Archeological and Historic Preservation Act of 1974. Pursuant to these laws, FAA Order 5050.4A requires an initial review to determine if any properties "*in or eligible for inclusion in the National Register of Historic Places*" would be located within the area of the proposed project's potential impact.[46] Under provisions of the Archeological and Historic Preservation Act of 1974, analyses are required only if "there is reason to believe that significant scientific, prehistoric, historic, archeological, or paleontological resources will be lost or destroyed by the proposed action."[47]

3.8.2 Environmental Impacts

3.8.2.1 Master Plan Project. An initial review was made to determine if properties in or eligible for inclusion in the National Register of Historic Places were within the area of potential project impact. This and discussions with County staff have indicated that there are no known cultural, archaeological or historic resources located on the airport property, or on any of the properties proposed for acquisition for approach and clear zone purposes. Most of the airport property has been re-graded and otherwise disturbed (this is termed a "ruderal" landscape) over the years to the point that any potential resources would have been either discovered, covered over, or destroyed. This is also true of those parcels proposed for acquisition for airport approach protection, which are currently being farmed or used for other agricultural purposes.

In addition, a cultural resource record search performed by the Northwest Information Center at Sonoma State University indicates that "the proposed [Airport Master Plan] project area contains no recorded Native American or historic cultural resources listed with the Historical Resources Information System." It also states that "State and Federal inventories list no historic properties within the project area."[48] (See Appendix M.) The Northwest Information Center also notes that there are two historic properties, the "Gottfriend Schneisser House" and the "William Oeste House," located next to the southern boundary of the airport. This is incorrect, in that the two sites are actually

46 FAA Order 5050.4A, para 47(3)(8)(b).
47 op. cit., para. 47(3)(8)(c).
48 Sonoma State University, File No. 98-7, January 23, 1998.

located south of County Road 31 and at least half a mile from the Airport (see Appendix M for documentation).

As a result, the proposed Master Plan project should not result in any significant impact to known historic or cultural resources. However, since Yolo County has numerous documented cultural sites, a potential still exists for the discovery of archaeological artifacts or human remains during development. Although small, this potential represents a Class II impact (a significant adverse impact which can feasibly be mitigated to a less-than-significant level).

3.8.2.2 Enhanced C-II Runway Alternative. Potential impacts as per above. (Class II impact).

3.8.2.3 No Project Alternative. This alternative would not require any grading or earthwork. Hence, the potential for uncovering human remains or cultural artifacts is relatively remote. This is a Class III impact (less-than-significant).

3.8.3 Mitigation Measures

3.8.3.1 Master Plan Project. All construction personnel shall be alerted to the potential for uncovering artifacts and human remains. If any human remains are found they would most likely be those of a Native American and, under State Law, a defined course of action must be taken. Section 7050.5 of the Health and Safety Code requires that, upon the discovery of any human remains, the County Coroner be notified immediately. Such notification shall be made by the contractor. Should the remains be determined to be those of a Native American, the Coroner shall notify the Native American Heritage Commission within 24 hours. The Commission would then decide on the appropriate method of dealing with the remains.

Should human remains be discovered, or distinct cultural objects, or significant changes in soil color be observed, construction shall be halted and a specialist and/or the County Coroner, as appropriate, be called in to evaluate the potential of any finds. County contracts shall include wording to this effect. Implementation of the above mitigation measures reduces the potential impact to archaeological resources to an insignificant level.

3.8.3.2 Enhanced C-II Runway Alternative. Mitigation as per the Master Plan project.

3.8.3.3 No Project Alternative. Mitigation is not required for Class III impacts.

3.8.4 Residual Impacts

Implementation of the above mitigation measures would reduce any potential cultural resources impacts to a less-than-significant level.

3.9 BIOTIC COMMUNITIES

A biological assessment of the Yolo County Airport project site was conducted by Zander Associates to characterize existing biotic communities on the site, evaluate the potential for the occurrence of sensitive species or habitats on the site, identify potential impacts of the proposed airport expansion project on biological resources in the project area, and recommend possible mitigation measures to reduce the magnitude of these impacts. The following assessment is based on review of existing background information, including the California Department of Fish and Game's Natural Diversity Data Base (CNDDB) and the Yolo County Habitat Conservation Plan (HCP)[49] and a field reconnaissance survey conducted on April 2, 1997.

3.9.1 Setting/Affected Environment

The Yolo County Airport project site is located in the lower Sacramento Valley northwest of the city of Davis, California. This area is characterized by flat terrain primarily dedicated to large-scale agriculture, and is transected by several sloughs and irrigation canals. Biotic communities present on the project site include: (1) cultivated fields; (2) drainage areas/wetlands; and (3) developed areas, which include the existing airport (see Figure 3-13). The general features and dominant vegetation of these communities are described below. A complete list of plant species observed during the field survey is provided in Table 3-7.

Cultivated Fields. Much of the undeveloped land on the project site is currently under cultivation for cereal crops. These cultivated areas include the large strip of land between Aviation Avenue and the eastern boundary of the site, three smaller fields adjacent to existing structures between the runway and Aviation Avenue, and the safety zones that extend beyond the northern and southern ends of the runway. Cultivated crops in these areas include wheat (*Triticum sativum*), oats (*Avena sativa*) and rye (*Lolium multiflorum*). Various ruderal (weedy) species also occur in these cultivated fields, including red-stemmed filaree (*Erodium cicutarium*), bur clover (*Medicago polymorpha*), and wild radish (*Raphanus sativa*). In addition, remnant patches of orchard trees and several large willows (*Salix lasiandra*) are scattered throughout the site. These willows are likely remnants of the extensive riparian woodlands that occurred historically in this area.

Cultivated lands in general do not support the diversity of wildlife species found in more naturally-vegetated areas, however they can provide foraging habitat a variety of insects, birds and small mammals. Birds commonly found foraging in croplands include the American robin (*Turdus migratorius*), Brewer's blackbird (*Euphagus cyanocephalus*), and common crow (*Corvus brachyrhynchos*). Cultivated vegetation

[49] EIP Associates, 1996.

and seed crops can provide a rich food source for mammals such as the California ground squirrel *(Spermophilus beechyi)*, western harvest mouse (*Reithrodontomys megalotis*) and the black-tailed hare (*Lepus californicus*). These species in turn can provide a prey base for raptors such as the red-tailed hawk (*Buteo jamaicensis*) and mammalian predators such as the red fox (*Vulpes vulpes*).

Drainage Areas/Wetlands. This category includes a section of a large irrigation canal (the Pleasant Prairie Canal) at the northern and eastern end of the site, several smaller man-made drainage channels, and a flood pond and associated wetland area in the eastern portion of the site. The irrigation canal emerges from a culvert just east of the northern end of the runway, traverses the Yolo County Sportsmen's Association area adjacent to airport property, then turns southward and passes along the eastern boundary of the project site. The smaller drainage channels on the site direct runoff from the runway area and surrounding agricultural fields to a detention pond in the eastern portion of the site. This flood pond and associated farmed wetland area cover approximately 3.3 acres.[50] Drainage flow to this pond ultimately discharges into the Airport Slough at the southeastern edge of the site.

The drainage/farmed wetland areas on the site are characterized by periodic flooding by freshwater runoff. The dominant vegetation of these drainage areas consists of hydrophytic (moisture-tolerant) herbaceous species such as curly dock (*Rumex crispus*), peppergrass (*Lepidium nitidum*), and common rush (*Juncus effusus*). The moisture and vegetation present in these drainage areas could provide habitat value for a variety of animals adapted to ephemeral wetland areas, including amphibians such as the western toad (*Bufo boreas*) and aquatic reptiles such as the common garter snake (*Thamnophis sirtalis*). The flood pond and associated wetland area could also provide foraging habitat for a variety of birds, including the mallard (*Anas platyrhynchos*), killdeer (*Charadrius vociferus*) and great egret (*Casmerodius albus*).

Developed Areas. The developed areas on the site include the airport runway, existing buildings and roadways and adjacent disturbed areas. The dominant vegetation in these developed areas consists of various landscape and windbreak trees, such as black locust (*Robinia psuedoacacia*), Monterey pine (*Pinus radiata*), and blue gum (*Eucalyptus globulus*), interspersed with ruderal herbs and grasses. Ruderal species observed in these areas include red-stemmed filaree, scarlet pimpernel (*Anagallis arvensis*), wild mustard (*Brassica rapa*), and little quaking grass (*Briza minor*).

The developed areas on the project site in general provide limited habitat value for wildlife, but could support some opportunistic species such as Brewer's blackbird and Botta's pocket gopher (*Thomomys bottae*). In addition, trees planted in these areas could provide nesting or roosting sites for a variety of birds.

50 USDA, Natural Resources Conservation Services, April 8, 1998.

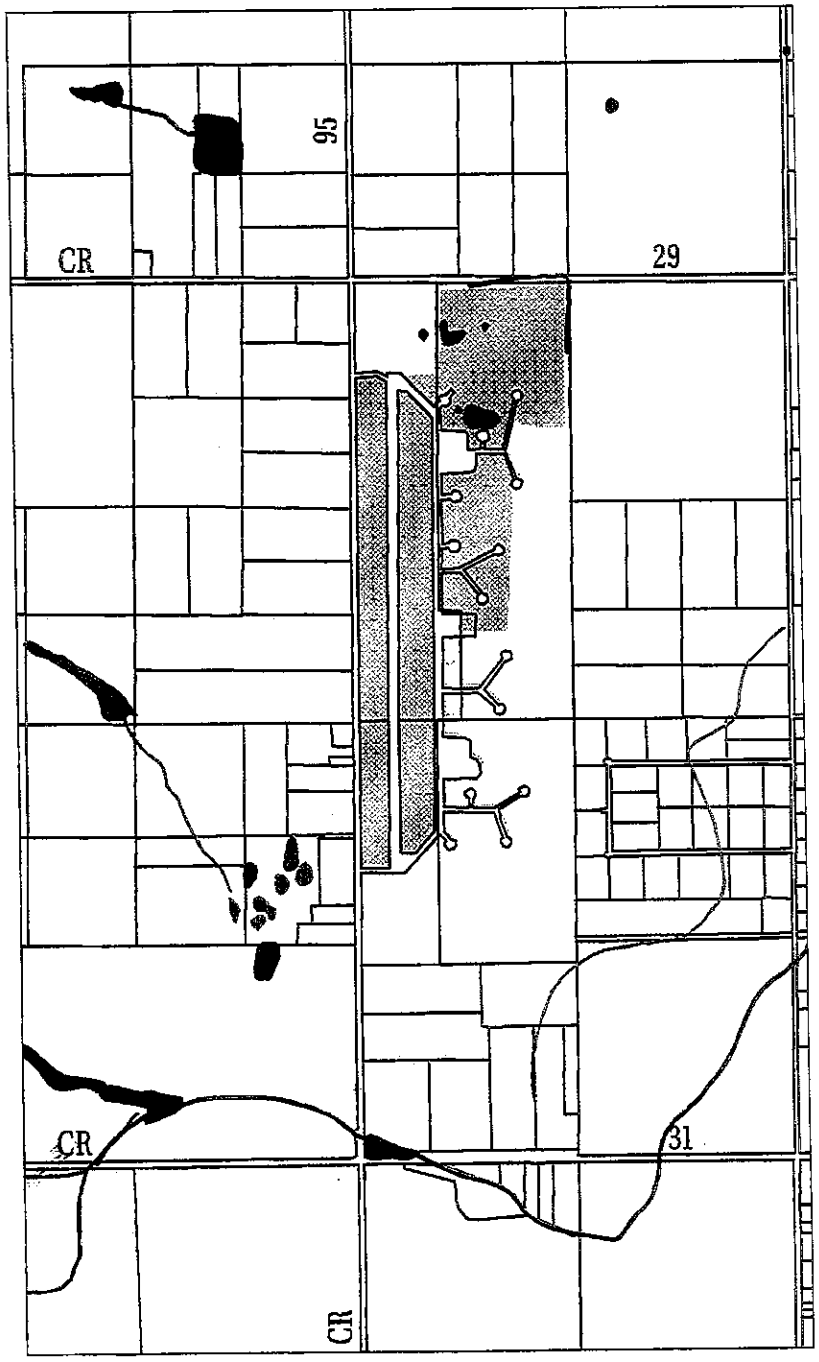

Fig. 3-13

Habitat

- Woodland
- Wetland
- Riparian
- Agricultural

Scale in Miles
0 1/4 1/2
1 : 28 000

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TABLE 3-7
PLANT SPECIES OBSERVED ON THE YOLO COUNTY AIRPORT PROJECT SITE, APRIL 2, 1997

SCIENTIFIC NAME	COMMON NAME
TREES:	
Acer negundo	box elder
Ailanthus altissima	tree of heaven
Decrus sp.	cedar
Euclyptus blobulus	blue gum eucalyptus
Juglans spp.	walnut
Pinus radiata	Monterey pine
Populus sp.	cottonwood
Quercus lobata	valley oak
Robinia psuedoacacia	black locust
Salix lasiandra	Pacific willow
Sequoia sempervirens	coast redwood
HERBS and GRASSES:	
Anagallis arvensis	scarlet pimpernel
Avena barbata	slender wild oats
Avena sativa	cultivated oats
Brassica rapa	wild mustard
Briza minor	little quaking grass
Bromus hordeaceous	soft chess
Cerastium virgatum	chickweed
Chamomila suaveolens	chamomile
Cyonodon dactylon	Bermuda grass
Erodium cicutarium	red-stemmed filaree
Erodium moschatum	white-stemmed filaree
Feoniculum vulgare	fennel
Galium aparine	bedstraw
Hordeum sp.	foxtail
Juncus effusus	common rush
Lepidium nitidum	peppergrass
Lolium multiflorum	Italian rye grass
Lupinus sp.	lupine
Malva nicaaensis	bull mallow
Medicago polymorpha	bur clover
Mimulus layneae	Layne's monkey flower
Plagiobothrys stipitatus	popcorn flower
Poa annua	annual blue grass
Psilocarphos oreganus	woolly marbles
Raphanus sativa	wild radish
Rosa sp.	rose
Rumex crispus	curly dock
Sonchus asper	prickly sow thistle
Spergularia rubra	purple sand spurry
Trifolium willdenovii	tomcat clover
Triticum sativum	wheat
Vicia villosa ssp. *varia*	woolly vetch

3.9.1.1 Policies. FAA Order 5050.4A requires a series of thresholds to be examined to determine if a proposed project has the potential for significant impact on biotic communities.[51] These thresholds are defined as follows:

1) If the proposal would impact only man-dominated areas such as previously disturbed airport property, populated areas or farmland, it is assumed that there would be no significant impact on biotic communities.

