Turn of the Century Specific Plan
Final Environmental Impact Report

Prepared for:

City of Woodland Community
Development Department

Prepared by:

EIP Associates

October 1999

Response to Comments on the Draft Environmental Impact Report for the

Turn of the Century Specific Plan

SCH #99022069

Prepared for:

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1. INTRODUCTION

1. INTRODUCTION

INTRODUCTION

This document contains all comments received during the public review period on the Draft Environmental Impact Report (EIR) for the Turn of the Century Specific Plan. This document has been prepared by the City of Woodland in accordance with the California Environmental Quality Act (CEQA). This document, the Draft EIR, and the two technical appendices, together constitute the Final EIR for the project.

The proposed project consists of the development of a mixed-use, planned community, with two alternate specific plans: Specific Plan A and Specific Plan B. The City Council will determine which specific plan to adopt, if either. There are three primary differences between the two plans:

- The proposed arterial street pattern: Specific Plan A proposes a grid-like arterial street pattern while Specific Plan B proposes a curvilinear arterial street pattern.

- The location of the proposed town center: Specific Plan A proposes that the town center develop as part of Phase One development. Specific Plan B proposes that the town center develop as a part of future development outside of the Specific Plan area but within the Master Plan area.

- The timing of the proposed overpass of SR 113: Specific Plan A assumes the overpass as a part of Specific Plan development. Specific Plan B proposes the preservation of right-of-way for the overpass but does not plan for its construction.

The residential component of Specific Plan A proposes the development of a total of 3,770 residential units on approximately 600 acres. Commercial development under Plan A would encompass approximately 43.9 acres. Specific Plan A would include approximately 93.2 acres of various open space uses, which includes parks, schools and drainage ways.

Specific Plan B includes the development of a total of 3,745 residential units in two phases, on approximately 627 acres. Commercial development would be reduced under Plan B, compared to Plan A. A total of approximately 26 acres would be developed. Plan B would include approximately 92.8 acres of various open space uses.

The City of Woodland used several methods to solicit input for the Draft EIR. These methods include the distribution of a Notice of Preparation, distribution of the Notice of Availability of the Draft EIR, distribution of the Draft EIR, and a public hearing in front of the City Planning Commission on September 2, 1999.

Summary of Text Changes

The Revisions to the DEIR Text, Chapter 2, identifies all changes to the DEIR by subject matter section. These changes are staff-initiated changes in response to comments made on the DEIR. The revisions contain clarification, amplification, and corrections that have been identified since publication of the Draft EIR.

Responses to Comments

Responses to comments appear in Chapter 3 of this FEIR. Comments and responses are grouped by letter for written comments and by speaker for oral comments. If the subject matter of one letter overlaps that of another letter, the reader may be referred to more than one group of comments and responses to review all information on a given subject. Where this occurs, cross-references are provided.

Each comment letter is presented with brackets indicating how the letter has been divided into individual comments. Each comment is given a binomial with the letter number appearing first, followed by the comment number. For example, comments in Letter 1 are numbered 1-1, 1-2, 1-3, and so on. Immediately following the letter are responses, each with binomials that correspond to the bracketed comments.

Some comments on the DEIR do not pertain to physical environmental issues. Responses to such comments, though not required under CEQA, are included to provide additional information. The phrase "comment noted" is used when the EIR authors wish to acknowledge a comment that does not directly pertain to the environmental issues analyzed in the EIR, does not ask a question about the EIR, or does not challenge an element of, or conclusion of, the EIR. The intent is to simply recognize the comment. Many of the comments express opinions about aspects of the proposed project and, thus, are included in the Final EIR for consideration by the decision-makers.

2. REVISIONS TO THE DRAFT EIR

2. REVISIONS TO THE DRAFT EIR

INTRODUCTION

The Draft EIR was released on July 7, 1999. The following changes clarify, amplify, and/or provide minor technical corrections to that document. New text, which has been added to the DEIR, is underlined, and text that has been deleted, is presented in ~~strikeout~~ format. Revised figures appear at the end of the chapter.

The following text revisions are shown in the order in which they appear in the DEIR (i.e., by page number) and the "Text Change #s" provided below are referenced in Responses to Comments, Chapter 4.0, where appropriate. A revised copy of the Table 2-1, Summary of Impacts and Mitigation Measures is included at the end of this chapter.

None of the following revisions substantially alter the DEIR analysis, or change the conclusions of the DEIR with respect to the significance of impacts, such that recirculation would be required pursuant to Section 15088.5 of the CEQA Guidelines.

REVISIONS TO THE DRAFT EIR

Text Changes in Response to Comments

4.1 Land Use

The following text is added to the end of the second paragraph on page 4.1-3 of the DEIR:

> Agricultural Preserve (A-P) is a land use designation used by Yolo County to preserve land suited for agricultural use from encroachment of nonagricultural uses. Figure 4.1-3 on page 4.1-5 illustrates those areas designated A-P on the project site.

Figure 4.1-2, Land Ownership on page 4.1-4 of the DEIR is revised, and is shown at the end of this chapter.

Figure 4.1-3, Existing Yolo County Zoning on page 4.1-5 of the DEIR is revised, and is shown at the end of this chapter.

The following text is hereby amended immediately following **Existing Permits and Leases** on page 4.1-24 of the DEIR:

Both the County and the College are presently connected to the City sewer system and would connect to water upon annexation. The County is required to fund their portion of frontage improvements along Gibson Road when the City undertakes widening of the road which is commencing at this time.

The second sentence of the second paragraph on page 4.1-25 of the DEIR is revised to read:

The Aeromodelers ~~have~~ amended their ~~a seven year~~ lease with the City of Woodland in 1995. The lease will expire in June 2007, with one five year option.~~on October 25, 2002~~. The lease contains a 60-day release clause that can be executed by either party.

The second full paragraph on page 4.1-36 of the DEIR is revised as shown:

The auto wrecking business is located off Road 102 on Road 25 approximately 1/4 to 1/2 mile from the project site, so its activities should not be visible or audible to residents and should not result in a land use incompatibility. The agricultural land east of Road 102 is not actively farmed at present, and consists predominantly of Pescadero sitly clay, saline-alkali and willows clay, alkali (see Figure 4.2-1 on page 4.2-3 in the DEIR). These alkali soils are not well-suited to intensive agriculture. This area is designated Urban Reserve in the City General Plan. While not occurring at present, agricultural activities could occur immediately east of Road 102, so there would could be potential incompatibilities associated with dust, noise and odor between proposed residential uses on the project site and agricultural land to the east. Road 102 would provide an approximately 90-foot wide buffer; ~~however, due to the proximity of residential uses to an area that could be used for future agricultural activities~~, the impact between adjacent residential and agricultural uses is considered *potentially significant.*

The last sentence of page 4.1-52 of the DEIR is revised to read:

Under Plan B, the town center is located in the Master Plan Remainder Area and not planned to be developed until some time between 2015 and 2020 ~~after 2020~~.

Mitigation Measure 4.1-5(c)(i) on p. 4.1-54 of the DEIR is revised to read:

Establish a ~~retail~~ focal point within the Specific Plan area.

Mitigation Measure 4.1-10(b) on page 4.1-63 of the DEIR is revised to read:

The annexation of the Specific Plan shall be staged to include all of the project site, except the ~~±160 acres~~ acreage that ~~will be~~ remains under Williamson Act contract ~~until 2003~~.

The following text is added to Mitigation Measure 4.1-10(c) on page 4.1-64 of the DEIR:

> *...with LAFCO Policy IV.D which would allow for annexation of the entire site.*

4.2 Agricultural Resources

The text on page 4.2-1 of the DEIR is revised as follows.

> According to the California Department of Conservation, 3,005 acres of important farmland (including Prime, Statewide Importance, Unique, and Local Importance) in Yolo County (including incorporated areas[4]) were converted to non-agricultural use ~~in~~ between 1994 and 1996. ~~out of~~ 420,771 acres of Important Farmland were inventoried in 1996.[5] Of the total lost, 1,181 acres were Prime Farmland, from a total of 269,149 acres of Prime Farmland inventoried in 1996.

Figure 4.2-3, Important Farmland on page 4.2-6 of the DEIR, and Figure 4.2-4, Agricultural Land Capability on page 4.2-7 of the DEIR are revised and shown at the end of this chapter.

The following is added to Mitigation Measure 4.2-3 on page 4.2-15 of the DEIR:

> 4.2-3
> (A/B) (a) *Implement Mitigation Measure 4.1-1.*
>
> (b) *The City of Woodland shall consider adopting a Right to Farm Ordinance to address interim land use conflicts that could occur between new development and planned growth areas that may remain in agricultural uses until future conversion.*

The second complete paragraph on page 4.5-16 of the DEIR is revised to read:

> As proposed in 1995, the Yolo County Habitat Conservation Plan is a multispecies regional Habitat Conservation Plan (HCP) for Yolo County that mitigates planned development within the spheres of influence of the incorporated cities in the county. The HCP would provide~~s~~ a conservation strategy to mitigate for the loss of approximately 12,000 acres of urban development in a largely agricultural region.

The last sentence of the second to last paragraph on page 4.2-16 of the DEIR is revised to read:

> Should the City Council choose ~~chose~~ to reject ~~report~~ this measure, special findings of "overriding considerations" would be required under CEQA. If the City Council does reject a 500 foot buffer, a reduced buffer may be considered.

4.4 Hydrology, Drainage and Water Quality

The first two sentences of the second paragraph on page 4.4-2 of the DEIR are revised to read:

> A complex system of alluvial deposits make up the groundwater aquifers that underlie the Sacramento Valley ~~contain groundwater aquifers that store and yield water at various depths~~. Yolo County can be described by ~~is underlain by~~ six hydrologic, or groundwater storage basins that are separated from each other by impervious soil layers.

The second to last sentence of the second paragraph on page 4.4-2 of the DEIR is revised to read:

> The pumping depth in various City wells varies~~; some pumping occurs as deep as 300 feet~~, but the average pumping depth is approximately 100 feet.

The first two sentences of the first paragraph on page 4.4-4 of the DEIR are revised to read:

> At General Plan buildout, total City pumping within ~~in~~ the Urban Limit Line was estimated to be 23,200 acre-feet per year (afy) under the assumption ~~and assumes~~ that water needs would increase linearly over the General Plan EIR baseline (1995) condition. ~~At buildout,~~ Using buildout assumptions of ~~in~~ the General Plan, a City groundwater impact study prepared in 1997 estimated there would be a net increase in groundwater pumping ~~deficit~~ of 3,800 afy.

The second to last sentence of the first paragraph on page 4.4-4 of the DEIR is deleted as shown:

> ~~Past Sacramento County studies suggest that groundwater levels can be stabilized by setting limits on groundwater extraction rates.~~ For additional information regarding the relationship between groundwater levels and land subsidence, please see Section 4.3, Geology, Soils, and Seismicity.