2) If the proposal would impact other than man-dominated areas, but the impacts would primarily be transient rather than permanent, such as dislocation or other impacts due to construction activities, it may be assumed that there would be no significant impact on biotic communities. The environmental assessment shall document the transient nature of the impacts and any mitigation measures.

3) If the proposal would cause only a minor permanent alteration of existing habitat, it may be assumed that there would be no significant impact on biotic communities. "Minor alteration" generally refers to removal of a few acres of habitat which represent a small percentage of the area's inventory or which support a limited variety or number of common wildlife species...The environmental assessment...shall document the basis for the assumption of no significant impact and shall also document any mitigation measures.

4) If the proposal would involve the removal of a sizable amount of habitat, or of habitat which supports rare species, or of a small, sensitive tract, but the accompanying loss of plant communities and displacement of wildlife do not result in significant long term loss to the area, it may be assumed that there would be no significant impact on biotic communities. The environmental assessment shall document the impacts and mitigation measures and shall include supporting letters [from state and local review and other informal coordination as necessary]. Mitigation measure may include: (a) design adjustments to minimize impacts on sensitive areas or species; and/or (b) purchase of contiguous habitat as a preserve for dislocated wildlife or as a buffer zone.

5) If the evaluation, using the thresholds [above], does not lead to the assumption that there would be no significant impact on biotic communities, the proposal is considered to be one with potential significant impacts.

51 U.S. Department of Transportation, *FAA Airport Environmental Handbook*, revised 1985

The proposal for expansion of the Yolo County Airport was evaluated with reference to the above thresholds and existing conditions on the site to determine whether impacts of the project would potentially be significant and/or require mitigation. These impacts and mitigation measures are discussed below.

3.9.2 Environmental Impacts

3.9.2.1 Airport Master Plan. Implementation of the Master Plan Project would involve development of new airport support and administrative facilities in the area west of Aviation Avenue and east of the existing runway. Plans for future expansion include development of a commercial center in the area east of Aviation Avenue extending to the eastern property boundary. Approximately half of this latter area is proposed to be developed, with the remaining half to be set aside as designated open space, which will be used for flood control purposes.

Airport Support/Administration Area. The area proposed for development of the first phase of the project consists primarily of dryland cultivated fields interspersed with existing airport buildings, aircraft hangars and access roads. Facilities to be constructed in this area include fixed base operations (FBO) sites, aviation and non-aviation reserve sites, and a County administrative complex. This development would affect only "man-dominated areas" as defined under FAA Order 5050.4A § 9 (d), and therefore would not be considered a significant impact under this order. However, the removal of approximately 65 acres of cultivated fields in this area would result in the loss of potential foraging habitat for wildlife, including the state-threatened Swainson's hawk. This impact is discussed below in the Endangered and Threatened Species section.

Future Commercial Area. The proposed future commercial area would be located in the southern half of the undeveloped area east of Aviation Avenue. The proposed development would result in removal of cultivated fields and reconfiguration of some existing man-made drainage channels, including the three-acres farmed wetland area at the northeastern end of the site. Therefore, development of this area would predominantly affect only man-dominated areas and would not constitute a significant impact under FAA Order 5050.4A. The modification of the three-acre area of farmed wetland would cause only "a minor permanent alteration of existing habitat," and as such would represent a less-than-significant impact.[52] However, the removal of approximately 49 acres of cultivated fields in this area would result in the loss of potential foraging habitat for wildlife, including the state-threatened Swainson's hawk. This impact is discussed below in the Endangered and Threatened Species section.

52 Ibid.

3.9.2.2 Enhanced C-II Runway Alternative. This Alternative would result in impacts similar to the Project.

3.9.2.3. No Project Alternative. This alternative would not result in any significant impact to biotic resources.

3.9.3 Mitigation

3.9.3.1 Master Plan Project.

Airport Support/Administration Area. No mitigation is required for general impacts to biotic resources resulting from development of this area. Mitigation for potential impacts to special-status wildlife species is discussed below in the Endangered and Threatened Species section.

Future Commercial Area. No mitigation is required for general impacts to biotic resources resulting from development of this area. Mitigation for potential impacts to special-status wildlife species is discussed below in the Endangered and Threatened Species section.

3.9.3.2 Enhanced C-II Runway Alternative. Mitigation as per above.

3.9.3.3 No Project Alternative. No mitigation is required for this alternative.

3.10 ENDANGERED AND THREATENED SPECIES OF FLORA AND FAUNA

3.10.1 Setting/Affected Environment

The CNDDB (Merritt quadrangle, February 1997) and the Yolo County HCP were reviewed to identify special-status species of plants and animals that could potentially occur on or in the vicinity of the project site. Species considered in this assessment include: (1) those species listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA); (2) those listed or candidates for listing as threatened or endangered by the California Department of Fish and Game (CDFG) under the California Endangered Species Act (CESA); (3) any additional target species identified in the HCP that could potentially occur on the site. A list of these species and their habitat requirements is provided in Table 3-8.

The potential for these species to occur on the project site was evaluated by considering the current distributions and habitat requirements of these species with

reference to the existing biotic communities, vegetation and habitat features on the project site. Based on this assessment, the project site is not expected to support any endangered or threatened plant species, and no sensitive plant species were observed during the site survey. However, the cultivated fields and drainage areas on the site could be considered potential habitat for several sensitive animal species. These species are discussed below.

Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp. These four species all have very similar ecology, life history and habitat requirements. The three species of fairy shrimp (*Branchinecta conservatio*, *B. longiantenna*, and *B. lynchi*) inhabit vernal pools, grass or mud-bottomed swales or basalt depression pools containing clear to tea-colored water. The vernal pool tadpole shrimp (*Lepidurus packardi*) occurs in similar ephemeral pool habitats, but may also occur in roadside ditches and pools containing more turbid water. These species develop rapidly and complete their entire life cycle within about two weeks after vernal pools fill with water. The highly-resistant eggs are deposited the bottoms of the pools and may remain viable for one to several years in dry pool bottoms.

The flood pond at the eastern end of the site does not have characteristics of a vernal pool, and does not appear likely to provide suitable habitat for these species, as it is in an area under cultivation. However, focused surveys for aquatic invertebrates in the flood pond and associated drainage channels would be required to conclusively establish the presence or absence of these species on the site.

California Tiger Salamander. The California tiger salamander (*Ambystoma californiense*) lives most of the year in underground retreat, typically in abandoned rodent burrows in grassland or open oak woodland habitats. This species emerges during the rainy season and breeds in temporary ponds that do not support predatory fish or amphibians that could consume the vulnerable larvae.

Recorded occurrences of this species in the vicinity of the project site are limited to one sighting in the Dunnigan Hills (EIP Associates 1996) and one sighting in Davis near a city-owned "wet pond" wildlife habitat area (CNDDB 1997). The project site lacks suitable upland estivation habitat for this species, and the flood pond on the site does not appear to be sufficiently isolated to provide protected breeding habitat for this species. Therefore, this species is not likely to occur on the site.

Giant Garter Snake. The giant garter snake (*Thamnophis gigas*) typically occurs in aquatic habitats such as freshwater marshes and low-gradient streams, but may also occur in irrigation canals, sloughs, drainage ditches, and flooded rice fields. Giant garter snakes utilize protected basking sites to regulate their body temperature during the active season from April to October. During late fall and winter, they retreat to underground refuges, where they remain inactive for several months.

TABLE 3-8
SENSITIVE PLANT AND ANIMAL SPECIES POTENTIALLY OCCURRING IN THE VICINITY OF THE YOLO COUNTY AIRPORT PROJECT SITE

Plant Species	Status[1] Fed/CA	Habitat and Blooming Period	Findings
Palmate-bracted bird's beak *(Cordylanthus palmatus)*	E/E	Alkali sink scrub and alkali grassland habitats; blooms from June through October	Not expected to occur; habitat not present on site
Colusa grass *(Neostapfia colusana)*	PT/E	Vernal pool habitats; usually occurs in pure stands on the bottoms of large vernal pools	Not expected to occur; habitat not present on site
Crampton's tuctoria *(Tuctoria mucronata)*	E/E	Vernal pool habitats on alkaline soils; blooms from April to July	Not expected to occur; habitat on present on site
Animal Species	**Status[1] Fed/CA**	**Habitat**	**Findings**
Conservancy fairy shrimp *(Branchinecta conservatio)*	E/--	Vernal pools, grass or mud-bottomed swales, or basalt depression pools; require water for at least two weeks for maturation and completion of life cycle	Not expected to occur; habitat on present on site
Longhorn fairy shrimp *(Branchinecta longiantenna)*	E/--	Vernal pools, grass or mud-bottomed swales, or basalt depression pools; require water for at least two weeks for maturation and completion of life cycle	Not expected to occur; habitat on present on site
Vernal pool fairy shrimp *(Lepidurus packardi)*	T/--	Vernal pools, grass or mud-bottomed swales, or basalt depression pools; require water for at least two weeks for maturation and completion of life cycle	Not expected to occur; habitat on present on site
Vernal pool tadpole shrimp *(Lepidurus packardi)*	E/--	Vernal pools, swales, and roadside ditches with clear to highly turbid water; require standing water for rapid development and maturation	Not expected to occur; habitat not present on site
Valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	T/--	Riparian and elderberry savanna habitats; larvae bore into roots and main stems, adults feed on flowers and foliage of elderberry plants	Not expected to occur; habitat not present on site
California tiger salamander *(Ambystoma californiense)*	C/CSC	Grasslands and open oak woodlands; requires seasonal ponds for breeding that do not support predatory fish or frogs; uses ground squirrel or gopher burrows in upland areas for estivation sites	Not likely to occur; suitable habitat not found on site

TABLE 3-8, CONTINUED:

Animal Species	Status[1] Fed/CA	Habitat	Findings
Giant garter snake *(Thamnophis gigas)*	T/T	Aquatic habitats; prefers freshwater marsh and low gradient streams, but has adapted to drainage canals and irrigation ditches	May occur in irrigation canal or drainage ditches on site
Swainson's hawk *(Bueto swainsoni)*	--/T	Riparian woodlands adjacent to open fields; nests in large trees along rivers, creeks or irrigation canals; forages in agricultural fields, pastures or grasslands	Likely to occur on site; suitable foraging habitat exists in cultivated areas; reported nesting near site
Greater sandhill crane *(Grus canadensis tabida)*	--/T	Wet meadow and freshwater emergent wetland habitats; usually nests in extensive wetland areas with shallow fresh water	Not expected to occur; habitat not present on site
Western yellow-billed cuckoo *(Coccyzus americanus occidentalis)*	--/CE	Willow riparian habitats; nests in humid river bottom areas with dense deciduous trees/shrubs, especially willow	Not expected to occur; site is not within current distribution of species
Western burrowing owl *(Athene cunicularia hypugea)*	--/CSC	Flat grasslands, deserts, and agricultural areas; nests in abandoned ground squirrel burrows	Not observed on site, but suitable habitat may exist in cultivated areas
Bank swallow *(Riparia riparia)*	--/T	Colonial nester; nests in riparian and other lowland habitats; requires vertical banks/cliffs with fine-textured/sandy soils near water to dig nesting holes.	Not expected to occur; habitat not present on site

1 Status Explanations:

Federal (Fed)
- E = Listed an endangered under the federal Endangered Species Act.
- T = Listed as threatened under the federal Endangered Species Act.
- PT = Proposed for listing as threatened under the federal Endangered Species Act.
- C = Candidate for listing as threatened or endangered. Includes those species designated as "category candidate species" by the USFWS prior to February 1996.

California State (CA)
- E = Listed an endangered under the California Endangered Species Act.
- T = Listed as threatened under the California Endangered Species Act.
- CSC = Designated as a "species of special concern" by the CDFG.

Occurrences of this species have been reported in the vicinity of Putah Creek, which passes approximately three miles south of the project site, as well as along willow Slough Bypass (EIP Associates, 1996). The flood pond and irrigation canal on the site could provide marginal aquatic habitat for this species. However, these areas do not have a direct hydrological linkage with any known locations of this species, nor does the site provide suitable baking sites or winter retreat habitats. Therefore, the project site is not likely to support this species, but further directed surveys would be required to conclusively establish the presence or absence of this species on the site.

Swainson's Hawk. Swainson's hawk (*Buteo swainsoni*) is a large, broad-winged hawk that inhabits open country. Adults range in color from light to dark or reddish brown. Swainson's hawk preys on small mammals, birds and insects. The species nests in large trees, typically in riparian areas or along irrigation canals, adjacent to open agricultural fields, pastures or grasslands that provide an abundant prey base. This hawk migrates from wintering grounds in South America to breeding grounds in western North America, including the Central Valley of California.

The Yolo County area supports approximately 172 breeding pairs of Swainson's hawks (EIP Associates 1996). Several active Swainson's hawk nests have been identified within five miles of the project site, including at least two nest sites within approximately one mile of the Yolo County Airport (CNDDB 1997). Another two unregistered sites are purported to exist adjacent to the Airport across C.R. 95, and one site on the Airport itself (England and Ester, 1998). These sites are depicted on Figure 3-13. The CDFG considers potential foraging habitat for this species to include agricultural fields located within 10 miles of an active Swainson's hawk nest. Based on these occurrences, the cultivated fields on the project site are presumed to provide potential foraging habitat for Swainson's hawk.

Western Burrowing Owl. The western burrowing owl (*Athene cunicularia hypugea*) is a medium-sized owl with sandy-colored, spotted plumage and long legs. Burrowing owls inhabit open grasslands, deserts, and arid scrublands with low-growing vegetation. The availability of rodent burrows or other similar shelters for roosting and nesting is an essential component of this species' habitat. Burrowing owls feed mostly on insects, but may also eat small mammals, reptiles, birds, and carrion.

Burrowing owls have been observed nesting near Road 95 adjacent to Yolo County Airport as well as in other locations in the vicinity of U.C. Davis. Although burrowing owls or suitable nesting burrows were not observed in our reconnaissance survey of the project site, the cultivated areas on the site could potentially provide habitat for this species.

3.10.1.1 Policies. Section 7 of the ESA and FAA Order 5050.4A requires the FAA to insure that any action authorized, funded, or carried out by it not jeopardize the continued existence of any endangered or threatened species, or result in the

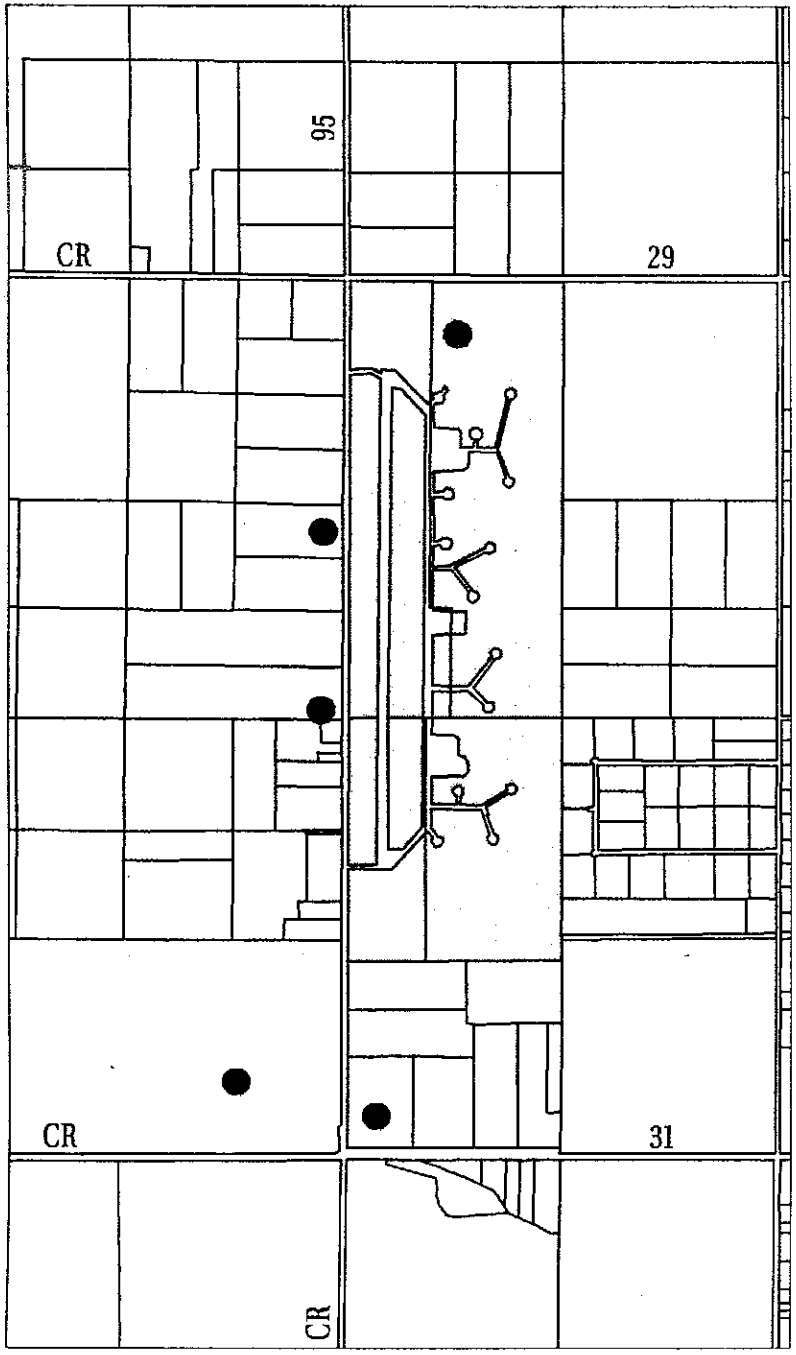

Fig. 3-14

Swainson's Hawk Nest Sites

(1990-1997)

● Nest Sites

□ Yolo County Airport

Scale in Miles
0 1/4 1/2
1 : 28 000

Data Sources: Yolo County, Sid England, Jim Estepp, UC Davis

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destruction or adverse modification of habitat for such species (U.S. Department of Transportation 1985).

If endangered or threatened species are determined by the USFWS to be potentially present in the area affected by the proposed action, a biological assessment shall identify the extent to which the species or critical habitat is likely to be affected by the action. If the assessment indicates no adverse effects on the species or critical habitat, it may be assumed that there would be no significant impact on endangered or threatened species. If, however, the biological assessment indicates an adverse effect on endangered or threatened species or critical habitat, the proposal is considered to be one with potential significant impact (U.S. Department of Transportation 1985).

3.10.2 Environmental Impacts

3.10.2.1 Master Plan Project. Implementation of the proposed project would result in removal of approximately 65 acres of cultivated fields for the development of airport support facilities in the area east of the existing runway and west of Aviation Avenue. Future development of a commercial area east of Aviation Avenue would result in removal of an additional 49± acres of cultivated fields, resulting in a total of 114 acres to be removed at full buildout. Development of these cultivated areas could constitute losses of foraging habitat for the following special-status wildlife species:

Swainson's Hawk. The CDFG considers potential foraging habitat for this species to include agricultural fields located within 10 miles of an active Swainson's hawk nest. Foraging areas located closer to nesting sites enable greater foraging efficiency, and thus have greater potential value for this species. Swainson's hawks have been observed nesting in close proximity to the project site, and the cultivated fields on the site could provide potential foraging habitat for this species. While these fields represent only a small fraction of the available foraging habitat for this species in the vicinity, removal of these areas would nonetheless reduce potential foraging habitat for Swainson's hawk. This is a potentially significant (Class II) impact. However, no part of the proposed Master Plan project would require dislocation of the one nesting site on the Airport.

Burrowing Owl. Removal of the cultivated fields on the site could reduce potential habitat for burrowing owls. This species has not been reported to occur on the site, but the species has been observed in the vicinity, and the dryland cultivated fields on the site could provide suitable habitat. The area east of Aviation Avenue would likely provide higher quality habitat for this species because of the greater distance from airport runways and operations areas. Approximately half of this area (49± acres) is proposed to be preserved as an open space buffer zone. Preservation and maintenance of this area as open space would provide habitat for burrowing owls and would thereby reduce this potential impact to a less-than-significant level (Class III impact).

3.10.2.2 Enhanced C-II Runway Alternative. Impacts as per project.

3.10.2.3 No Project Alternative. This alternative would not result in any significant impact to endangered, threatened, or other special-status species.

3.10.3 Mitigation Measures

3.10.3.1 Master Plan Project. Implementation of the proposed airport expansion project shall require the following mitigation measures to reduce project impacts on special-status species to a less-than significant level:

Swainson's Hawk. Prior to implementation of each phase of the project, the applicant shall mitigate for the removal of potential Swainson's hawk foraging habitat by either:

1) purchase of off-site, contiguous habitat as a preserve, or other financial compensation to the County, in accordance with the Yolo County Habitat Conservation Plan, if adopted; or

2) purchase of off-site, contiguous habitat as a preserve for Swainson's hawk in accordance with CDFG mitigation requirements. The ratio of area purchased to area affected shall be determined through consultation with CDFG.

Burrowing Owl. The proposal indicates that approximately 49 acres of contiguous open space will be preserved and maintained in the eastern section of the project site to provide wildlife habitat value. No further mitigation is required.

3.10.3.2 Enhanced C-II Runway Alternative. Mitigation as per project.

3.10.3.3 No Project Alternative. No mitigation is required for this alternative.

3.11 WETLANDS

5.3.11.1 Setting/Affected Environment

Wetlands are defined as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (U.S. Army Corps of Engineers, 1987). Wetlands on the Airport site include a flood pond and associated zone of hydrophytic (moisture-tolerant)

vegetation along the margins of the pond (see Figure 3-15). As determined by the Natural Resources Conservation Service, this is a "farmed wetland," which covers approximately 3.3 acres in a low-lying area at the eastern portion of the project site. The farmed wetland area is bordered by a berm along the eastern boundary of the Airport, which separates it from an irrigation canal (the Flightline Ditch). The western extent of the wetland roughly follows the 85-foot elevation contour along its southern edge. Shallow water (<12") present in the pond appeared to be derived from runoff from the airport and surrounding agricultural fields. Vegetation observed in this wetland included curly dock, common rush, popcorn flower (*Plagiobothrys stipitatus*), peppergrass and woolly marbles (*Psilocarphos oreganus*).

3.11.2 Environmental Impacts

3.11.2.1 Master Plan Project. Implementation of the proposed project would result in reconfiguration of some man-made drainage channels on the eastern section of the project site and the farmed wetland area would be affected by the deepening of the stormwater detention basin as a result of future development on the Airport's east side. Due to the nature of the farmed wetlands and the small amount of area involved, this would not be a significant impact (Class III).

3.11.2.2 Enhanced C-II Runway Alternative. Impacts as per project.

3.11.2.3 No Project Alternative. This alternative would not result in any significant impact to wetlands.

3.11.3 Mitigation

3.11.3.1 Master Plan Project. No mitigation is required for the project as proposed.

3.11.3.2 Enhanced C-II Runway Alternative. No mitigation is required.

3.11.3.3. No Project Alternative. No mitigation is required for this alternative.

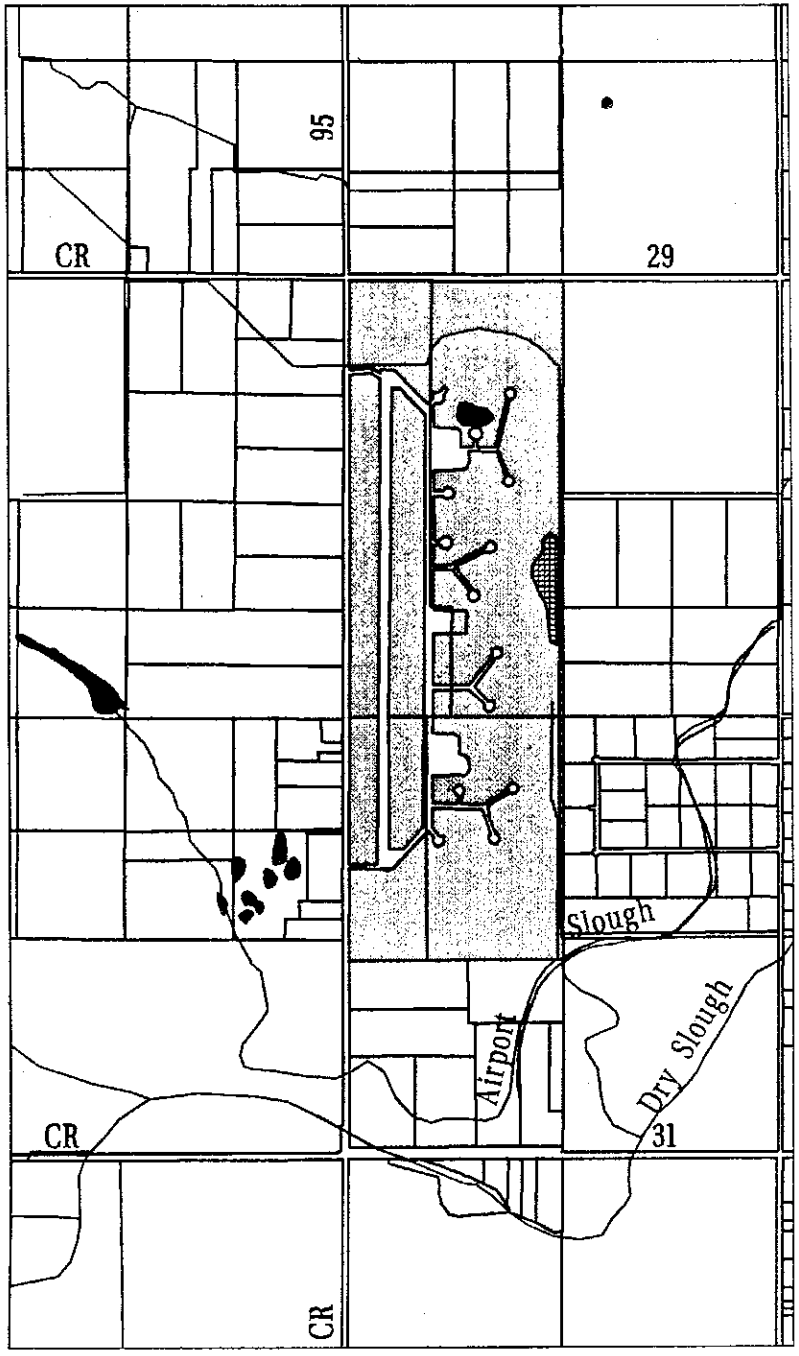

Fig. 3-15

Wetlands

Wetland

Farmed Wetland

Major Creeks & Sloughs

Airport Property

Scale in Miles
0 1/4 1/2
1 : 28 000

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3.12 FLOODPLAINS

3.12.1 Setting/Affected Environment

Floodplains are defined by FAA Order 5050.4A, as *"the lowland and relatively flat areas adjoining inland...waters, including...area[s] subject to a one percent or greater chance of flooding in any given year, i.e., the area that would be inundated by a 100-year flood."*[53] Figure 3-16 depicts the 100-year floodplain for the Airport Slough tributary of Dry Slough that affects the east side of the Airport and the Rolling Acres subdivision. Both the east side of the Airport and the Rolling Acres subdivision are located in FIRM Zone A1. Zone A1 is defined as an area of special flood hazard with base flood (100-year) elevations ranging from 86 to 88 feet on the Airport and from 82 to 84 feet in the Rolling Acres subdivision.[54] However, there is no direct flow of runoff across the Airport into the subdivision because of the north-south running Yolo County Flood Control and Water Conservation District irrigation canal (Pleasant Prairie Canal) and the Flightline Ditch, adjacent to the east side of the Airport, which serve as impediments to surface waters moving across the Airport (see Figures 3-17 and 3-18).