The second to the last sentence of the second paragraph on page 4.4-4 of the DEIR is revised to read:

> Under normal and above-normal rainfall conditions, the City's groundwater pumping depresses regional groundwater levels, resulting in an alignment of the City's ~~with the~~ centers of the perimeters of influence and a southeast groundwater flow direction.

The last sentence of the first paragraph on page 4.4-5 of the DEIR is deleted as shown:

> ~~In-lieu recharge could raise the groundwater levels within the local City area from 3 to 8 feet.~~

The following text is added to the end of the first paragraph on page 4.4-5 of the DEIR:

> An element of the Yolo County Flood Control and Water Conservation District's conjunctive-use planning includes a proposed in-lieu recharge project. The project would involve land located generally west of Woodland across County Road 98. The District has estimated that under this project it could supply 3.2 afy of surface water approximately 65 percent of the irrigation seasons. Farmers could use this surface water in-lieu of their own direct pumped groundwater. Project impacts would include higher localized water table levels (proximate to delivery canals and project land). Groundwater modeling completed by the City of Woodland has indicated that the District's project could increase water tables beneath the City on the order of three to eight feet.

The third sentence of the second paragraph on page 4.4-28 of the DEIR is revised to read:

> Offsite detention or retention storage is being considered at two locations: a detention basin to attenuate peak flows could be constructed immediately south of the project site, ~~on the~~ south ~~side~~ of County Road 25A and west of County Road 102.

Mitigation Measure 4.4-1(a) on page 4.4-29 of the DEIR is revised to read:

> *Prior to the first tentative map approval, the Specific Plan storm drainage plan shall be completed. The drainage plan shall ~~demonstrate that~~ ~~the system~~ identify specific storm drainage design features to control increased runoff from the project site. ~~will not increase runoff over current conditions. No net increase~~ This may be achieved through one or more of the following: onsite conveyance and detention facilities, offsite detention or retention facilities, ~~and/or~~ channel modification, or equally effective measures to control the rate and volume of runoff. To demonstrate the effectiveness of the proposed system to ~~achieve no net increase~~ prevent additional flooding at offsite (downstream) locations, all necessary hydrologic and hydraulic calculations and assumptions and design details shall be submitted to the City Public Works Department for review and approval. The design of all features proposed by the project applicant shall be consistent with the most recent version of the City's Storm Drainage Guidelines and Criteria, and standard design and construction specifications and details.*

The first narrative sentence at the top of page 4.4-30 of the DEIR is revised to read:

> The measures would ensure that ~~project flows are detained so that the amount of storm water runoff would not exceed existing conditions.~~ stormwater runoff from the project site is effectively managed so that the capacity of downstream conveyance facilities is not exceeded and water surface elevations are not adversely increased as a result of increased rate or volume of runoff generated by new impervious surfaces. Therefore, project flows would not ~~increase~~ adversely affect downstream flooding as compared to existing conditions.

The second to last sentence at the bottom of page 4.4-36 is revised to read:

> In addition, the proposed District ~~in-lieu~~ recharge program would offset most or all of the effects of groundwater withdrawal, including incremental reductions in recharge, if any, attributable to the proposed project.

The seventh sentence in the last paragraph on page 4.4-40 in the DEIR is also revised to read:

> The proposed District ~~in-lieu~~ recharge program would offset most or all of the effects of increased City groundwater pumping.

4.5 Biological Resources

The last sentence of the first paragraph on page 4.5-4 of the DEIR is deleted as shown.

> It is highly likely that this area supports special-status plant species due to the soil type, presence of associated vegetation, and presence of special-status plants directly to the east of County Road 102. ~~However, since this site is not to be further developed under the proposed project, these plants would not be threatened if they are present onsite.~~

The second and third paragraphs under **Wildlife** on page 4.5-5 of the DEIR is revised to read:

> Bird species commonly observed foraging in include flocks of red-winged blackbirds, starlings, meadowlarks, American crow, magpie, pheasant, ~~peasant~~ and Killdeer ~~kildeer~~. The mammals that may be expected to be observed on site are California~~meadow~~ vole, house mouse, black-tailed hare and possibly cottontail ~~white-tailed rabbit~~. While the agricultural ditches are filled and drained during the growing season they may support waterfowl species such as mallard, cinnamon teal, American coot and pied-billed grebe for short periods. The amphibians on site are likely limited to bullfrogs and tree frogs and the reptiles consist of species such as the western fence lizard, gopher snake, and California king snake.
>
> The ruderal edges along the filed crop habitat supports many common bird species including white-crowned sparrow, golden-crowned sparrow, American goldfinch ~~gold finch~~, house finch, savanna sparrow, and red-winged blackbird. Special-status species such as strike may be supported by ruderal habitat ~~such as loggerhead logger-headed shrike~~.

The last sentence of the second full paragraph on page 4.5-9 of the DEIR is revised:

> The plants were observed northwest of the intersection of County Road 102 and County Road 25~~A~~, as shown in Figure 4.5-1.

The second complete paragraph on page 4.5-16 of the DEIR is revised to read:

> As proposed in 1995, the Yolo County Habitat Conservation Plan is a multispecies regional Habitat Conservation Plan (HCP) for Yolo County that mitigates planned development within the spheres of influence of the incorporated cities in the county. The HCP would provide~~s~~ a conservation strategy to mitigate for the loss of approximately 12,000 acres of urban development in a largely agricultural region.

The second sentence of the first paragraph on page 4.5-26 of the DEIR is revised to read:

> Note that measures (b) through (d) would be under the jurisdiction of Yolo County and the Yuba Community College because ~~rather than~~ the City does not~~, because the County~~ own~~s~~ the property.

The first sentence of Mitigation Measure 4.5-1 (A/B) (b) on page 4.5-26 of the DEIR is revised to read:

> *Prior to development of the alkali sink habitat in the Yolo County and the Yuba Community College properties, shown in Figure 4.5-1, a rare plant survey*

The first sentence of Mitigation Measure 4.5-1 (A/B) (c) on page 4.5-26 of the DEIR is revised to read:

> *Based on the results of the survey in the Yolo County and the Yuba Community College properties, prior to new design approval, the County and Yuba Community College shall, in consultation with DFG and/or USFWS, determine whether the project would substantially affect special-status plant species dependent upon alkali sink habitat.*

Mitigation Measure 4.5-1 (A/B) (d) on page 4.5-26 of the DEIR is revised to read:

> *If the surveys on the Yolo County and the Yuba Community College lands reveal no occurrences of any species, or if the County and/or Yuba Community College in consultation with DFG or USFWS determines that no significant impacts on any special-status plant species would result from project implementation, then no further mitigation would be required.*

Mitigation Measure 4.5-2(b) on page 4.5-27 of the DEIR is deleted as shown:

> ~~*If adopted, the project applicant shall participate in the Yolo County Habitat Conservation Plan (HCP).*~~

Mitigation Measure 4.5-3(a) on page 4.5-29 of the DEIR is revised to read:

> ~~*Prior to approval of a tentative map for any property with trees*~~ *For each individual development project, the project applicant, in consultation with the DFG, shall conduct a pre-construction or pre-tree pruning or removal survey of trees greater than 30 feet tall*

(proposed activity) during the raptor breeding-season (approximately March 1 through September 15~~August 31~~). This survey shall be conducted for a half mile radius around the project site at which any construction activity is proposed. The survey shall be conducted by a qualified raptor biologist...

Mitigation Measure 4.5-3(b) on page 4.5-29 of the DEIR is revised to read:

If an active Swainson's hawk nest is identified within one half mile of the project site, then CDFG shall be contacted to determine if consultation is required. A limited operating period shall be implemented within a (0.25) mile radius of the nest tree. No construction activities shall be initiated during the Swainson's hawk nesting period (March 1 – September 15 ~~August 1~~) without the approval by DFG...

Mitigation 4.5-4(a) on page 4.5-30 of the DEIR is revised to read:

This agreement shall set aside in perpetuity, an equivalent amount (939 acres of the Specific Plan Area plus Important Farmland converted for offsite infrastructure) of contiguous, Swainson's hawk foraging land elsewhere in Yolo County through the purchase of development rights and execution of irreversible conservation or agricultural easement.

Mitigation Measure 4.5-6(A/B)(a) on page 4.5-32 of the DEIR is revised to read:

Prior to approval of a tentative map for the area immediately west of Road 102 (see Figure 4.5-1, as revised) ...

Mitigation Measure 4.5-6(b) on page 4.5-33 of the DEIR is revised as shown:

b) *If jurisdictional wetlands are verified, the project applicant shall provide for no net loss of wetland acreage through the federal permitting process. If the total acreage of the jurisdictional wetland is less than 1/3 of an acre, then the project applicant shall obtain a nationwide permit to fill the wetlands, and provide for a minimum 1:1 mitigation ratio. If the total area exceeds 1/3 of an acre then the project applicant shall obtain a individual permit through the U.S. Army Corps of Engineers.*

4.6 Traffic and Circulation

The seventh line under Roadway Operations on page 4.6-18 of the DEIR is revised as shown:

I-5 (City limits to City limits)	LOS ~~E~~ D

The first sentence under **Proposed Transit System** on page 4.6-21 of the DEIR is revised as shown:

Roadways within the project site are proposed to be designed to accommodate bus turnouts at major intersection locations along the arterial streets system, along East Gibson Road, and the focal center, and County Road 25A and State Highway 113.

Mitigation Measure 4.6-1(A/B)(a) on page 4.6-53 is revised as shown:

A traffic signal shall be installed at the E. Gum Avenue/Matmor Road intersection and each approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. These improvements were warranted by previously approved development and are included in the City of Woodland Major Projects Financing Plan (MPFP) as being funded by ~~an assessment district~~ development fees. However, the proposed project could require implementation of the improvements prior to their programmed installation in the MPFP. Therefore, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. If this intersection requires signalization and widening prior to the programmed installation of these improvements in the MPFP, then the project applicant shall be required to install the improvements and shall be reimbursed by the ~~assessment district~~ development fees.

Mitigation Measure 4.6-2(b) on page 4.6-58 is clarified as follows:

(b) *Offsite roadways needed to serve the project site (e.g., Road 101, Road 25A ~~and E Street~~) shall be improved to meet City design standards. The specific segments that must meet these standards are:*

Road 101 from Gibson Road to Road 25A
Road 25A from SR 113 to Road 101

The first sentence of Mitigation Measure 4.6-3 on page 4.6-59 of the DEIR is revised as shown:

All development within the Specific Plan ~~the project applicant~~ shall contribute a ~~its~~ fair-share of the capital and operating cost associated with providing public transit service to the ~~project site~~ Plan Area.