Historic Flooding. Flooding in the low-lying areas around the Airport occurs fairly regularly in the winter months, particularly after a heavy or prolonged storm, or series of storms. The basic cause of this flooding is the flow of accumulated stormwater from the higher elevations in the western part of the county into the Sacramento River. When this flow exceeds the capacity of the natural and manmade drainage channels in the area, water backs up into the lower-lying areas, and flooding is the result. A description of the historic flooding in the area is as follows:

> *"Flooding frequently occurs in the Cottonwood-Willow Slough watershed south of Cache Creek and in the Dry Slough/Davis watershed north of Putah Creek. The adjacent watersheds are part of the Yolo Creek system. Flow originating in the western part of the watersheds exceed the channel capacity of Dry and Willow Sloughs and their major tributaries, Chickahominy Slough and Lamb Valley Slough, and cause flooding in the relatively flat agricultural lands in the eastern part of the county. Flooding is increased at the eastern side of the county when Sacramento River flows are diverted into Yolo Bypass and gravity flow to the bypass is eliminated. Severe flooding occurred along the Sacramento River and Yolo Bypass in February 1986. Floodwaters pond behind the Yolo Bypass and Willow Slough Bypass levees until flood flows in the bypasses recede."*[55]

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53 FAA, *"Airport Environmental Handbook,"* P. 47 and Executive Order 11988.

54 Federal Emergency Management Agency (FEMA), *"Flood Insurance Rate Maps,"* Community-Panel Number 060423 0555C. Revised 8/97 (Prelim.).

55 FEMA, *"Flood Insurance Study for Yolo County."* 1988.

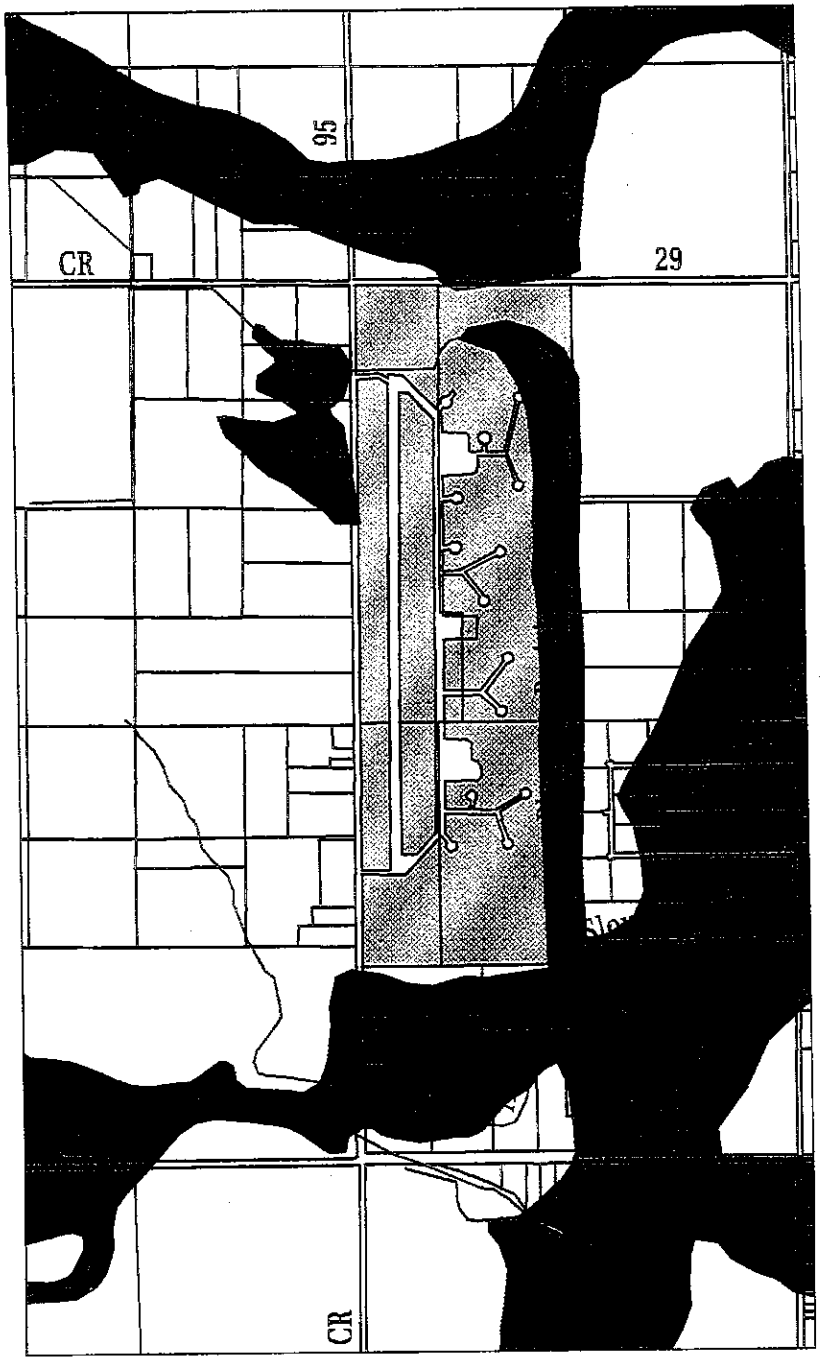

Fig. 3-16

Airport Slough Floodplain

100 Year Flood Zone

Major Creeks & Sloughs

Scale in Miles
0 1/4 1/2
1 : 28 000

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FIGURE 3-17 PLEASANT PRAIRIE CANAL AT AVIATION AVENUE (VIEW TO EAST)

FIGURE 3-18 PLEASANT PRAIRIE CANAL ON EAST SIDE OF AIRPORT
(NOTE THAT CANAL IS IN DIKED EMBANKMENT ABOVE AIRPORT DRAINAGE DITCH ON RIGHT).

Since 1986, several more severe storms have caused flooding in the area, including in 1995 and particularly heavy flooding during the winter of 1996-97. However, because of its higher elevation relative to the surrounding area, the Airport is only indirectly affected by regional drainage and flood control problems. A drainage plan prepared for the Airport in 1984 noted that,

> *"The Eastern third of the ...Airport is prone to flooding [and] ...the basic cause of the flooding is the relatively flat terrain. The present drainage from the airport follows a very flat, man-made course which causes the water to back up onto the low-lying areas of the Airport."*[56]

Figure 3-19 depicts the subject area during the dry season when the land is used for non-irrigated agriculture (dry farming). Figure 3-20 depicts the same area after heavy rains in 1995. The "*Yolo County Airport Drainage Plan*" notes that for a 100-year, 24-hour storm event, floodwaters would crest at an elevation of 86 feet and be maintained at an elevation of about 84 feet for several days.[57] The Drainage Plan also notes that since the drainage ditch along the airport's east side (see Figure 3-17) is relatively flat, the height of water in the adjoining Airport Slough contributes to flooding on the Airport.[58] This flooding is compounded by the fact that the drainage ditch and culvert under Aviation Avenue are not large enough to convey the runoff from a 100-year storm, and causes backup into areas to the west of Aviation Avenue (see Figures 3-21 and 3-22).

The most recent Flood Insurance Study produced by the Federal Emergency Management Agency (FEMA) identified the 100-year flood zone on Airport property as shown on Figure 3-23.[59] Base flood elevation of approximately 87.5 feet were estimated for the Airport property. As noted above, the source of floodwaters that occupy this flood zone is not limited to runoff from the Airport, but includes floodwaters that back into the Airport drainage channel and floodwater/buffer area on the east side of the Airport from Airport Slough. This inundated area is part of the Airport Slough Floodplain.

Indeed, during significant rainfall events, there is widespread, shallow flooding in the West Plainfield area, as waters emanating in the foothills west of Winters overwhelm the various downstream sloughs. Often, waters from one slough will overflow into nearby watercourses. Such is the case with Airport and Willow Sloughs.

It is also worthwhile to note that the 498 acres of the Yolo County Airport constitutes less than 1.4% of the 47.3 square mile drainage basin at the confluence of Willow and Airport Sloughs. In reality, runoff from the Airport in either its current or buildout conditions contributes relatively little to the area-wide drainage regime.[60]

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[56] Borcalli Ensign & Buckey, "*Yolo County Airport Drainage Plan*," October 4, 1984.
[57] Ibid., p. 66.
[58] Loc. Cit..
[59] FEMA, *Preliminary Study*, August 29, 1997.
[60] Cunningham Engineering Company, Memorandum dated April 27, 1998. See Appendix P.

FIGURE 3-19 - STORMWATER DETENTION AREA
(VIEW TO EAST BETWEEN AVIATION AVENUE AND PLEASANT PRAIRIE CANAL).

FIGURE 3-20 - AIRPORT STORMWATER DETENTION AREA AFTER 1995 STORM
(VIEW SIMILAR TO ABOVE).

FIGURE 3-21 - STORMWATER BACKUP – VIEW TO NORTH
(WEST SIDE OF AVIATION AVENUE)

FIGURE 3-22- STORMWATER BACKUP
(VIEW TO WEST FROM AVIATION AVENUE)

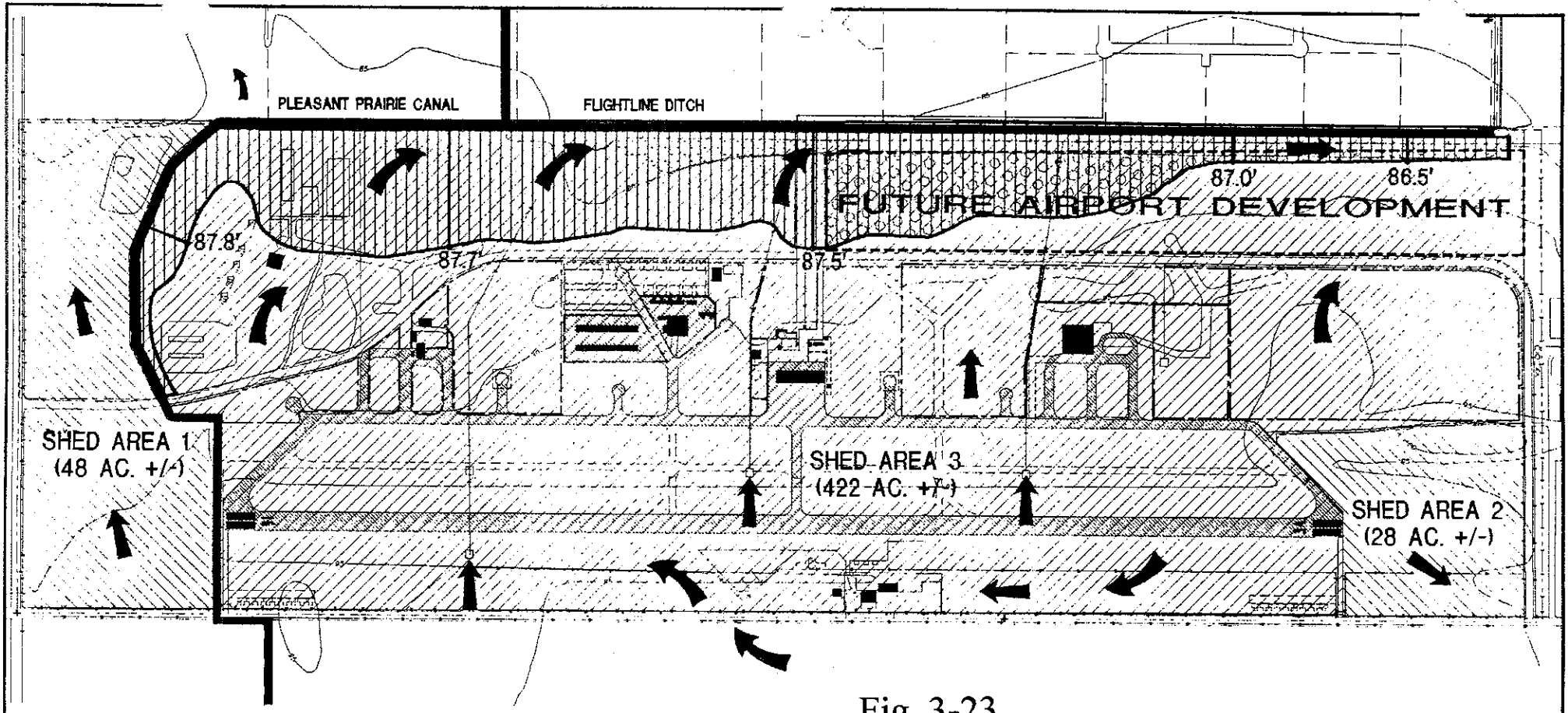

Fig. 3-23

100-Year Floodplain and Airport Drainage

LEGEND

- PLEASANT PRAIRIE CANAL AND FLIGHTLINE DITCH (IRRIGATION)
- PRELIMINARY UPDATED 100 YEAR FLOOD ZONE (88 +/- ACRE FT)
- DRAINAGE SHED AREAS
- AREA OF POTENTIAL FLOOD ZONE ENCROACHMENT (15 +/- ACRES)
- 87.8' BASE FLOOD ELEVATION IN FEET
- STORM WATER DRAINAGE FLOW

SCALE IN FEET

0 600 1200

TOTAL AIRPORT AREA - 498 ACRES

EXISTING PAVEMENT AND OTHER IMPERVIOUS SURFACES - 52.8 ACRES

POTENTIAL FUTURE DEVELOPMENT - 160.3 ACRES

YOLO COUNTY AIRPORT
WOODLAND, CALIFORNIA

P&D AVIATION
A DIVISION OF P&D CONSULTANTS

DESIGNED: TGM | CHECKED: MRM
DRAWN: TGM, DL | DATE: APRIL 27, 1995

3.12.2 Environmental Impacts

3.12.2.1 Master Plan Project. Implementation and buildout of the proposed Airport Master Plan would result in up to a 200 percent increase in the developed area of the Airport and estimated 30.8 percent and 16.0 percent increases in the peak flow and volume of stormwater runoff, respectively, from the Airport site into Airport Slough (see Section 3.6, *"Water Quality"*). The proposed development of the area east of Aviation Avenue would also result in up to 15 acres of encroachment into the Airport Slough Floodplain (see Figure 3-23).