The fifth bullet of Mitigation Measure 4.6-5(A/B)(a)(i) on page 4.6-63 of the DEIR is revised as shown:

- *Class I bike path grade separations of collectors and arterials at the time the Class I facility is installed; and ...*

Mitigation Measure 4.6-6 (A/B) (a) on page 4.6-65 of the DEIR is revised to read:

Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development ~~The project applicant~~ shall contribute its fair-share cost to

modify the traffic signal at the East Street/E. Main Street intersection and widen the eastbound approach to include an exclusive left-turn lane, two exclusive through lanes, and one exclusive right-turn lane. This improvement was previously identified in the East Street Corridor Specific Plan, City of Woodland, May 19, 1998. The City of Woodland shall determine the method and timing of the contribution for this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (A/B) (b) on page 4.6-66 of the DEIR is revised to read:

Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development ~~The project applicant~~ shall contribute its fair share cost to modify the traffic signal at the Gibson Road/East Street intersection and widen the northbound and southbound approaches to include two exclusive left-turn lanes, one exclusive through lane, and one shared through/right-turn lane. These improvements were previously identified in the East Street Corridor Specific Plan, City of Woodland, May 19, 1998. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (A/B) (c) on page 4.6-66 of the DEIR is revised to read:

Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development ~~The project applicant~~ shall contribute its fair share cost to modify the traffic signal at the Gibson Road/Matmor Road intersection and widen the northbound and southbound approaches to include one exclusive left-turn lane, one through lane, and one right-turn lane. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (A/B) (d) on page 4.6-66 of the DEIR is revised to read:

~~The project applicant shall~~ Implement Mitigation Measure 4.6-1(c).

Mitigation Measure 4.6-6 (A) (e) on page 4.6-66 of the DEIR is revised to read:

Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development ~~The project applicant~~ shall contribute its fair share cost to

install a traffic signal at the Road 25A/East Street intersection and widen the northbound, southbound, and eastbound approaches to include an exclusive left-turn lane and a shared through/right-turn lane. The westbound approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (B) (e) on page 4.6-67 of the DEIR is revised to read:

Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development ~~The project applicant~~ shall contribute its fair share cost to install a traffic signal at the Road 25A/East Street intersection and widen the northbound and eastbound approaches to include one exclusive left-turn lane and one shared through/right-turn lane. The westbound approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. The southbound approach shall be widened to include two exclusive left-turn lanes and a shared through/right-turn lane. In addition to the intersection widening, Road 25 A shall be widened to four lanes from East Street to Parkway Drive. Specific intersection widening at the SR 113 interchange and at the Road 25A/Parkway Drive intersection associated with this widening is addressed in Mitigation Measure 4.6-6 (f,g,j) for Plan B. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (A) (f) on page 4.6-67 of the DEIR is revised to read:

~~The project applicant shall install~~ A traffic signal shall be installed at the Road 25A/SR 113 Southbound Ramps intersection. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (A) (g) on page 4.6-67 of the DEIR is revised to read:

~~The project applicant shall install~~ A traffic signal shall be installed at the Road 25A/SR 113 Northbound Ramps intersection. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific

mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

The first sentence of Mitigation Measure 4.6-6 (B) (f,g) on page 4.6-68 of the DEIR is revised to read:

Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share to the modification of the Road 25A/SR 113 interchange. The design modification to the interchange shall be based on the outcome of the Caltrans Project Study Report (PSR) conceptual approval process. ~~The project applicant shall reconstruct the Road 25A/SR 113 interchange to a partial cloverleaf (Caltrans type L-9) configuration with a four-lane overcrossing and single-lane ramps.~~

The last sentence of Mitigation Measure 4.6-6 (B) (f,g) on page 4.6-68 of the DEIR is revised to read:

To assist the City in its determination, the developer ~~project applicant~~ *shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.*

The following text is added to the end of Mitigation Measure 4.6-6(B)(f,g) on page 4.6-68 of the DEIR:

Should the Parkway Drive overcrossing be constructed, further traffic study is required to determine the extent of additional improvements to the Road 25A/SR113 interchange if needed.

The first paragraph of Mitigation Measure 4.6-6(A)(h) on page 4.6-68 of the DEIR is revised to read:

~~*The project applicant shall install*~~ *A traffic signal shall be installed at the Pioneer Avenue/A Street intersection and* ~~*construct*~~ *the eastbound and westbound approaches to include an exclusive left-turn lane and a shared through/right-turn lane shall be constructed.* ~~*The project applicant shall also construct*~~ *Pioneer Avenue shall be constructed to its ultimate four-lane width as identified in the Specific Plan prior to 2020 and* ~~*provide*~~ *additional signalized access shall be provided to the proposed high school.*

The last paragraph of Mitigation Measure 4.6-6(A)(h) on page 4.6-69 of the DEIR is revised to read:

The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer ~~*project applicant*~~ *shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing*

conditions and to determine the specific mitigation improvements and timing that are required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (A) (i) on page 4.6-69 of the DEIR is revised to read:

~~The project applicant shall install~~ A traffic signal shall be installed at the Parkway Drive/D Street intersection and ~~construct~~ the northbound and southbound approaches shall be constructed to include an exclusive left-turn lane and a shared through/right-turn lane. In addition, the ~~project applicant shall construct the~~ eastbound and westbound approaches shall be constructed to include an exclusive left-turn lane, an exclusive through lane, and a shared through/right-turn lane. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (B) (j) on page 4.6-69 of the DEIR is revised to read:

~~The project applicant shall install~~ A traffic signal shall be installed at the Parkway Drive/Road 25A intersection and ~~construct~~ the northbound approach to include one exclusive left-turn lane and one exclusive right-turn lane shall be constructed. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

Mitigation Measure 4.6-6 (B) (k) on page 4.6-69 of the DEIR is revised to read:

~~The project applicant shall install~~ A traffic signal shall be installed at the Pioneer Avenue/B Circle North intersection and ~~construct~~ the eastbound and westbound approaches shall be constructed to include an exclusive left-turn lane and a shared through/right-turn lane. ~~In addition, the project applicant shall implement~~ Mitigation Measure 4.6-6(A)(h) shall be implemented as it relates to intersection improvements associated with school access. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.

The second sentence of Mitigation Measure 4.6-8(c) on page 4.6-72 of the DEIR is hereby clarified to read:

These mechanisms shall be put in to place ~~and the collection of fees shall commence~~ prior to approval of the first tentative map in the area. Fees shall be collected with final maps or building permits, whichever occurs first.

Mitigation Measure 4.6-8 (A/B) (e) on page 4.6-73 of the DEIR is revised to read:

Each development ~~All applicants~~ shall be required to pay appropriate traffic mitigation fees or contractually bind themselves to voluntarily do so, prior to ~~approval of tentative~~ acceptance of final maps, or issuance of building permits, where a map is not required.

4.7 Air Quality

Mitigation Measure 4.7-1 (a) through (f) on page 4.7-20 of the DEIR is revised to read:

(a) *Trucks hauling dirt and debris shall be adequately covered to prevent visible dust emissions ~~reduce wind blown dust and spills~~.*

(b) *On dry days, dirt or debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction related dirt in dry weather.*

(c) *Exposed soils and onsite ~~Onsite~~ stockpiles of excavated materials shall be covered, stabilized or watered to prevent dust emissions from creating a nuisance in the vicinity or to surrounding properties.*

(d) *Onsite vehicle speeds shall be operated on unpaved surfaces at speeds that will not create dust emissions that would cause a nuisance in the vicinity or to surrounding properties ~~not exceed 15 miles per hour~~.*

~~(e) At least 2 feet of freeboard shall be maintained when transporting soil or other material by truck.~~

~~(f) The amount of grading shall be limited to 28 acres per day.~~

(e) *Soils shall not be exposed nor grading occur during periods when wind speeds would cause dust emissions to create a nuisance in the vicinity or to surrounding properties.*

4.8 Noise

Mitigation Measure 4.8-7(a) on page 4.8-27 is revised as shown:

A disclosure statement shall be provided to all prospective buyers or tenants of properties within 300 feet of the Regional Park site notifying of the presence of existing and future noise-producing model airplane, rodeo, and playing field activities. Notification of prospective tenants shall be the property-owners responsibility.

4.11 Population, Employment and Housing

The first full sentence on page 4.11-13 of the DEIR is revised to read:

> The plan also provides for medium ~~and high~~ density housing, which often includes condominiums and apartments, which are more likely to be affordable to lower and moderate incomes than single family homes.

4.12 Public Health and Safety

Mitigation Measure 4.12-1(A/B)(a) on page 4.12-10 of the DEIR is revised to read:

> *Prior to tentative map approval for each development within the project site, the applicant shall complete an Environmental Site Assessment (Phase 1) in accordance with professional standards to determine the potential for past or current uses within the project site to have resulted in soil or groundwater contamination at any location that will be developed under the proposed project, or for releases from offsite locations (e.g., the former ~~Woodland~~ City ~~Dump~~ landfill) to have adversely affected groundwater under the project site.*

Mitigation Measure 4.12-4 on page 4.12-14 of the DEIR is revised to read:

> *Prior to each construction season, ~~the applicant~~, each landowner or developer with a project under construction, shall consult with the Sacramento-Yolo Mosquito Vector Control District to identify safe, effective, and feasible means to reduce onsite Valley black gnat populations during construction activities that take place during the active season. Such methods could include physical controls, such as watering, or the use of chemical insecticides. The applicant's contractor shall use only those methods for site insect control that it has developed through consultation with the District.*

4.13 Public Services and Facilities

The second sentence under the heading of "Training" on page 4.13-5 of the DEIR is revised to read:

- One (1) 130,000 square foot outside training ground and apparatus for every 60,000 ~~97,076~~ persons served, as required by the General Plan

Mitigation Measure 4.13-1 (a) on page 4.13-9 of the DEIR is revised to read:

Prior to the first tentative ~~final~~ map approval, the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan…

Mitigation Measure 4.13-6(b) on page 4.13-18 of the DEIR is deleted:

~~*The City's existing Capital Facility Fee program shall be amended and fee schedule revised to include construction of one new police substation. This substation (including the phase of development at which time it will be required) shall be described in greater detail in the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan. Individual projects proposed within the project site shall pay the appropriate capital facility fees to finance the construction of new law enforcement capital facilities. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.*~~

The fifth line of the first paragraph on page 4.13-19 of the DEIR is revised to read:

This would require the project to provide an additional thirteen (for Plan A) to fourteen (for Plan B) ~~ten~~ officers to serve the demand associated with buildout of the project.

The last sentence on page 4.13-34 and the first two sentences on page 4.13-35 of the DEIR are revised to read:

~~Within the project area, Yuba College and the County each operate a domestic well.~~ The Yolo County ~~Yuba College~~ well pumped approximately 29 million gallons (89 ~~91~~ acre feet) between October 1997 and October 1998, for an average daily flow of 0.08 million gallons per day. The County well supplies an average of ~~0.03~~ per day.

The second to last sentence on page 4.13-35 of the DEIR is revised to read:

Out of the 18 wells that the City operates, eleven ~~ten~~ currently receive chlorine treatment.

Mitigation Measure 4.13-18(A/B)(a) and (b) on page 4.13-53 of the DEIR is revised to read:

At the beginning of each job, the construction contractor ~~should~~ shall set up bins or other means of containment to hold separated scraps of recyclable material (i.e., cardboard, lumber, etc.). The contractor ~~should~~ shall identify processors in the area that are interested in the materials. The paper, cardboard, and metal packaging that the building materials and major appliances come in ~~should~~ shall also be separated and stored for future recycling.

The contractor ~~should~~ shall work with the City of Woodland Recycling Coordinator to establish construction recycling measures to reduce the amount of construction waste disposed of at the landfill.

The 45th endnote on page 4.13-66 of the DEIR is revised to read:

1. Kenneth Zeier, City of Woodland ~~Yolo County Building Maintenance, Detention Division~~, Monroe Well Readings, provided by June 28, 1999.

4.14 Recreational, Educational and Community Services

Table 4.14-1 on page 4.14-6 of the DEIR is revised to read:

TABLE 4.14-1

SPECIFIC PLANS PROJECT ELEMENTS – PARKS AND RECREATIONAL ELEMENTS

Project Element	Specific Plan A	Specific Plan B
Sports Park	33.0 acres	33.0 acres
Neighborhood Park	27.0 acres	27.3 ~~32.4~~ acres
Minipark	5.1 acres	5.1 ~~0.0~~ acres
Parkways	9.2 acres	8.6 acres
Drainage Parkway	13.3 acres	13.3 acres
Urban Forest Edge	5.6 acres	5.5 acres
Public Utility Easement	4.7 acres	4.9 acres
Schools	119.3 acres	119.2 acres
Source: Turn of the Century Specific Plan A and B, 1999.		

Mitigation Measure 4.14-1 on page 4.14-11 of the DEIR is revised as shown:

(A/B)
(d) *Implement Mitigation Measure 4.1-5 requiring consolidation and expansion of mini parks into two additional neighborhood parks.*

Table 4.14-10 on page 4.14-26 of the DEIR is replaced with the following:

TABLE 4.14-10(Revised)

TENTATIVE STUDENT ENROLLMENT ESTIMATES – WOODLAND JOINT UNIFIED SCHOOL DISTRICT

Residential Units		District Student Yield Factor	Student Grade Breakdown (approximate)			Total Number of New Students
		K-12	K-6 (.286 multi .509 single)	7-9 (0.65 multi .119 single)	10-12 (.111 multi .198 single)	
Plan A						
Multi-family	1,324 units	.462	379	86	147	612
Single-family	2,296 units	.827	1,169	273	455	1,897
Total Plan A	**3,620 units**		**1,548**	**359**	**602**	**2,509**
Plan B						
Multi-family	1,237	.462	354	80	137	571
Single-family	2,508	.827	1,277	298	497	2,072
Total Plan B	**3,745**		**1,631**	**378**	**634**	**2,643**

1. Senior apartments and convalescent care units are not included, because they would not generate any students.

Source: Dwight Berg, Public Economics, Inc., Kim Van Gundy, Woodland Joint Unified School District, personal communication, October 1999.

Mitigation Measure 4.14-4(A/B) on page 4.14-27 of the DEIR is revised to read:

> *The Specific Plan shall designate an additional public school site of at least 10 acres for the development of an elementary school. This school ~~should~~ shall be sited in conjunction with ...*

The second paragraph of Mitigation Measure 4.14-8(A/B)(b) on page 4.14-34 of the DEIR is revised to read:

> *As an alternative to expansion of the main library facility ...*

The following text is added to the first full paragraph on page 4.14-35 of the DEIR:

> It should be noted that the ability to create a branch library facility is currently believed to be restricted under the terms of the 1979 local ballot measure that funded improvements to the main library. Book mobile service, interactive internet access via remote kiosks, joint use of other library services (e.g., high school or college library), and phone-in/drop-off services are examples of services believed to fall within the terms of the measure. Separate branch facilities may not be possible without a change in the terms of the measure.
> Figure

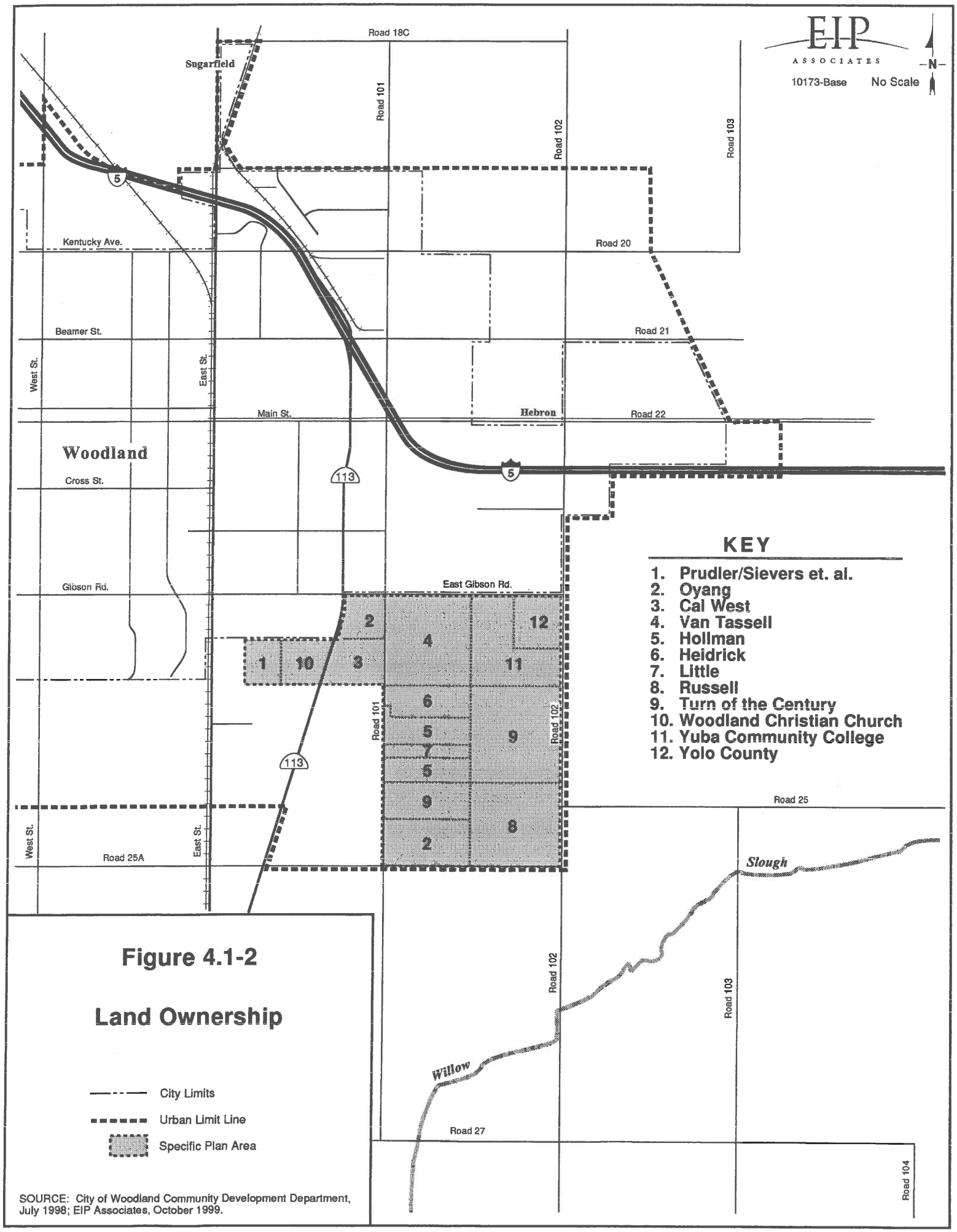


Figure 4.1-2

Land Ownership

SOURCE: City of Woodland Community Development Department, July 1998; EIP Associates, October 1999.