The Yolo County Airport is part of a much larger drainage system. For many storm events, waters emanating in the West Plainfield area are drained off to the east prior to the floodwater contributions from the West County. It is this larger, delayed volume of floodwater that typically produces the slough overflows and widespread shallow flooding. During a 100-year storm event, this subsequent, area-wide inundation could last for 24 hours or longer.

During such conditions, Airport Slough will back up onto Airport property, and the ability of the detention basins described in Section 3.6.3 to discharge to the slough will be reduced. It may, therefore, be prudent to anticipate a subsequent storm event occurring while area sloughs and fields are inundated. A two-year, 12-hour storm would produce approximately 15 acre feet of stormwater from the new development area. Because the Airport detention basin should not be full to capacity at the time of this subsequent storm event, the 15 acre feet need not be additive to the previously identified 25 acre feet of required detention basin capacity for new development.[61]

The local community has expressed concern that significant additional Airport development, which would result in reduced permeability and increased runoff, would cause flood damage to residential areas and farmlands lying to the east of the Airport.[62] Hence, given the sensitive nature of flooding and community impacts in the area, any increase in airport generated stormwater runoff and/or floodplain encroachment may have the potential to become a significant (Class II) impact, unless properly mitigated.

Construction Impacts. Construction in the 100-year floodplain could result in potential water quality impacts from increased runoff, erosion/sedimentation, and pollutants. These potential impacts are discussed in the Water Quality section of this Report (see Section 3.6.2).

3.12.2.2 Enhanced C-II Runway Alternative. The impacts of this alternative on the local floodplain would be virtually identical to those of the project. This is also a Class II impact.

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61 Cunningham Engineering Company, Memorandum dated April 27, 1998. See Appendix P.

62 Correspondence from West Plainfield Flood Protection Association (June 27, 1997) and Stuart H. Buchan (June 24, 1997).

3.12.2.3 No Project Alternative. This alternative would have no adverse impacts on the local floodplain, and would represent a Class III impact.

3.12.3 Mitigation

3.12.3.1 Master Plan Project. Any potential adverse impacts from floodplain encroachment or excessive site runoff resulting from Master Plan implementation can be mitigated to a less than significant level by means of the following mitigation measures:

1. Prior to any development of the commercial lease area east of Aviation Avenue, the County shall undertake a coordinated design study of the proposed project or projects to ensure that (a) the proposed development would not encroach into the 100-year floodplain, or, alternatively, (b) if encroachment were unavoidable, the project design would not raise the base flood level. The level of protection shall be that no development would be subject to flooding from a 100-year, 24-hour storm event, and that any new development shall be at least one foot higher than the 100-Year Flood Plain.

2. If floodplain encroachment cannot be avoided, the County shall widen and deepen the existing on-site stormwater detention basin located in the Airport Slough floodplain to accommodate the amount of floodplain storage capacity removed by the project (an estimated 15 acre feet); and

3. The County of Yolo will pursue revisions to the FIRM to indicate changes in elevation and/or new 100-year floodplain boundaries, as may result from future Airport development.

Construction Mitigation. Construction controls to minimize erosion and sedimentation are set forth in the Water Quality mitigation section (Section 3.6.3).

3.12.3.2 Enhanced C-II Runway Alternative. Mitigation measures for this alternative are as for the Master Plan project.

3.12.3.3 No Project Alternative. No mitigation is required for this alternative.

3.12.4 Residual Impacts

Implementation of the above mitigation measures would reduce any potential residual impacts to a less-than-significant level.

3.13 COASTAL ZONE MANAGEMENT PROGRAM

This specific impact category is not applicable to the proposed project, as the project site is located approximately 65 miles inland from the coast.

3.14 COASTAL BARRIERS

This specific impact category is not applicable to the proposed project, as the Coastal Barriers Resources Act applies to only the Atlantic and Gulf coasts.

3.15 WILD AND SCENIC RIVERS

This specific impact category is not applicable, as there are no federally designated wild and scenic rivers in Yolo County.

3.16 FARMLAND

3.16.1 Setting/Affected Environment

The Farmland Protection Policy Act (FPPA)[63] authorizes the U.S. Department of Agriculture (USDA) to develop criteria for identifying the effects of Federal programs on the conversion of farmland to nonagricultural uses. The guidelines developed by the USDA became effective in August 1984 and are applicable to FAA-funded Airport Improvement Projects (AIP). However, Airport Layout Plan (ALP) approval, involving only development shown on an ALP that is not to be federally funded, even if farmland is involved, is exempt from the FPPA. Similarly, the FPPA does not included land already in, or committed to, urban development.[64] Prime farmland "committed to urban development" includes all such land or industrial uses that is not protected by zoning code or ordinance, or a comprehensive land use plan.

3.16.2 Environmental Impacts

Although some of the currently undeveloped areas of the Airport are being leased for agricultural use (principally dry farming), and these areas are designated as "farmlands of local importance" by Yolo County, the areas affected by the Master Plan are

63 P.L. 97-98.
64 FAA Order 5050.4A. P. 55.

committed to urban development through the Airport's classification as a "Growth Management Area" in the County General Plan and through its current zoning designation (AV). The "AV" zoning designation is the County's Airport Zone. The Airport Zone classification is applied on properties used, or planned to be used, for airport purposes.[65] This, and the fact that the proposed acquisition of land or easements for approach protection, will not result in the conversion of any prime of unique farmland, results in a Class III (less-than-significant) impact for the Master Plan project and the Enhanced C-II Runway Alternative. A Class IV (beneficial) impact would result from the No Project Alternative, as no additional development would take place on the Airport.

3.16.3. Mitigation Measures

Class III and IV impacts do not require mitigation.

3.16.4. Residual Impacts

None.

3.17 ENERGY SUPPLY AND NATURAL RESOURCES

3.17.1 Setting/Affected Environment

This section addresses the effects of the proposed Master Plan project on energy supply and natural resources. Energy requirements associated with the project and project alternatives fall generally into two categories:

- Those which relate to changed demands for stationary facilities (e.g., airport and airfield lighting, and the heating of airport buildings); and
- Those which involve the movement of aircraft and ground vehicles.

Natural resources typically affected by a project such as the Master Plan or Enhanced C-II Runway Alternative are those used in project construction, and include mineral resources like sand and gravel.

3.17.1.1. Policies. FAA Order 5050.4A is concerned only with "major changes in stationary facilities which would have a measurable effect on local supplies."[66] For most airport actions, Order 5050.4A notes that *"changes in energy or other natural resources*

65 Yolo County Code, Sec. 8-2.2101. Agricultural uses are allowed in the AV zone subject the provisions of a conditional use permit.

66 op. cit. p. 57.

consumption will not result in significant impacts," unless such resources are in short supply.

3.17.2 Environmental Impacts

3.17.2.1 Master Plan Project. The day-to-day operation of Yolo County Airport will continue to require the consumption of energy and natural resources. Electrical energy will be required to heat, cool, and light airport facilities. Electrical energy will also be required to operate airport navigational aids. The principal consumers of energy resources are the aircraft, airport support vehicles, and pilot/passenger vehicles that require fossil fuels for their operation. Ongoing airport development and maintenance will require the use of water and construction materials, including sand and gravel, cement, lumber, and other building materials, but would not result in the use of any unusual materials, or any materials considered to be in short supply.

Implementation of the proposed Master Plan project would result in an incremental increase in the consumption of electrical energy as a result of runway and taxiway lighting requirements for the proposed instrument landing system. Additional consumption of petroleum products would come about as a result of increases in aviation activity and surface vehicle trips to and from the airport resulting from forecast growth of aircraft operations and based aircraft. Short-term consumption of petroleum products would occur as a result of airport and airfield construction activities.

While implementation of the project would result in some increases in the use of energy and natural resources as described above, the overall impact would be less than significant. This would be a Class III impact.

3.17.2.2 Enhanced C-II Runway Alternative. The impacts of this alternative would be comparable to the Master Plan project (Class III impact).

3.17.2.3 No Project Alternative. This alternative would have no significant adverse impacts and would be considered to be a Class III impact.

3.17.3 Mitigation

Mitigation is not required for Class III impacts.

3.17.4 Residual Impacts

No residual impacts are anticipated.

3.18 LIGHT EMISSIONS

3.18.1 Setting/Affected Environment

Existing Airport facilities are illuminated by a variety of lighting types, including runway and taxiway lighting, and security lighting for building and aircraft parking areas. Of concern is the potential for the installation of lighting systems that could impact pilots approaching the Airport, or result in excessive light or glare for nearby residents.

3.18.1.1 Policies. FAA Order 5050.4A requires that consideration be given to the extent to which any lighting associated with the airport action will create an annoyance among people in the vicinity of the installation. Only in unusual circumstances, for example when high intensity strobe lights would shine directly into people's homes, will the impact of light emissions be considered significant.[67]

3.18.2 Environmental Impacts

3.18.2.1 Master Plan Project Implementation of the Master Plan project would increase the lighted area on the airport. Enhancements to the existing nonprecision instrument approach to Runway 16 would include new lighting equipment, although the intensity of such lighting should not result in the creation of glare or annoyance to area residents. However, lighting of the development parcels and airport support facilities could impact a pilot's night vision or make it difficult to distinguish runway or taxiway lights if not properly directed or shielded. This would represent a Class II impact, but is capable of being fully mitigated.

3.18.2.2 Enhanced C-II Runway Alternative. Potential impacts would be as per the project (Class II).

3.18.2.3 No Project Alternative. This alternative would result in no new light emissions at the airport, and would be a Class III impact.

3.18.3 Mitigation Measures

3.18.3.1 Master Plan Project. The potential adverse impacts of project lighting on aviation safety can be mitigated to a level of insignificance by the following means:

- All new lighting of parking lots, aircraft aprons, and building areas is to be of sodium vapor type. The lighting shall be designed and installed so as to create no glare or interference with aircraft air or ground operations, or for adjacent residents. The lighting shall be arrayed in such a manner that it cannot be mistaken for airport approach or

[67] op. cit. p. 58.

runway lights by pilots making an approach in adverse weather conditions.

3.18.3.2 Enhanced C-II Runway Alternative. Mitigation for this alternative would also be as per the project.

3.18.3.3 No Project Alternative. Mitigation is not required for Class III impacts.

3.18.4 Residual Impacts

Implementation of the above mitigation measures would reduce any residual impacts to a less-than-significant level.

3.19 SOLID WASTE

3.19.1 Setting/Affected Environment

Of concern to the FAA is the location, or potential location of any solid waste disposal facilities within 3,000 meters (or 10,000 feet) of any runway planned to be used by turbojet aircraft. Although Runway 16-34 is, and will continue to be used by turbojet aircraft, there are no existing or planned solid waste disposal facilities within 3,000 meters of the Airport.[68]

3.19.1.1 Policies. Other than for actual construction or extensive passenger terminal development, the FAA is not normally concerned with issues relating to solid waste collection, control or disposal.

3.19.2. Environmental Impacts

Since there are no nearby solid waste disposal facilities in proximity to the Airport, and since no extensive passenger terminal development is proposed, this represents a Class III (less-than-significant) impact.

3.19.3 Mitigation Measures

Mitigation is not required for Class III (less-than-significant) impact.

[68] The FAA's concern is based on the potential bird hazard such facilities could represent.

3.19.4 Residual Impacts

None.

3.20 CONSTRUCTION IMPACTS

3.20.1 Setting/Affected Environment

Certain construction activities have the potential to create adverse environmental impacts. These activities include noise from construction vehicles, noise and dust from the delivery of construction materials and supplies, grading and site preparation activities, and air and water pollution.

3.20.2 Environmental Impacts

Potential construction-related impacts are discussed separately in the preceding sections, as listed below:

- Noise
- Historic, Architectural, Archeological, and Cultural Resources
- Air Quality
- Water Quality
- Floodplains
- Biological Resources
- Endangered and Threatened Species of Flora and Fauna

3.20.3 Mitigation Measures

Mitigation measures for construction-related impacts are set forth in the above-listed sections.

3.20.4 Residual Impacts

None.

3.21 TRAFFIC AND TRANSPORTATION

3.21.1 Setting/Affected Environment

The Yolo County Airport is located approximately 3 miles from the I-80/SR-113 interchange. I-80 and SR-113 are the two principal highways connecting Woodland and Davis with each other, and with Sacramento and the Bay Area.[69] Access to the Airport is, however, via local county roads, principally County Road 29 and County Road 95. The two roads intersect at the northwest corner of the Airport site, and access to the Airport can be gained from either road at Aviation Avenue. Aviation Avenue (formerly County Road 95a) runs through the Airport from County Road 29 south to County Road 95.

County Road 29 is designated as a major transportation route by the County. However, County Road 29 is also a narrow two-lane roadway with no paved shoulders, narrow bridges, and sharp turns as it approaches near County Road 98. County Road 29 is also susceptible to flooding. All of which serve to make it less desirable for Airport access than County Road 95.

County Road 95 is also a two-lane rural highway, but, because it is straight, it is more suited to farm traffic, including the transportation of heavy agricultural equipment and machinery, and agricultural products and freight.

Traffic counts conducted by the Yolo County Department of Public Works and Transportation Department in 1995 and 1996 indicate that County Road 95 handles up to 1,100 vehicles per day, and that Aviation Avenue accommodates around 190 vehicle trips per day. Data for County Road 29 are from 1991, and indicate a traffic level of approximately 725 daily vehicle trips.[70]

3.21.2 Environmental Impacts

Implementation and buildout of the Airport Master Plan or the Enhanced C-II Runway Alternative could result in a doubling of Airport-generated traffic, increasing it from 190 vehicle trips per day to almost 400 vehicle trips per day. However, given the relatively low-volume of traffic on County Roads 29 and 95, this would represent a less-than-significant impact (Class III), even during peak-hour conditions.[71]

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69 Interstate 5 and 505 also provide freeway access to the northern and western parts of the County.