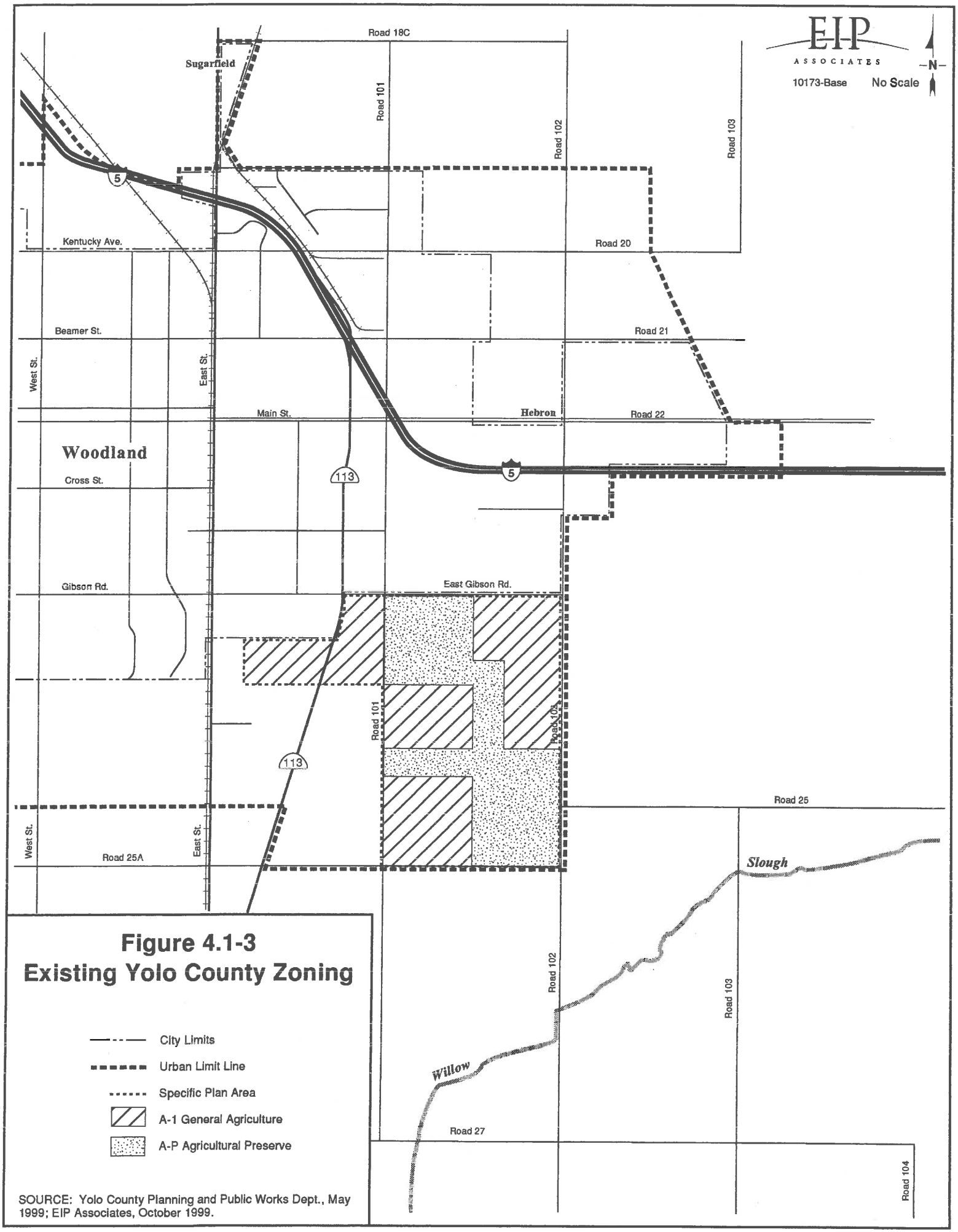
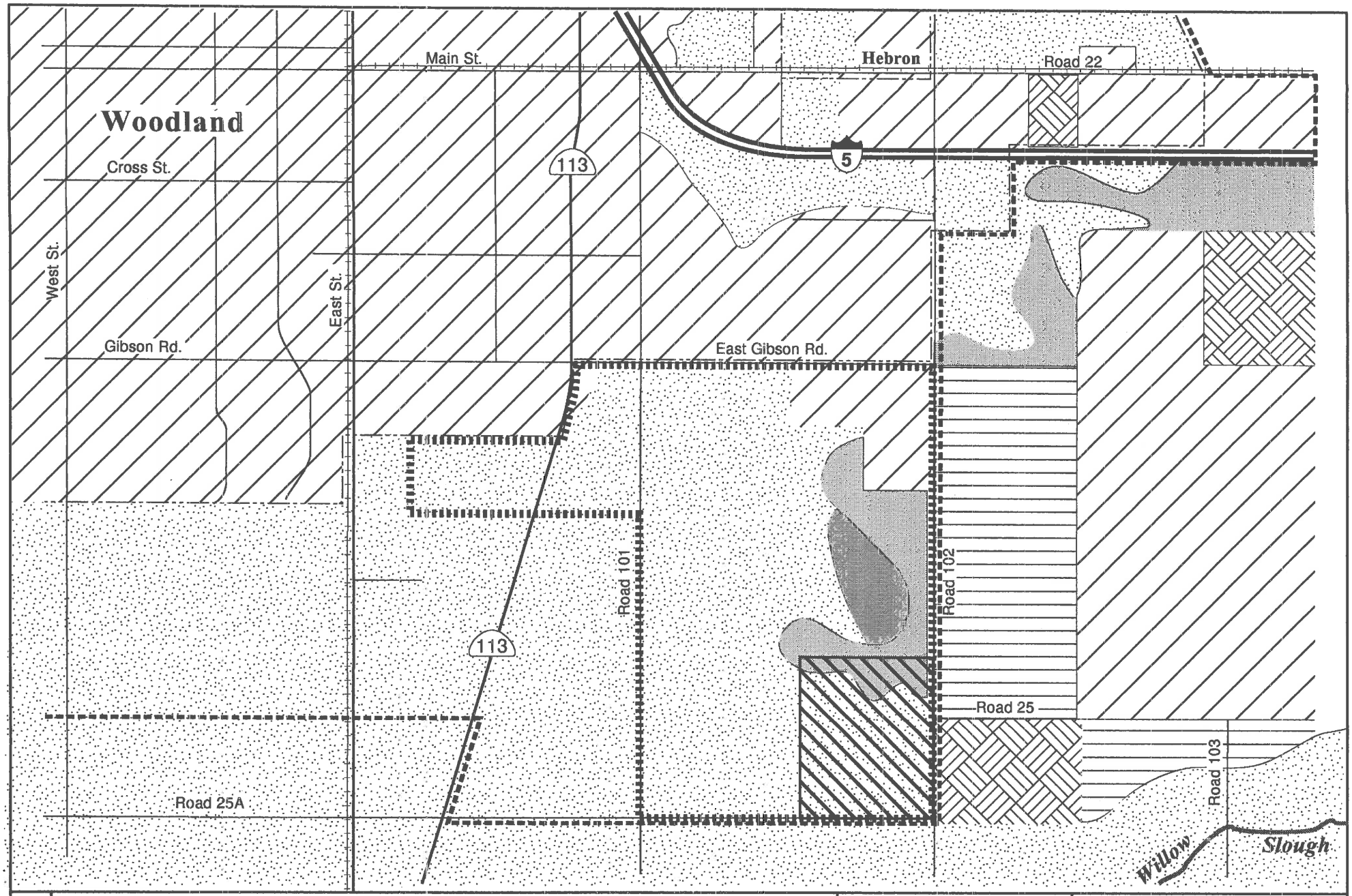


Figure 4.1-3
Existing Yolo County Zoning

City Limits
Urban Limit Line
Specific Plan Area
A-1 General Agriculture
A-P Agricultural Preserve

SOURCE: Yolo County Planning and Public Works Dept., May 1999; EIP Associates, October 1999.



N
No Scale

City Limits
Urban Limit Line
Specific Plan Area
Based on an independent agronomic study, this area is severely limited in its agricultural productivity by extremely high pH, excessive sodium and boron, and high salt content.

Other Land
Prime Farmland

Farmland of Statewide Importance
Unique Farmland
Urban and Built-up
Grazing Land

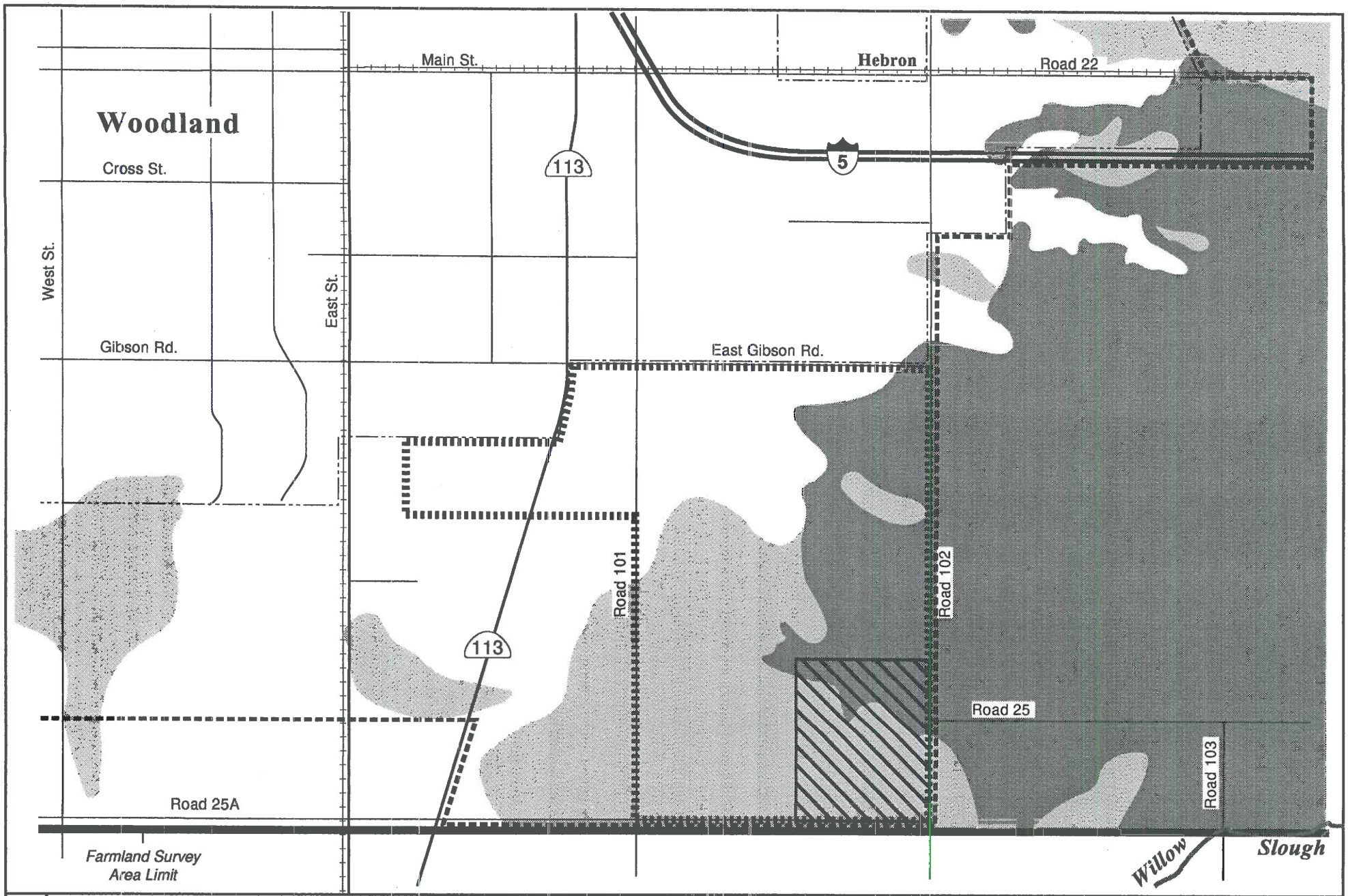
SOURCE: United States Dept. of Agriculture, Soil Conservation Service, *Soil Survey of Yolo County, California*, 1968; EIP Associates, October 1999.

10173-Base22

EIP ASSOCIATES

Figure 4.2-3

Important Farmland



No Scale

City Limits

Urban Limit Line

Specific Plan Area

Based on an independent agronomic study, this area is severely limited in its agricultural productivity by extremely high pH, excessive sodium and boron, and high salt content.

Farmland Survey Area Boundary

Class 1 (Prime)

Class 2 (Prime)

Classes 3 and 4

SOURCE: *City of Woodland General Plan Background Report*, February 1996; EIP Associates, October 1999.

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EIP ASSOCIATES

Figure 4.2-4

Agricultural Land Capability

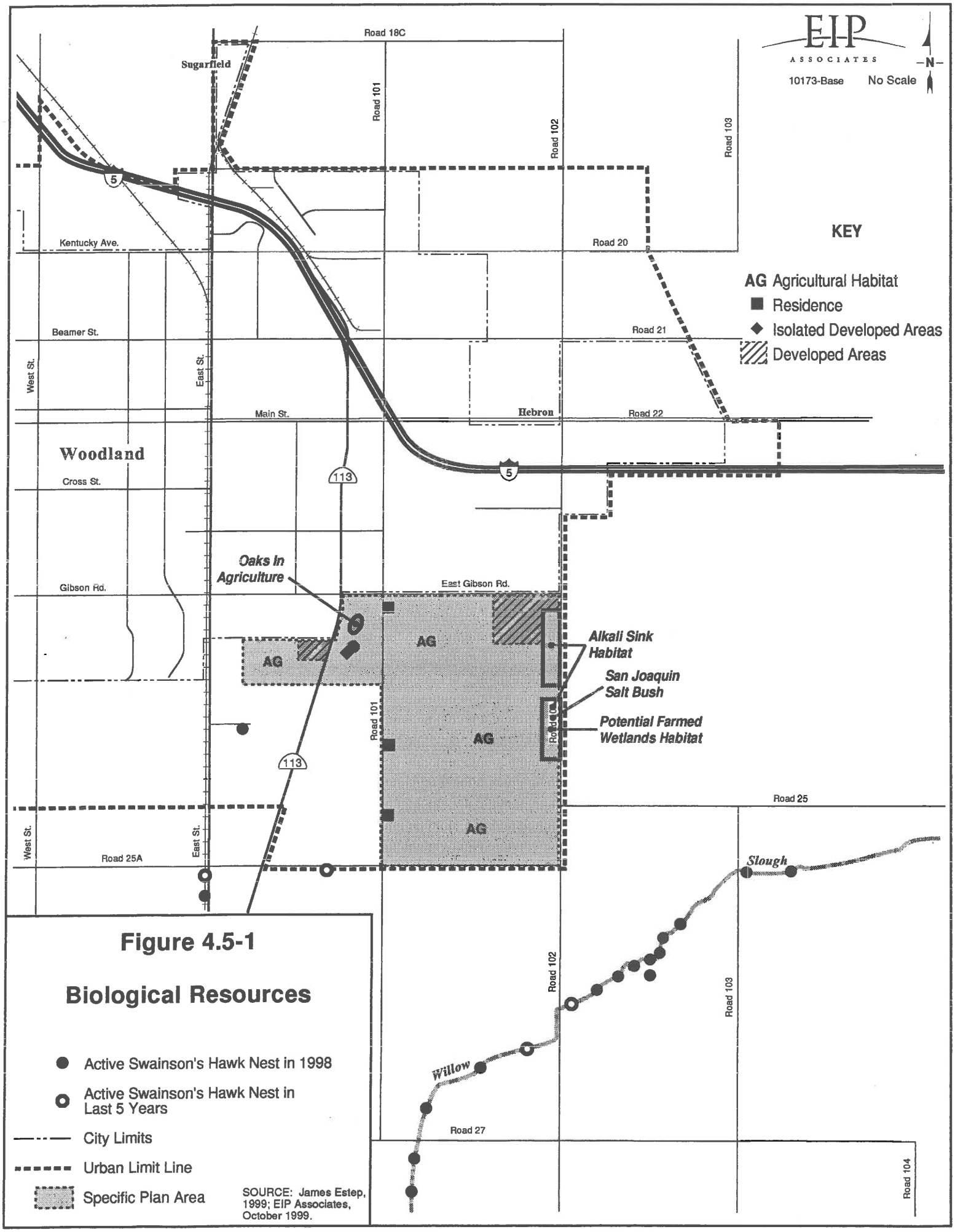

Figure 4.5-1

Biological Resources

- Active Swainson's Hawk Nest in 1998
- Active Swainson's Hawk Nest in Last 5 Years
- City Limits
- Urban Limit Line
- Specific Plan Area

SOURCE: James Estep, 1999; EIP Associates, October 1999.

3. REVISED SUMMARY TABLE

3.0 SUMMARY OF IMPACTS AND MITIGATION MEASURES

INTRODUCTION

This summary chapter provides an overview of the Turn of the Century Specific Plan (proposed project), which is described in detail in Chapter 2, Project Description, and the conclusions of the environmental analysis, provided in detail in Chapter 4. This chapter also summarizes the alternatives to the proposed project that are described in Chapter 5, Alternatives Analysis, and identifies the Environmentally Superior Alternative. Table 3-1, at the end of this chapter, provides a summary of the environmental effects of the proposed project identified in each technical issue section of Chapter 4. The table consists of the environmental impacts, the significance of the impacts for both Specific Plan A and Specific Plan B, the proposed mitigation measures, and the significance of the impact after the mitigation measures are implemented.

Location

The project site is a 1,097-acre area located in central Yolo County approximately three miles southeast of downtown Woodland. The project site generally is bounded by County Road 101 and Highway 113 on the west, County Road 102 on the east, East Gibson Road on the north, and County Road 25-A on the south.

Project Description

In October 1998, the Woodland City Council directed that two Specific Plans, Specific Plan A and Specific Plan B, be analyzed and compared throughout the Specific Plan approval process. Specific Plan A proposes the town center develop as a part of phase one development. There are three primary differences between the two plans:

- The proposed arterial street pattern: Specific Plan A proposes a grid-like arterial street pattern while Specific Plan B proposes a curvilinear arterial street pattern.

- The location of the proposed town center: Specific Plan A proposes that the town center develop as part of Phase One development. Specific Plan B proposes that the town center develop as a part of future development outside of the Specific Plan area but within the Master Plan area.

- The timing of the proposed overpass of SR 113: Specific Plan A assumes the overpass as a part of Specific Plan development. Specific Plan B proposes the preservation of right-of-way for the overpass but does not plan for its construction.

Environmental Impacts and Mitigation

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Implementation of the proposed project could result in significant impacts on those resource areas listed below.

This EIR discusses mitigation measures that could be implemented by the City to reduce potential adverse impacts to a level that is considered less than significant. Such mitigation measures are noted in this report and are found in the following sections: land use and planning, agricultural resources; hydrology, drainage and water quality; biological resources; traffic and circulation; air quality; noise; visual resources; cultural resources; population, employment and housing; public health and safety; public services and facilities; and recreation, education and community services. If an impact is determined to be significant or potentially significant, applicable mitigation measures are identified as appropriate. These mitigation measures are also summarized in Table 3-1. The mitigation measures presented in the EIR will form the basis of the Mitigation Monitoring Program. An impact that remains significant after mitigation is considered an unavoidable adverse impact of implementation of the proposed project.

Project-specific impacts that would be significant and unavoidable would occur in the following areas:

- Agricultural Resources
- Hydrology, Drainage, and Water Quality
- Biological Resources
- Air Quality
- Noise
- Pubic Health and Safety

Summary of Project Alternatives

The following summary describes the three alternatives to the proposed project that are evaluated in this Draft EIR. For a complete description of project alternatives, please see Chapter 5, Alternatives Analysis.

No Project/No Development Alternative

Under the No Project/No Development Alternative, no new development would occur on the project site, and the current agricultural uses would remain in operation.

Reduced-Density Alternative

Under the Reduced Density Alternative, the southern and eastern portions of the project site would be developed as low density, rural residential uses and the remaining single-family

residential areas would have a slightly reduced density of 3-4 du/acre. The other land uses would be similar to the proposed project, although reduced in scale to match the lower population.

Traditional Neighborhood Alternative

Under the Traditional Neighborhood Alternative, development of the project site would maximize consistency with specific direction provided in the General Plan for new development to reflect the older, historic Woodland neighborhoods. The number of residential units and land use acreages would be similar to Specific Plan A.

Environmentally Superior Alternative

In addition to the discussion and comparison of impacts of the alternatives to the proposed project, CEQA requires that an "environmentally superior" alternative be selected and the reasons for such selection disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least adverse impacts. The No Project Alternative would be environmental superior to the proposed project and other alternatives. After the No Project Alternative, the Reduced-Density Alternative would be environmentally superior.

A more detailed discussion of the environmentally superior alternative appears in Chapter 5.

Potential Areas of Concern

Section 15123 of the CEQA Guidelines requires the summary section of an EIR section to identify areas of controversy known to the lead agency including issues raised by agencies and the public. The following items were raised by agencies and the public in comment letters received on the Notice of Preparation:

- Domestic water supply (quality and quantity)
- Nuisance impacts from Bodega Black Gnats
- Localized drainage impacts
- Air quality impacts
- Provision of affordable housing
- Impacts to wildlife and habitat
- New growth
- Loss of agricultural land
- Regional flooding
- Land use incompatibilities
- Alternatives to the project
- Impacts to Williamson Act contracts
- Impacts to SR113

In addition, the City's Technical Advisory Committee (TAC) has expressed concern regarding the proposed use of a curvilinear arterial street pattern in Plan B, which may be inconsistent with the General Plan. All of these issues are addressed within the body of this EIR.

Scope of the EIR

The City of Woodland, as lead agency, identified potentially significant impacts which would result from project implementation in the Notice of Preparation and Initial Study for this EIR circulated beginning February 18, 1999 (found in Appendix A). Based on the Initial Study, the City determined that the following areas could result in a potentially significant impact and should be addressed in the EIR:

- Land Use and Planning
- Agricultural Resources
- Geological Resources
- Hydrological Resources
- Biological Resources
- Traffic and Circulation
- Air Quality
- Noise
- Visual Resources and Aesthetics
- Cultural Resources
- Population, Employment and Housing
- Public Health and Safety
- Public Services and Facilities
- Recreational, Educational, and Community Services

Table 3-1 provides a summary of the environmental impacts that would result from implementation of the Turn of the Century Specific Plan (both Specific Plan A and Specific Plan B) potential mitigation measures, and the level of significance of the environmental impacts before and after implementation of the proposed mitigation.

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Plan A	Plan B		Plan A	Plan B
4.1 Land Use and Planning					
4.1-1 The proposed project could be incompatible with existing surrounding land uses.	S	S	4.1-1 (A/B) Consistent with Specific Plan Policy N.2., all residential units within 500-feet of active (interim or long-term) agricultural uses shall be provided with a deed disclosure regarding the proximity and nature of neighboring agricultural uses. This disclosure shall be applied at the tentative map stage to the affected properties. The text of the disclosure language shall be approved by the City Attorney.	LS	LS
4.1-2 The proposed project could be incompatible with planned surrounding land uses.	PS	PS	4.1-2 (A/B) All residential units within 500 feet of the regional park shall be provided with a deed disclosing the Regional Park and planned future development. This disclosure shall be applied at the tentative map stage to the affected properties. The text of the disclosure language shall be approved by the City Attorney.	LS	LS
4.1-3 The proposed project could be incompatible with existing internal land uses.	S	S	4.1-3 (A/B) (a) Implement Mitigation Measures 4.12-6 (a) through (d) from Section, 4.12, Public Health and Safety, which would ensure proper building height and distance be observed in the design of residential uses near the existing airstrip, or require closure of the airstrip by revocation of the conditional use permit or amortization/abatement of the use as non-conforming. (b) The Specific Plan shall be amended to include fencing and landscaping to screen residential areas from adjacent existing commercial uses.	LS	LS
4.1-4 Under the proposed project, the mix of internal land uses could be considered incompatible.	S	S	4.1-4 (A/B) (a) Development of the Sports Park shall require a Conditional Use Permit with special attention given to the design and operation of this facility.	LS	LS

LS = Less than Significant
S = Significant
STSU = Short-term Significant and Unavoidable
PS = Potentially Significant
SU = Significant and Unavoidable
STS = Short-term Significant
NA = Not Applicable
NI = No Impact