70 Yolo County Department of Public Works and Transportation, April 1997.

71 Institute of Transportation Engineers, "Traffic and Transportation Engineering Handbook," 1982. The maximum service volume (capacity) of a two-lane, two-way rural highway to maintain stable flow (LOS C) at 40 MPH during the peak hour is 1,120 vehicles per hour. Allowing for a certain percentage of trucks, will reduce the overall volume capacity, but not to the extent that Master Plan project traffic would adversely affect LOS.

Nevertheless, the Yolo County Public Works and Transportation Department has expressed the concern that, as the Airport develops, it will attract more people who are not familiar with driving on rural roads. While suitable for farmers and local residents, the lack of familiarity with rural roads and local roadway conditions could prove unsettling to people from out of the area. To the extent that this could result in an increased potential for accidents as a result of speeding or other lack of situational awareness on the part of some future airport users not familiar with the area, this must be considered a Class II (significant, but mitigatable) potential impact.

3.21.3 Mitigation Measures

Existing roadway and intersection capacities are more than adequate to accommodate Airport growth and development, and mitigation is not required.

To avoid potential problems for future Airport users not familiar with the area, the County Public Works and Transportation Department recommends that primary access to and from the Airport be via County Roads 31 and 95. The County will post directional signs as necessary to direct Airport traffic onto these two roadways. Such action should be sufficient to reduce potential projects to a less-than-significant level in this regard.

3.21.4. Residual Impacts

None.

3.22 GEOLOGY AND SEISMOLOGY

3.22.1 Setting/Affected Environment

There are only two major earthquake faults located in Yolo County, and neither are in close proximity to the Airport. However, the overall maximum expected earthquake intensity for the County is moderate-high.[72] This potential is derived from one of the ten most severe earthquakes in California, which had its epicenter in the vicinity of Berryessa Dam on the western edge of the county in 1891. The 1891 earthquake caused damage to the towns of Davis, Woodland and Winters.

[72] Yolo County General Plan, Part 2, P.8.

3.22.2 Environmental Impacts

Implementation of the proposed Airport Master Plan or Enhanced C-II Runway Alternative would have no anticipated adverse seismic impacts, as such development would be required to conform to current County development standards and building code criteria. This would represent a Class III (less-than-significant) impact.

3.22.3 Mitigation

Mitigation is not required for Class III impacts.

3.22.3 Residual Impacts

None.

3.23 PUBLIC UTILITIES

3.23.1 Setting/Affected Environment

The proposed Airport Master Plan project proposes specific improvements to the Airport's utilities systems, including the upgrading of Airport wells, and water distribution and sewage disposal systems. For all intents and purposes, these will be new systems and they will be contained entirely on-airport. The only off-airport utilities component of Master Plan involves the undergrounding of PG&E electrical distribution lines along County Road 29 in the runway protection zone (RPZ)/ Approach zone for Runway 16. However, since the publication of the Draft Master Plan, these lines have been placed underground.

3.23.2 Environmental Impacts

Implementation of the proposed Airport Master Plan or Enhanced C-II Runway Alternative would have no significant adverse environmental impact on public utilities. This would be a Class III (less-than-significant) impact.

3.23.3 Mitigation Measures

Mitigation is not required for Class III impacts.

3.23.4 Residual Impacts

None.

3.24 HAZARDOUS MATERIALS

3.24.1 Setting/Affected Environment

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR) to ascertain if the Yolo County Airport or any nearby properties were on any lists of environmentally impaired properties. The search results indicated that "*no mapped sites were found in EDR's search of available (reasonably ascertainable) government records either on the subject property or within...[*a reasonable distance]*...around the subject property.*[73]

However, included in the Master Plan project are provisions for additional airport fuel storage facilities. The new fuel storage facilities would be located on the general aviation ramp. This area is considered to have easy access for fuel delivery trucks and fueling aircraft. In addition, agricultural aircraft operations are routinely conducted from the Airport. These activities include the handling of fungicides, pesticides, seed, and fertilizers. These activities are conducted from a designated area on the Airport's west side, north of the West Plainfield Fire Station. All agricultural aircraft activities are conducted in accordance with State and local policies, and are not affected by the Master Plan.

3.24.1.1 Policies. The following regulations apply to hazardous materials on, or near the Airport site:

Underground Storage Tanks. Only one underground storage tank was listed on the Airport site. This site is on property leased to the West Plainfield Fire Protection District, and is not a part of the project. Underground fuel bunkers on the Airport left over from World War II military activities have been previously mitigated, and will be removed as may be required for future development.

National Priorities List. The National Priorities List (NPL), maintained by the Environmental Protection Agency (EPA) under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), is a database of the more serious uncontrolled and/or abandoned hazardous waste sites which have been identified and designated for priority remedial actions. The Yolo County Airport is not on this list.

[73] Environmental Data Resources, Inc., Inquiry No. 0199355r September 19, 1997..

Comprehensive Environmental Response, Compensation and Liability Information System. The CERCLIS was developed by EPA pursuant to CERCLA, and is maintained as an inventory of sites where releases of hazardous substances, contaminated property, or suspected environmental impacts to the property are known. The Yolo County Airport is not on listed.

Resource Conservation and Recovery Act. The RCRA identifies and tracks hazardous waste from "cradle to grave." Generators of hazardous waste are required to register and those facilities that treat, store or dispose of hazardous waste (TSD facilities) are required to go through an extensive permitting process. The Yolo County Airport is not on the RCRA TSD List.

CALSITES List. The CALSITES List is a database of information regarding known and suspected hazardous waste sites maintained by the California EPA, Department of Toxic Substances Control, Site Mitigation Branch. Inclusion of a property on the CALSITES List does not necessarily imply that an environmental hazard exists on the property, because such listings are sometimes derived from sources such as telephone and business directories (e.g., radiator shops or plating companies). The Yolo County Airport is not on the Calsites list.

3.24.2 Environmental Impacts

3.24.2.1 Master Plan Project. The EDR records search indicates a relatively low risk potential for existing hazardous materials sites on the Airport. However, proposed construction of new aircraft fuel storage facilities on the Airport could represent a potentially significant threat to the environment if not properly designed, constructed, and maintained.

The storage of fuel, transfer of fuel from tank trucks to storage tanks, from storage tanks into fuel trucks, and the transporting of fuel to various points on the airfield represent a potential for fuel spills through leaks, carelessness, or upset. Although the possibility of a major spill is deemed to be rather low, the amounts of fuel that could be spilled is relatively high.

Aviation fuel, particularly Jet-A fuel, contains petroleum-based mid-distillate hydrocarbons, primarily kerosene. Benzene is the other component of Jet-A fuel. Benzene amounts to less than 0.05 percent by volume. It is the more soluble constituent of jet fuel and is highly toxic. For example, the recommended maximum concentration of benzene in drinking water is less than 1 part per billion. Therefore, the relatively small amount of benzene in jet fuel has the potential to contaminate large volumes of ground or surface water unless adequate precautions are taken to prevent

spills or upset.[74] Gasoline has similar concentrations of these volatile organic compounds, and the storage of this material as part of the fuel farm would also represent a potentially significant impact on the quality of local water resources if mismanaged. This would represent a Class II (significant) impact, but one which can be mitigated to a less-than-significant level.

3.24.2.2 Enhanced C-II Runway Alternative. The impacts of this alternative would be the same as for the Master Plan project (Class II for the fuel facility).

3.24.2.3 No Project Alternative. No significant impacts would be associated with this alternative. This would be a Class III impact.

3.24.3 Mitigation

3.24.3.1 Master Plan Project. The following mitigation measures are set forth as means by which to reduce the potentially significant adverse effects of the proposed fuel storage facilities to a level of insignificance:

1. As a minimum, the proposed fuel storage facilities shall incorporate standard engineering and monitoring techniques and measures for fuel storage, spill containment, and cleanup as required by current federal, state and local regulations.

2. In addition, construction of the fuel storage facility shall require the use of state-of-the-art safety, spill diversion, and containment systems.

3. Regular cleaning of fill stands and hard stands (concrete pavement area impervious to spills) will be carried out to minimize potential discharge of pollutants into surface runoff.

4. A spill prevention control and countermeasure (SPCC) plan will be adopted to provide procedures for mitigating any fuel, lubricant, or hydraulic fluid spill which might occur as a result of operating the fuel farm. The SPCC plan will also include provisions for fueling personnel to be trained in the recovery of spilled substances.

5. Above-ground tanks would be constructed in accordance with American Petroleum Institute (API) standards for local earthquake potential (API 650). The tanks will employ set points for overflow

[74] The fuel additive MTBE has a similar potential for groundwater contamination, but the true extent of this potential is not known at this time.

protection that will be interlocked with associated filling mechanisms through the microprocessor-based control system.

6. The principal means of controlling spillage or leakage from any above-ground tanks in the fuel storage area will be by means of a concrete pad with an impervious epoxy coating with manual drain valves to direct any spillage to an oil/water separator. The drain valves would be maintained in a closed position to prevent any inadvertent or premature diversion of spillage or leakage to the oil/water separator.

7. Spill containment for the truck fill stands and truck unloading areas will be accomplished by impervious diversion pads. These pads will be capable of accommodating a spill from the largest truck, tender or lighter (i.e., small trucks used to transport fuel to aircraft for fueling) using the facility.

3.24.3.2 Enhanced C-II Runway Alternative. Mitigation would be required only for the proposed fuel storage facilities, as per the project.

3.24.3.3 No Project Alternative. No mitigation would be required for this alternative.

3.24.4 Residual Impacts

Implementation of the above mitigation measures would reduce any potential residual impacts to a less-than-significant level.

3.25 ENVIRONMENTAL CONSEQUENCES - OTHER CONSIDERATIONS

As a result of settlement agreements between Yolo County and the West Plainfield Community Action Committee in June 1991 and October 1992, Yolo County agreed to several stipulations, including the preparation of an updated "Airport Specific Plan and Layout Plan for the Yolo County Airport." Upon adoption by the Yolo County Board of Supervisors, the Final Airport Master Plan (May 2, 1998), this Final EA/EIR for the Yolo County Airport Master Plan (May 2, 1998) and the 1998 Airport Management Policies will become the referenced Airport Specific Plan per the settlement agreement. Included in the Airport Master Plan is an updated Airport Layout Plan.

Among the items stipulated was a requirement that the County locate future development projects "on the northernmost portion of the Airport, farthest from the majority of the residences," and then expand southward "on a controlled basis..." The Airport Layout Plan accomplishes this by delineating areas along the west side of Aviation Avenue for initial development. Development phasing will give priority to the

northernmost development sites, with development proceeding to the south as the northernmost sites are developed. Development of the east side of Aviation Avenue would not occur until the west side is almost fully developed.

Electrical utilities will be extended into the development area beginning with the most northerly development and will be undergrounded where feasible. If deemed infeasible, the Board of Supervisors must adopt a specific finding of "overriding consideration."

The settlement agreement also stipulated that the Master Plan would address helicopter operations and any facilities that would "attract helicopters" or "result in significant numbers of helicopter activities." The Master Plan anticipates no significant helicopter activities at the Airport through 2015, and has specified the location of a designated helicopter operations area (helipad). The 1998 Airport Management Policies document sets forth helicopter operations procedures.

A site plan and architectural review shall be conducted for new project development proposals in order to provide comments and recommendations to the developer, the Planning Commission and the Board of Supervisors. Appropriate reviews are to be conducted by the County Architect and the Airport Advisory Committee(s).

Based on these analyses and the information and mitigations set forth in sections 3.1 through 3.24, it has been determined that the proposed Airport Master Plan project would be:

- Reasonably consistent with plans, goals, policies, or controls that have been adopted for the area in which the Airport is located;
- Consistent with approved federal, state, or local plans and laws;
- Sufficiently mitigated to reduce any projected project impacts to a less-than-significant level; and
- Non-controversial on environmental grounds based on the thresholds of significance set forth in paragraph 47(e) of FAA Order 5050.4A.

4.0 LONG TERM EFFECTS OF THE PROJECT

4.1 GROWTH INDUCING IMPACTS

CEQA Guidelines require that an EIR include a discussion of the ways in which the proposed project could foster economic or population growth.[1] Of concern are the ways in which the proposed project could directly or indirectly result in the construction of additional housing, the removal of obstacles to population growth, or other activities that significantly affect the environment.

The proposed Airport Master Plan project is neither precedent-setting in terms of its proposed development, nor would it result in the removal of any barriers to future urban growth (e.g., utilities are already in place, and existing zoning controls future land uses). This leaves but one major project characteristic which could be associated with growth inducement:

- Creation of new employment opportunities which may require recruitment from outside the local area.

Implementation of the project would result in new employment opportunities. It is anticipated that many of these new employees would have to relocate to Yolo County. As a consequence, implementation of the Airport Master Plan would induce growth on and near the Airport, but such growth would not exceed the limits imposed by the County's adopted growth management plan and land use policies.

4.2 CUMULATIVE IMPACTS

Cumulative impacts refer to two or more individual impacts, which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time.[2]

Aside from the Airport, which is located in a designated growth management area, there are no anticipated projects in the Airport vicinity which, when combined with Airport Master Plan development, would result in any significant effect on the environment.

1 op. cit., Sec. 15126(g)
2 *"Guidelines,"* op. cit., Sec. 15355.

4.3 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY.

CEQA guidelines require that an EIR discuss the long-term adverse effects of the project on the environment. Special attention is to be given to impacts that narrow the range of beneficial uses of the environment or pose long-term risks to health and safety. Why the project is considered to be justified now rather than reserving an option for future alternatives is explained.

If the Master Plan project were to be approved and implemented, a variety of short- and long-term impacts would result. These impacts include:

Short-Term

1. Increased noise and dust from construction activities.
2. Increased traffic from construction vehicles.
3. Minor erosion may occur until project landscaping is established.

These impacts are temporary and can be mitigated to a less-than-significant level.