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(b) Implement Mitigation Measure 4.8-8(a), (b), and (c) from Section 4.8, Noise. (c) School facilities shall be designed to be compatible with surrounding land uses and shall include: ingress and egress shall be designed to not impede traffic flow on local arterials; the noise generating components shall be placed away from residential use (e.g., sports fields, parking lots); and directional lighting, planting, fences, or other barriers shall be used to shield neighboring land uses from school activities.		
		S	(B) (d) The middle school site depicted in Plan B shall be moved to the south of the sports park site, and the elementary school site shall be moved to the west to the proposed park site to reduce traffic impacts on these uses. (e) Implement Mitigation Measure 4.8-8(e) from Section 4.8, Noise.	NA	LS
4.1-5 Under the proposed project, development may be inconsistent with some of the City's General Plan goals and polices and land use ordinances.	S	S	4.1-5 (A/B) (a) (i) Implement mitigation measures identified in Sections 4-6, 4-13, and 4-14 related to circulation, implementation of a financing plan, implementation of a capital improvement program, and parkland. Implement Policy 1.C.2 by consolidating and expanding the proposed 5.1 acres of mini parks into two additional neighborhood parks to serve the proposed residential areas. (ii) Find that the proposed project is substantially consistent with the General Plan policies, with implementation of identified measures. OR	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(iii) Reject relevant mitigation measures, and find that the proposed project is in substantial conformance with the General Plan as proposed. (b) For Policy 1.A.2, find that the proposed project is substantially consistent with General Plan Policies related to development with Urban Limit Line boundaries.		
		S	(B) (c) (i) Establish a ~~retail~~ focal point within the Specific Plan area. OR (ii) Find that the proposed project is substantially consistent with the General Plan.	NA	LS
4.1-6 The proposed project would include zoning designations that could result in development of land uses other than those identified in the Specific Plan, resulting in unforeseen incompatibilities between land uses.	S	S	4.1-6 (A/B) (a) The parcel depicting mini-storage in Plan A and Plan B shall be restricted to that use through available mechanisms in the Specific Plan.	LS	LS
	S		(A) (b) The parcel depicting convalescent care in Plan A shall be restricted to that use through available mechanisms in the Specific Plan.	LS	NA
4.1-7 The proposed project may allow development that would be inconsistent with the City's Zoning Ordinance.	S	S	4.1-7 (A/B) (a) (i) The Specific Plan shall be revised to reconcile the zoning inconsistency for the proposed mini-storage use by modifying the proposed Specific Plan land use designation from C-2 to C-3, OR (ii) The Specific Plan shall be revised to specify the mini-storage use as allowed by Conditional Use Permit in the C-2 zone within the Specific Plan area only.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(b) (i) The Specific Plan shall be revised to reconcile the lot area inconsistency for SF5 lots by modifying the proposed Specific Plan land use designation to be consistent with existing citywide zoning designations. OR (ii) The Specific Plan shall be revised to clarify the intent to have different standards for the SR5 designation. (c) (i) Other inconsistencies with the City's zoning requirements shall be identified and reconciled by making modifications to the Specific Plan to ensure consistency, OR (ii) The Specific Plan shall be revised to specify standards intended to be different.		
4.1-8 The proposed project could result in residential densities that are inconsistent with the proposed zoning.	S	S	4.1-8 (A/B) The Specific Plan policy on the transfer of development shall be revised to restrict the transfer of development to the maximum density of any given zoning district.	LS	LS
4.1-9 The proposed project includes land use designations that differ from adopted General Plan land use designations.	S	S	4.1-9 (A/B) (a) The Specific Plans shall be modified to include Tables 4.1-2 and 4.1-3 in order to ensure the Specific Plans are consistent with the City's General Plan land use designations and associated zoning. (b) The Specific Plans shall be modified to include the City's land use designation of Service Commercial and Public Service on the portion of the project site which includes Yuba College and land owned by the County, as shown on the City's Land Use Diagram.	LS	LS

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.1-10 The proposed project may be inconsistent with LAFCO Agricultural Conservation policies.	STS	STS	4.1-10 (A/B) (a) The annexation of the Specific Plan shall be staged to match the proposed phasing of the Specific Plan. OR (b) The annexation of the Specific Plan shall be staged to include all of the project site, except the ~~±160 acres~~ acreage that ~~will be~~ remains under Williamson Act contract ~~until 2003~~. OR (c) LAFCO shall determine that the applicable facts and circumstances support a finding of substantial conformity with LAFCO Policy IV.D, which would allow for annexation of the entire site.	LS	LS
4.2 Agricultural Resources					
4.2-1 Development of the proposed project would result in the loss of 940 acres of Important Farmland.	S	S	4.2-1 (A/B) The project applicant shall set aside in perpetuity an equal amount (940 acres of the Plan Area plus Important Farmland converted for offsite infrastructure) of contiguous, active agricultural acreage elsewhere in Yolo County through the purchase of development rights and execution of an irreversible conservation or agricultural easement. These soils shall be permanently protected from future development via enforceable deed restrictions. Acreage between Woodland and Davis, already experiencing, or likely to experience, growth pressures shall be targeted. Soils and farming conditions shall be equivalent or superior to the project area. Protected acreage equal to the total acreage of any particular development shall be, set aside prior to commencement of any development activity within that development.	SU	SU