Long-Term

The long-term effect of the Master Plan project would be to increase the intensity of both operations and development at the Yolo County Airport. This would entail substantial changes to vacant or undeveloped land on the Airport, including lands currently used for dry farming. The long-term effects of Master Plan project implementation include:

1. Loss of vacant or unused land
2. Localized increases in peak hour traffic volumes
3. Minor degradation of air quality
4. Increased aircraft noise emissions.

These impacts would also result from implementation of the Enhanced C-II Runway Alternative, as well.

None of the above impacts are sufficient to pose long-term risks to health or safety, but the project or its alternative would serve to further narrow the range of beneficial uses of the environment as a result of development.

The Master Plan project is also proposed for implementation between now and 2015. Under these circumstances, the option for future alternatives is not foreclosed, as the Yolo County Airport Master Plan provides for periodic updating or revisions as may become necessary.

4.4 SIGNIFICANT IRREVERSIBLE CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

In general, "irreversible change" to the environment can be defined as the use of non-renewable resources or the commitment thereof, which dictates the activities of future generations. Implementation of the Master Plan project would result in the following irretrievable environmental changes:

- The commitment of currently vacant or unused land, or land used for dry farming, to support airport and airport-related development;
- Development on lands currently seen as open space.
- The use of various non-renewable materials such as fossil fuels, wood and metals in construction activities.
- The use of fossil fuels over the life of the project for heating, cooling, lighting, and vehicular transportation.
- Incremental increases in surface traffic, which could lead cumulatively to additional congestion, noise and annoyance, and perceived changes in the quality and manner of life.

4.5 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED.

An unavoidable significant adverse environmental impact is an impact that cannot be reduced to an insignificant level through implementation of mitigation measures. Class I impacts fall into this category.

Implementation of the proposed Airport Master Plan project would **not** result in any significant adverse environmental impacts that cannot be mitigated to a less-than-significant level.

5.0 REFERENCES AND ORGANIZATIONS, AGENCIES AND INDIVIDUALS CONSULTED

5.1 REFERENCES

- Borcalli Ensign & Buckley, *Yolo County Airport Drainage Plan*, October 1984.
- Caltrans, Division of Aeronautics (Aeronautics Program), *Airport Land Use Planning Handbook*, December 1993.
- California Code of Regulations, Title 24.
- *California Environmental Quality Act (CEQA) of 1970,* as amended. Public Resources Code, Section 21000 et seq.
- *Clean Air Act of 1977*, as amended.
- County of Yolo, *Yolo County Airport Development Plan*, 1987.
- _____, *Yolo County Code.*
- _____, *Yolo County General Plan,* July 17, 1983.
- _____, *Yolo County Overall Economic Development Program,* August 23, 1994.
- Cunningham Engineering Company, Yolo County Airport Master Plan Drainage Evaluation, April 27, 1998.
- *Department of Transportation Act of 1966*, as amended (P.L. 89670, 49 U.S.C. 1653).
- EDR, Inc., *Yolo County Airport*, Inq. No. 0199355.1r, Sept. 19, 1997.
- EIP Associates, *Yolo County Habitat Conservation Plan* (Final Draft), 1996.
- Executive Order 11988, *Floodplain Management."*
- Executive Order 12898, *Environmental Justice,* February 11, 1994.
- Federal Aviation Administration, Advisory Circular 150/5300-13, *Airport Design* (through Chg. 5), 2/97.

- Federal Emergency Management Agency (FEMA), *FIRM: Flood Insurance Rate Map,* Yolo County, California (Unincorporated Areas)," August 29, 1997 (Preliminary).

- Federal Register, *Federal Clean Air Act Amendments of 1990,* Vol. 58, No. 228 (40 CFR Parts 6, 51, and 93).

- *Federal Water Pollution Control Act of 1972*, as amended by the "*Clean Water Act of 1977.*"

- *Highway Capacity Manual*, Special Report 209 (No date).

- Institute of Transportation Engineers, *Traffic and Transportation Engineering Handbook*, 1982.

- *National Environmental Policy Act* (NEPA) *of 1969*, as amended (P.L. 91-190, 42 U.S.C. 4321).

- P&D Aviation, *Yolo County Airport Master Plan*, Draft Report, May 1996.

- *Public Utilities Code*, Article 3.5, Airport Land Use Commission.

- Sacramento Area Council of Governments, *Yolo County Airport Comprehensive Land Use Plan*, Amended December 1992.

- State of California Code of Regulations, Title 21, Subchapter 6, *Noise Standards.*

- _____, Code of Regulations, Title 25, Housing and Community Development, Chap. 1 *State Housing Law Regulations and Earthquake Protection Laws and Regulations -- Noise Insulation Standards*, Subchapter 4, Section 28, as amended.

- _____, Dept. of Fish and Game, *Natural Diversity Data Base.*

- _____, Office of Planning and Research. *Guidelines for the Implementation of the California Environmental Quality Act*, Administrative Code, Chapter 3, Division 6, Title 14, as amended.

- Transportation Research Board, *Transportation Research Circular (TRC) 212.*

- U.S. Department of Agriculture, Soil Conservation Service, *Investigation of Flood Problems: Chickahominy - Moody Slough Watershed*, January 1982.

- _____, *Soil Survey of Yolo County*, Undated.

- _____, Natural Resources Conservation Service. *Highly Erodible Land and Wetland Conservation Determination*, April 18, 1998.

- U.S. Department of Transportation, Federal Aviation Administration. Order 1050.1D, *Polices and Procedures for Considering Environmental Impacts*, December 12, 1983.

- U.S. Department of Transportation, Federal Aviation Administration, Order 5050.4A. *Airport Environmental Handbook*, October 8, 1985 (revised).

- _____, *FAA Aircraft Engine Emission Data Base (FAEED)*, Office of Environment and Energy, FAA, 1991.

- U.S. Environmental Protection Agency, *Compilation of Air Pollution Emission Factors, Volume II, Mobile Sources*, AP-42.

- Woodes & Poole Economics, Inc. *State Profile - California*, 1995.

- Yolo County Flood Control and Water Conservation District. *Covell Drainage System Comprehensive Drainage Plan (WMP-92-01-3)*, October 1992.

- Yolo County Floodplain Management Working Group, *A Report on Storm Drainage and Flooding in Yolo County*, Borcalli & Associates, Inc., February 1997.

- _____. *West Plainfield Flood Study.*

- Yolo-Solano Air Quality Management District, *Sacramento Area Regional Ozone Attainment Plan*, November 15, 1994.

- _____, *Air Quality Handbook*, May 1996.

5.2 ORGANIZATIONS, AGENCIES AND INDIVIDUALS CONSULTED

5.2.1 Organizations and Agencies

United States Government

- Federal Aviation Administration, Airports District Office
  Burlingame, California

- Federal Emergency Management Agency (FEMA), Region IX
  San Francisco, California

- U.S. Army Corp of Engineers, Sacramento District
  Sacramento, California

- U.S. Department of Agriculture, Soil Conservation Service/Natural Resources Conservation Service, Woodland, California

- U.S. Environmental Protection Agency, Region IX
  San Francisco, California

- U.S. Fish and Wildlife Service
  Sacramento, California

State of California

- Air Resources Board, Emission Inventory Branch,
  Stationary Source Control Division,
  Sacramento, California

- California Highway Patrol
  West Sacramento, California

- California Highway Patrol, Office of Special Projects
  Sacramento, California

- California State University, Sonoma
  Northwest Information Center
  Sonoma, California

- Regional Water Quality Control Board, Region 5
  Sacramento, California

- State Department of Fish and Game
  Rancho Cordova, California

- State Department of Transportation (Caltrans), Aeronautics Program
  Sacramento, California

- State Department of Transportation (Caltrans), District 3
  Sacramento, California

- State Department of Transportation (Caltrans), Planning
  Sacramento, California

- State Lands Commission
  Sacramento, California

- State Office of Historic Preservation
  Sacramento, California

- State Resources Agency
  Sacramento, California

Yolo County/Region

- Pacific Bell
  Sacramento, California

- Pacific Gas & Electric (PG&E)
  Woodland, California

- SACOG/ Airport Land Use Commission
  Sacramento, California

- West Plainfield Fire District
  Davis, California

- Yolo County Environmental Health Services
  Woodland, California

- Yolo County Office of Emergency Services
  Woodland, California

- Yolo County Flood Control and Water Resources District
  and Water Conservation Agency
  Woodland, California

- Yolo County Planning and Public Works Dept.
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- Yolo-Solano Air Quality Management District
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6.0 LIST OF PREPARERS AND FAA EVALUATORS

This EA/EIR was prepared for the County of Yolo and the Federal Aviation Administration by P&D Consultants, Inc. of Oakland, California under a contract with Yolo County. The efforts of an interdisciplinary team, consisting of specialists in various fields, were required to accomplish this study. Disciplines involved in the preparation of the EA/EIR included airport planning, noise and land use compatibility, air and water quality, traffic, biology and others. It should also be noted that, while an interdisciplinary approach has been used, all decisions with regard to the scope and content of the final EA/EIR are those of the FAA.

As required by FAA Order 5050.4A, Paragraph 87, the names and qualifications of the principal contributors to the EA/EIR are set forth below. Unless specifically indicated, preparers and contributors will have participated in both the draft EA/EIR and final EA/EIR:

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APPENDIX A

NOTICE OF PREPARATION AND INITIAL STUDY

County of Yolo
COMMUNITY DEVELOPMENT AGENCY • 292 WEST BEAMER STREET • WOODLAND CA, 95695

DECLARATION OF:

COUNTY OF YOLO

STATE OF CALIFORNIA

I, Anna M. Lee, the undersigned, states:

I am a resident of the United States, over 18 years of age, a resident of Yolo County, and not a part of this action. My business address is 292 W. Beamer Street, Woodland California 95695.

On _____,1997, I posted a copy of the attached notice in a conspicuous place on the property located at 625 Court Street, County of Yolo, Administration Building, in the City of Woodland, California.

On May 2, 1997, I mailed appropriate notification to all names and addresses on the attached list pertaining to (specific action or item). Notice of Preparation of EIR/EA for Y.C. Gen. Serv. Larry x Mark

I certify and declare under the penalty of perjury that the foregoing is true and correct.

Signed Anna M. Lee

Airport EIR/EIS

Caltrans Division of Aeronautics
P.O. Box 942873
Sacramento, CA 94273-0001

Steven Basha
County Counsel
Courier #64

Tommy Davis, Interim Directo
Department of Public Works
Courier #26

Yolo County Building Official
Building and Site Inspection
Courier # 26B

Thomas To, Chief
Environmental Health
Courier # 20

Larry F. Greene
Air Pollution Control Officer
Courier # 11

Office of Emergency Services
Courier # 73A

County Assessor
Courier #19

Davis Branch Library,
Permanent ____ Discard Date ____
Courier # 50

Woodland Library
250 First Street
Woodland, CA 95695
Permanent ____ Discard Date ____

West Plainfield Fire District
24901 County Road 95
Davis, CA 95616

Pacific Gas & Electric
Attn: Mike Burke
50 Kentucky Ave.
Woodland, CA 95695

Pacific Bell
Ray Beck
PO Box 15038
Sacramento CA 95851

Yolo County Flood Control
Attn: Chris Barton
34274 State Highway 16
Woodland, CA 95695

Sacramento Area Council of Govmt
Airport Land Use Commissio
3000 "S" Street, Suite 300
Sacramento, CA 95816

Caltrans
~~Aeronautics Division~~
~~P. O. Box 942874~~
~~Sacramento, CA 95814~~

Department of Fish & Game
Region II
1701 Nimbus Rd., Suite A
Rancho Cordova, CA 95670

YOLO CO. AIRPORT TAC

RECEIVED
MAY - 8 1997
GENERAL SERVICES AGENCY

Yolo County Community Development Agency

NOTICE OF PREPARATION

To:

Notice of Preparation of a Draft Environmental Impact Report/ Environmental Assessment (EIR/EA)

LEAD AGENCY:		CONSULTING FIRM:	
Agency Name:	Yolo Co. General Services Agency	**Firm Name:**	P&D Consultants, Inc.
Street Address:	625 Court Street, Room 203	**Street Address:**	1000 Broadway, #390
City/State/Zip:	Woodland, CA 95695	**City/State/Zip:**	Oakland, CA 94607
Contact:	Larry Rillera, Mgr. Parks & Facilities	**Contact:**	Mike McClintock
Phone:	(916) 666-8179	**Phone:**	(510) 839-7337

The Yolo County General Services Agency will be the Lead Agency and will prepare an Environmental Impact Report/Environmental Assessment (EIR/EA) for the project identified below. We need to know the view of your agency as to the scope and content of the environmental information which is germane to the agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project. The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is attached. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but *not later than 30 days* after receipt of this notice.

Please send your response to Mr. Larry Rillera at the address shown above. We will need the name for a contact person in your agency.

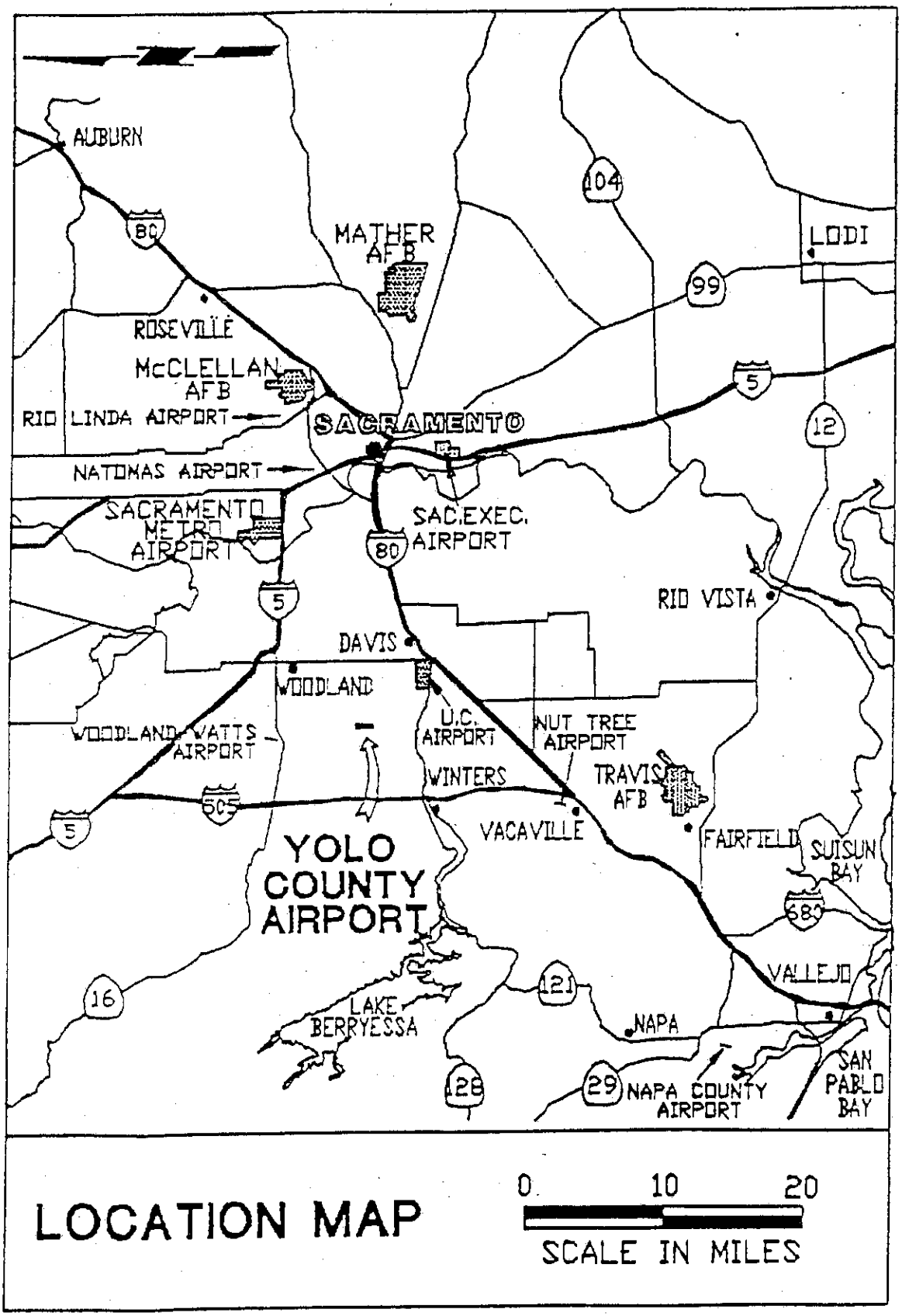
Project Title: Yolo County Airport Master Plan Program EIR/EA
Project Location: Woodland, Yolo County, CA
Project Description: The proposed Yolo County airport master plan involves a development program that will be implemented in three phases over the next 20 years. However, until an actual need for the recommended improvements can be demonstrated, no commitment of County financial resources would be made.

The key element of the airport development program is the staged enlargement of the airport's aircraft basing service area to accommodate forecast increases in based aircraft and operations. The program also provides for the possible addition of two fixed base operators (FBOs) at designated sites on the east side of the airport.

The program further provides for land and easement acquisitions for runway protection zones (RPZs) and for future approach lighting associated with an anticipated instrument approach capability. New aircraft parking aprons, apron expansion, and a new, full-length parallel taxiway with connectors round out the major program elements. Detailed information on the proposed project can be found in the draft "*Yolo County Airport Master Plan*," May 1996.

Date: 4/25/97

Signature: Larry Rillera
Title: Manager of Parks & Facilities
Telephone: (916) 666-8179


AUBURN
80
MATHER AFB
104
LODI
99
ROSEVILLE
McCLELLAN AFB
RIO LINDA AIRPORT
SACRAMENTO
5
12
NATOMAS AIRPORT
SACRAMENTO METRO AIRPORT
SAC.EXEC. AIRPORT
80
5
RIO VISTA
DAVIS
WOODLAND
U.C. AIRPORT
NUT TREE AIRPORT
WOODLAND WATTS AIRPORT
WINTERS
TRAVIS AFB
505
5
VACAVILLE
FAIRFIELD
SUISUN BAY
YOLO COUNTY AIRPORT
680
VALLEJO
16
LAKE BERRYESSA
121
NAPA
128
29
NAPA COUNTY AIRPORT
SAN PABLO BAY
LOCATION MAP
0
10
20
SCALE IN MILES

COUNTY OF YOLO
INITIAL STUDY

Project Title	Yolo County Airport Master Plan Program EIR/EA
Lead Agency Name and Address	Yolo County General Services 625 Court Street, Room 203, Woodland, CA 95695
Lead Agency Contact Person and Phone Number	Larry Rillera, Manager, Parks & Facilities (916) 666-8179
Project Location	Yolo County Airport
Project Sponsor and Address	Yolo County General Services Agency 625 Court Street, Room 208, Woodland, CA 95695

Project Description (Brief): Airport Master Plan and Implementation of 20-Year Airport Development Program

Other Public Agencies Whose Approval is Required: Federal Aviation Administration, Airport Land Use Commission

Environmental Factors Potentially Affected (Check Box)

Land Use and Planning		Biological Resources	X	Aesthetics	X
Population and Housing	X	Energy and Mineral Resources		Cultural Resources	X
Geological Problems		Hazards	X	Recreation	
Water	X	Noise	X	Mandatory Findings of Significance	X
Air Quality	X	Public Services			
Transportation and Circulation	X	Utilities and Services	X		

DETERMINATION: (To be completed by the Lead Agency) On the basis of this initial evaluation:	
I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant impact on the environment in this case because mitigation measures described on an attached sheet or by insert have been added to this project. A NEGATIVE DECLARATION will be prepared.	
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.	X
I find that the proposed project MAY have a significant effect on the environment, but at least one effect: 1) Has been adequately analyzed in an earlier document pursuant to applicable legal standards and, 2) Has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated". An ENVIRONMENTAL IMPACT REPORT (EIR) is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant impact on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects: 1) Have been analyzed adequately in an earlier EIR pursuant to applicable standards, and 2) Have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.	

SIGNATURE: Keith M. Ott	DATE: April 28, 1997
PRINTED NAME: Keith M. Ott	
TITLE: Director	FOR: Yolo County General Services

ENVIRONMENTAL CHECKLIST

Introduction

This checklist contains the environmental checklist form presented in Appendix I of the California Environmental Quality Act and Guidelines (CEQA). The checklist is used to identify the impacts of the Proposed Project. A discussion follows each environmental issue identified in the checklist. Included in each discussion are mitigation measures, as appropriate, recommended for implementation as part of the Proposed Project.

For this checklist, the following designations are used:

Potentially Significant Impact: An impact where there is substantial evidence that an effect is significant for which no mitigation has been identified. If any potentially significant impacts are identified an EIR must be prepared.

Potentially Significant Unless Mitigation Incorporated: An impact where the incorporation of mitigation measures has reduce the effect to a less-than-significant level.

Less-Than-Significant Impact: Any impact that is expected to occur with implementation of the project, but to a less-than-significant level because it would not violate existing standards.

No Impact: The project would not have any impact.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
1. LAND USE AND PLANNING. *Would the proposal:*				
a. Conflict with general plan designation or zoning?	☐	☐	☐	☒
b. Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?	☐	☐	☐	☒
c. Affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)?	☐	☐	☐	☒
d. Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?	☐	☐	☒	☐

Discussion

N/A

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
2. POPULATION AND HOUSING. *Would the proposal:*				
a. Cumulatively exceed official regional or local population projections?	☐	☐	☐	☒
b. Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	☐	☒	☐	☐
c. Displace existing housing, especially affordable housing?	☐	☐	☐	☒

Discussion

Anticipated airport growth may generate new business and employment opportunities in largely rural/agricultural areas.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
3. GEOLOGIC PROBLEMS. *Would the proposal result in or expose people to potential impacts involving:*				
a. Fault rupture?	☐	☐	☒	☐
b. Seismic ground shaking?	☐	☐	☒	☐
c. Seismic ground failure including liquefaction?	☐	☐	☒	☐
d. Seiche, tsunami, or volcanic hazard?	☐	☐	☐	☒
e. Landslides or mudflows?	☐	☐	☐	☒
f. Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill?	☐	☐	☒	☐
g. Subsidence of the land?	☐	☐	☒	☐
h. Expansive soils?	☐	☐	☒	☐
i. Unique geologic or physical features?	☐	☐	☒	☐

Discussion

N/A

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
4. WATER. *Would the proposal result in:*				
a. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	☐	☒	☐	☐
b. Exposure of people or property to water-related hazards such as flooding?	☐	☒	☐	☐

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c. Discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen or turbidity)?	☐	☒	☐	☐
d. Changes in the amount of surface water in any water body?	☐	☒	☐	☐
e. Changes in currents, or the course or direction of water movements?	☐	☒	☐	☐
f. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of groundwater recharge capability?	☐	☐	☒	☐
g. Altered direction or rate of flow of groundwater?	☐	☒	☐	☐
h. Impacts to groundwater quality?	☐	☒	☐	☐
i. Substantial reduction in the amount of groundwater otherwise available for public water supplies?	☐	☐	☒	☐

Discussion

Airport development will result in additional impervious surfaces and increased stormwater runoff.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
5. AIR QUALITY. *Would the proposal:*				
a. Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☒	☐	☐
b. Exposure sensitive receptors to pollutants?	☐	☒	☐	☐
c. Alter air movement, moisture, or temperature, or cause any change in climate?	☐	☐	☒	☐
d. Create objectionable odors?	☐	☒	☐	☐

Discussion

Increased aviation and surface vehicle traffic anticipated to result from future airport development.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
6. TRANSPORTATION/CIRCULATION. *Would the proposal result in:*				
a. Increased vehicle trips or traffic congestion?	☐	☒	☐	☐
b. Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
c. Inadequate emergency access or access to nearby uses?	☐	☐	☒	☐
d. Insufficient parking capacity on-site or off-site?	☐	☐	☒	☐
e. Hazards or barriers for pedestrians or bicyclists?	☐	☐	☒	☐
f. Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐
g. Rail, waterborne or air traffic impacts?	☐	☐	☒	☐

Discussion

Airport development will result in increased surface vehicle traffic.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
7. BIOLOGICAL RESOURCES. *Would the proposal result in impacts to:*				
a. Endangered, threatened or rare species or their habitats (including, but not limited to plants, fish, insects, animals, and birds)?	☐	☒	☐	☐
b. Locally designated species (e.g., heritage trees)?	☐	☒	☐	☐

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c. Locally designated natural communities (e.g., oak forest, coastal habitat, etc.)?	☐	☒	☐	☐
d. Wetland habitat (e.g., marsh, riparian and vernal pool)?	☐	☒	☐	☐
e. Wildlife dispersal or migration corridors?	☐	☐	☒	☐

Discussion

Airport development will result in the destruction of minor habitat and displacement of indigenous plant and animal species.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
8. ENERGY AND MINERAL RESOURCES. *Would the proposal:*				
a. Conflict with adopted energy conservation plans?	☐	☐	☒	☐
b. Use non-renewable resources in a wasteful and inefficient manner?	☐	☐	☒	☐
c. Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☒	☐

Discussion

N/A

Issues (and Supporting Information Sources)	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
9. HAZARDS. *Would the proposal involve:*				
a. A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?	☐	☒	☐	☐

Issues (and Supporting Information Sources)	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
b. Possible interference with an emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
c. The creation of any health hazard or potential health hazard?	☐	☐	☒	☐
d. Exposure of people to existing sources of potential health hazards?	☐	☒	☐	☐
e. Increased fire hazard in areas with flammable brush, grass, or trees?	☐	☐	☒	☐

Discussion

Increased aviation activity will increase overall risk exposure.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
10. NOISE. *Would the proposal result in:*				
a. Increases in existing noise levels?	☐	☒	☐	☐
b. Exposure of people to severe noise levels?	☐	☒	☐	☐

Discussion

Increased aviation activity will result in increased aircraft noise levels in airport environs.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
11. **PUBLIC SERVICES.** *Would the proposal have an effect upon, or result in a need for new or altered government services in any of the following areas:*				
a. Fire protection?	☐	☐	☒	☐
b. Police protection?	☐	☐	☒	☐

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c. Schools?	☐	☐	☒	☐
d. Maintenance of public facilities, including roads?	☐	☐	☒	☐
e. Other governmental services?	☐	☐	☒	☐

Discussion

N/A

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
12. UTILITIES AND SERVICE SYSTEMS. *Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:*				
a. Power or natural gas?	☐	☐	☒	☐
b. Communications systems?	☐	☐	☒	☐
c. Local or regional water treatment or distribution facilities?	☐	☐	☒	☐
d. Sewer or septic tanks?	☐	☐	☒	☐
e. Storm water drainage?	☐	☒	☐	☐
f. Solid waste disposal?	☐	☐	☒	☐
g. Local or regional water supplies?	☐	☐	☒	☐

Discussion

Proposed airport development will require additional improvements to stormwater drainage facilities.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
13. AESTHETICS. *Would the proposal:*				
a. Affect a scenic vista or scenic highway?	☐	☐	☒	☐
b. Have a demonstrable negative aesthetic effect?	☐	☒	☐	☐
c. Create light or glare?	☐	☒	☐	☐

Discussion

Proposed new development will result in additional buildings and lighting.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
14. CULTURAL RESOURCES. *Would the proposal:*				
a. Disturb paleontological resources?	☐	☐	☒	☐
b. Disturb archaeological resources?	☐	☒	☐	☐
c. Affect historical resources?	☐	☒	☐	☐
d. Have the potential to cause a physical change which would affect unique ethnic cultural values?	☐	☐	☒	☐
e. Restrict existing religious or sacred uses within the potential impact area?	☐	☐	☒	☐

Discussion

Grading and excavating activities may uncover heretofore unknown archaeological or historical resources.

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
15. RECREATION. *Would the proposal:*				
a. Increase the demand for neighborhood or regional parks or other recreational facilities?	☐	☐	☒	☐
b. Affect existing recreational opportunities?	☐	☐	☒	☐

Discussion

N/A

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
16. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	☐	☐	☒	☐
c. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐

Issues	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Disturb paleontological resources?	☐	☒	☐	☐