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			Acreage set aside required by Mitigation Measure 4.5-4 for loss of Swainson's hawk foraging habitat (see Section 4.5, Biological Resources) may be used jointly to satisfy all or a portion of this mitigation requirement, so long as it meets the habitat needs of the species and is retained in active agricultural uses. The land shall be managed via an agreement satisfactory to the City and Department of Fish and Game, governing operations such that it remains agriculturally productive and also provides hawk habitat. Land that does not meet the intent of both measures can not be used as joint mitigation, in which case more acreage would be needed in order to satisfy both mitigations.		
4.2-2 Development of the proposed project would conflict with or result in the cancellation of Williamson Act contracts.	S	S	4.2-2 (A/B) A Williamson Act contract and conservation easement shall be established on 162 acres of land outside of the project site, or greater if land is removed from Williamson Act contract for the required detention/retention basin, to the satisfaction of the City.	SU	SU
4.2-3 Development of the proposed project could result in incompatibilities between active agricultural uses and future residential uses.	STS	STS	4.2-3 (A/B) (a) Implement Mitigation Measure 4.1-1. (b) The City of Woodland shall consider adopting a Right to Farm Ordinance to address interim land use conflicts that could occur between new development and planned growth areas that may remain in agricultural uses until future conversion.	LS	LS
4.2-4 Development of the proposed project could adversely affect agricultural viability.	S	S	4.2-4 (A/B) The Specific Plan shall be revised to require a 500-foot buffer within the project site adjacent to active agricultural uses to the south of Road 25A.	LS	LS
4.2-5 The proposed project may be inconsistent with General Plan policies.	S	S	4.2-5 (A/B) (a) Implement Mitigation Measures 4.2-1, 4.2-2, and 4.2-4. AND (b) For General Plan Policies 1.I.4 and 1.I.6, the City shall implement one of the following measures:	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**		**Level of Significance After Mitigation**	
	Plan A	**Plan B**			**Plan A**	**Plan B**
				(i) Find that the proposed project is essentially consistent with the direction of the General Plan Policies. OR (ii) Amend the General Plan Policies to conform with the inconsistencies identified.		
4.2-6 Development of the proposed project, in combination with other cumulative development, would contribute to the loss of Important Farmland.	S	S	4.2-6 (A/B)	Implement Mitigation Measure 4.2-1 and/or 4.2-2.	SU	SU
4.2-7 Development of the proposed project, in combination with other cumulative development, could adversely affect agricultural viability.	S	S	4.2-7 (A/B)	Implement Mitigation Measure 4.2-4.	LS	LS
4.3 Geology, Soils and Seismicity						
4.3-1 People and property could be subject to seismic hazards such as groundshaking, lurch cracking, liquefaction, or settlement.	LS	LS	4.3-1	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.3-2 Structures would be situated in locations underlain by expansive soils.	LS	LS	4.3-2	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.3-3 The proposed project would alter site topography, which could affect the rate or extent of erosion.	LS	LS	4.3-3	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.3-4 Underground pipeline installation could result in unstable soils or pipes could be exposed to excessively wet soil conditions, which could affect pipeline integrity.	LS	LS	4.3-4	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.3-5 Groundwater withdrawal due to operation of project water supply wells could incrementally contribute to localized land subsidence, which could affect structures on the project site.	LS	LS	4.3-5	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.3-6 The proposed project would have no impact on mineral resources.	NI	NI	4.3-6	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.3-7 The proposed project may be inconsistent with the City of Woodland General Plan policies regarding geotechnical issues.	LS	LS	4.3-7	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**		**Level of Significance After Mitigation**	
	Plan A	**Plan B**			**Plan A**	**Plan B**
4.3-8 The proposed project, in combination with buildout under the General Plan, would expose a greater number of people and property to seismic hazards such as groundshaking, lurch cracking, liquefaction, or settlement; hazards associated with expansive soils; and potential effects of erosion.	LS	LS	4.3-8	No mitigation measures would be required to reduce or avoid cumulative significant environmental effects.	NA	NA
4.3-9 The proposed project, in combination with buildout under the General Plan, could contribute to increased land subsidence that could affect soil stability.	LS	LS	4.3-9	No mitigation measures would be required to reduce or avoid cumulative significant environmental effects.	NA	NA
4.4 Hydrology, Drainage and Water Quality						
4.4-1 The proposed project would increase the rate and amount of stormwater runoff from newly created impervious surfaces, which could contribute to localized or downstream flooding.	PS	PS	4.4-1 (A/B) (a)	Prior to the first tentative map approval, the Specific Plan storm drainage plan shall be completed. The drainage plan shall ~~demonstrate that the system~~ identify specific storm drainage design features to control increased runoff from the project site. ~~will not increase runoff over current conditions. No net increase~~ This may be achieved through one or more of the following: onsite conveyance and detention facilities, offsite detention or retention facilities, ~~and/or~~ channel modification, or equally effective measures to control the rate and volume of runoff. To demonstrate the effectiveness of the proposed system to ~~achieve no net increase~~ prevent additional flooding at offsite (downstream) locations, all necessary hydrologic and hydraulic calculations and assumptions and design details shall be submitted to the City Public Works Department for review and approval. The design of all features proposed by the project applicant shall be consistent with the most recent version of the City's Storm Drainage	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**		**Level of Significance After Mitigation**	
	Plan A	**Plan B**			**Plan A**	**Plan B**
				Guidelines and Criteria, and standard design and construction specifications and details. (b) Prior to the first tentative map approval, the project applicant shall demonstrate to the City Public Works Department that development of either Specific Plan A or Specific Plan B will not preclude future installation and operation of Storm Drainage Facilities Master Plan improvements anticipated in the project site and that facility improvements will be consistent with the Storm Drainage Facilities Master Plan. (c) Prior to the first tentative map approval, the project applicant shall demonstrate that an appropriately sized and located storm drainage system shall be installed or adequately financed (through fair-share payment of fees or other means).		
4.4-2 Stormwater runoff from areas under construction could affect receiving water quality.	LS	LS	4.4-2	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.4-3 Runoff from new impervious surfaces would contain urban contaminants that could affect receiving water quality.	LS	LS	4.4-3 (A/B)	Prior to each tentative map approval, the applicant shall identify proposed urban stormwater runoff Best Management Practices (BMPs) that will be incorporated into project design. The BMPs shall be selected based on and consistent with the City's planning and design criteria set forth in the "Phase A Storm Drainage Facilities Master Plan Storm Water Quality Regulations and Control Measures".	NA	NA
4.4-4 Dewatering would be necessary during trenching to install underground utility lines.	LS	LS	4.4-4	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.4-5 The proposed project would require the use of groundwater, which could result in changes in groundwater levels or groundwater areas of influence or induce subsidence.	PS	PS	4.4-5 (A/B) (a) Prior to approval of the first tentative map, the applicant shall identify specific steps to be taken to minimize project effects on groundwater levels that could affect agricultural wells. The program shall establish site-specific and local baseline groundwater levels, existing and proposed wells, uses and rates, and areas of influence. The program shall also establish criteria that will be used to determine whether the effect on non-project wells may be considered adverse (e.g., groundwater levels shall not fall below a specific elevation during the irrigation season). This information shall be used to appropriately site and design project wells throughout project buildout to minimize the effects on wells and locations that could be affected by groundwater pumping associated with the proposed project. OR (b) If project wells cannot be sited to reduce effects on agricultural wells that could be adversely affected by project pumping, the City shall establish a mechanism to relocate the agricultural wells to ensure that groundwater pumping for irrigation purposes is maintained at baseline levels for the affected well.	SU	SU
4.4-6 The conversion of agricultural land to urban uses could affect groundwater recharge.	LS	LS	4.4-6 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.4-7 If the revised FEMA Flood Insurance Rate Maps are adopted, portions of the project site would be situated in the 100-year floodplain and would be subject to increased risk of flooding.	S	S	4.4-7 (A/B) (a) If the FEMA maps are adopted and development occurs in the area delineated as Zone AE, structures placed in the floodplain shall be sited and designed so they do not impede or restrict flood flows. The results of site-specific hydrologic and hydraulic studies shall be used to quantify baseline and post-development conditions to identify development recommendations.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**		**Level of Significance After Mitigation**	
	Plan A	**Plan B**			**Plan A**	**Plan B**
			(b)	If the FEMA maps are adopted and flood control features such as levees or floodwalls are proposed to protect future development, the applicant shall quantify the potential effects of loss of floodplain storage on areas that could be affected by increased flooding. The applicant shall coordinate with the City to identify and implement feasible options for replacing the loss of floodplain storage.		
4.4-8 Portions of the project site could be subject to flooding from dam failure inundation.	LS	LS	4.4-8	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.4-9 The proposed project, in combination with future development that would occur with General Plan buildout, would increase the rate and amount of stormwater runoff from newly created impervious surfaces.	PS	PS	4.4-9 (A/B)	Implement Mitigation Measures 4.4-1(a) through 4.4-1(c).	LS	LS
4.4-10 The proposed project, in combination with other development that could occur with General Plan buildout, would affect groundwater levels, groundwater recharge, and subsidence rates.	LS	LS	4.4-10	No mitigation is necessary to avoid or reduce this impact.	NA	NA
4.4-11 Construction and occupancy of the proposed project, in combination with other development that could occur with General Plan buildout, could affect receiving water quality.	LS	LS	4.4-11	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.5 Biological Resources						
4.5-1 The proposed project would convert agricultural lands to urban uses, which could result in the loss of the alkali sink type special-status plant species listed in Table 4.5-1.	S	S	4.5-1 (A/B) (a)	In accordance with Fish and Game Code Section 1900 et seq., DFG shall be given a minimum of 10-day notice prior to site grading or development on the TOC property within the project site to allow for salvage of any San Joaquin saltbush plant materials.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(b) Prior to development of the alkali sink habitat in the Yolo County and the Yuba Community College properties, shown in Figure 4.5-1, a rare plant survey shall be conducted by qualified biologists in accordance with the most current DFG/USFWS guidelines or protocols. Survey timing for the various plant species is dependent in part on yearly rainfall patterns and is determined on a case-by-case basis. (c) Based on the results of the survey in the Yolo County and the Yuba Community College properties, prior to new design approval, the County and Yuba Community College shall, in consultation with DFG and/or USFWS, determine whether the project would substantially affect special-status plant species dependent upon alkali sink habitat. If special-status plants are identified, measures shall be incorporated to ensure no net loss of the species. Evaluation of impacts to plant species shall consider the following: ▪ the status of the species in question (e.g., officially listed by the State or Federal Endangered Species Acts, candidate species, CNPS list); ▪ the relative density and distribution of the onsite occurrence versus typical occurrences of the species in question; and ▪ the habitat quality of the onsite occurrence relative to historic, current or potential distribution of the population. (d) If the surveys on the Yolo County and the Yuba Community College lands reveal no occurrences of any species, or if the County and/or Yuba Community College in consultation with DFG or USFWS determines that no significant impacts on any special-status plant species would result from project implementation, then no further mitigation would be required.		
4.5-2 The proposed project could result in the loss of potential habitat for the valley elderberry longhorn beetle (VELB).	S	S	4.5-2 (A/B) (a) Prior to approval of a tentative map for any property with	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			shrubbery and/or onsite drainage ways that will not be preserved/avoided, the project applicant shall: (i) Conduct a project-specific survey of the tentative map area for all potential VELB habitat, including a stem count and an assessment of historic or current VELB use; (ii) Avoid and protect all potential VELB habitat within a natural open space area where feasible; and (iii) Where avoidance is infeasible, develop and implement a VELB mitigation plan in accordance with the most current USFWS mitigation guidelines for unavoidable take of VELB habitat pursuant to either Section 7 or Section 10(a) of the Federal Endangered Species Act. ~~OR~~ ~~(b) If adopted, the project applicant shall participate in the Yolo County Habitat Conservation Plan (HCP).~~		
4.5-3 The proposed project could result in the take of Swainson's hawk individuals (eggs, nestlings or juveniles) and other nesting raptors (birds-of-prey).	PS	PS	4.5-3 (A/B) (a) ~~Prior to approval of a tentative map for any property with trees~~For each individual development project the project applicant, in consultation with the DFG, shall conduct a pre-construction or pre-tree pruning or removal survey of trees greater than 30 feet tall (proposed activity) during the raptor breeding-season (approximately March 1 through September 15~~August 31~~). This survey shall be conducted for a half mile radius around the project site at which any construction activity is proposed. The survey shall be conducted by a qualified raptor biologist during the same calendar year that the proposed activity is planned to begin to determine if any nesting birds-of-prey would be affected. Prior to grading of fallow fields with ruderal vegetation, surveys for ground nesting raptors such as northern harrier and burrowing owl shall be conducted. If phased construction procedures are planned for the proposed activity, the results of the above survey shall be valid only for the	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			season when it is conducted. If the above survey does not identify any nesting raptor species within the area affected by the proposed activity, then no further mitigation would be required. However, should any nesting raptor species be found, then the following mitigation measure shall be implemented. (b) If an active Swainson's hawk nest is identified within one half mile of the project site, then CDFG shall be contacted to determine if consultation is required.~~; then~~ A limited operating period shall be implemented within a (0.25) mile radius of the nest tree. No construction activities shall be initiated during the Swainson's hawk nesting period (March 1 – September 15 ~~August 1~~) without the approval by DFG. For other raptors, compliance with Fish and Game code for the particular species shall be implemented.		
			(c) The project applicant shall continue to conduct annual surveys to determine the location of nesting Swainson's hawks and other raptors in the project site. If nesting hawks or other raptors are found during the survey at a previously unknown location within one-half mile of the project site and not within 100 yards of a previously documented site, the project applicant shall contact the DFG prior to project construction. Consultation shall be initiated to determine the potential for disturbance to nesting hawks and other raptors and the project applicant shall implement feasible changes in the construction schedule or other appropriate adjustments to the project in response to the specific circumstances. (d) If, after five years, a previously recorded nest site remains unoccupied by a Swainson's hawk, it will no longer be considered as a Swainson's hawk nest site subject to this mitigation.		

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.5-4 The proposed project would result in the loss of foraging habitat for Swainson's hawks and other raptors.	S	S	4.5-4 (A/B) (a) Prior to approval of the first tentative map, the project applicant shall develop a plan in consultation with CDFG to compensate for loss of Swainson's hawk foraging habitat resulting from development of the project site. This agreement shall set aside in perpetuity, an equivalent amount (939 acres <u>of the Specific Plan Area plus Important Farmland converted for offsite infrastructure)</u> of contiguous, Swainson's hawk foraging land elsewhere in Yolo County through the purchase of development rights and execution of irreversible conservation or agricultural easement. This acreage shall be permanently protected from future development via enforceable deed restrictions. Protected acreage equal to the total acreage of any particular phase shall be, set aside prior to commencement of any development activity within that phase. Acreage set aside required by Mitigation Measure 4.2-1 (4.2, Agricultural Resources) for loss of agricultural land may be used jointly to satisfy all or a portion of this mitigation requirement, so long as it meets the habitat needs of the species and is retained in active agricultural uses. The land shall be managed via an agreement satisfactory to the City and Department of Fish and Game, governing operations such that it remains agriculturally productive and also provides hawk habitat. Land that does not meet the intent of both measures can not be used as joint mitigation, in which case more acreage would be needed in order to satisfy both mitigations. OR (b) If adopted, the project applicant shall participate in the Yolo County Habitat Conservation Plan (HCP).	SU	SU
4.5-5 The proposed project could require the removal of heritage oak trees or landmark trees.	LS	LS	4.5-5 No mitigation measure would be required to reduce or avoid a significant environmental effect.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.5-6 The proposed project would convert approximately one acre of wetland to urban uses.	S	S	4.5-6 (A/B) (a) Prior to approval of a tentative map for the area immediately west of Road 102 (see Figure 4.5-1, as revised), the project applicant shall prepare a wetland delineation and seek a verification from the U.S. Army Corps of Engineers to determine where jurisdictional wetlands are present in the project site. (b) If jurisdictional wetlands are verified, the project applicant shall provide for no net loss of wetland acreage through the federal permitting process. If the total acreage of the jurisdictional wetland is less than 1/3 of an acre, then the project applicant shall obtain a nationwide permit to fill the wetlands, and provide for a minimum 1:1 mitigation ratio. If the total area exceeds 1/3 of an acre then the project applicant shall obtain a individual permit through the U.S. Army Corps of Engineers. (c) If wetlands are delineated in project site that exceed 1/3 of an acre, then the project applicant shall mitigate the filled amount in a 2:1 ratio at an onsite or 3:1 ratio at an offsite location; OR (d) If adopted, the project applicant shall participate in the Yolo County Habitat Conservation Plan (HCP).	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.5-7 The proposed project would require offsite infrastructure (wastewater and storm drainage), which would result in conversion of additional agricultural land and the loss of general wildlife habitat.	S	S	4.5-7 (A/B) (a) If the construction of offsite roadway, sewer, water or drainage infrastructure occurs in undeveloped areas, the City shall ensure that surveys have been conducted that are appropriate to the habitats where the infrastructure will be located. Construction of offsite infrastructure shall not begin until such surveys have been completed, the appropriate agencies have been consulted, mitigation measures outlined and permits (e.g. 404, 1603) have been obtained, as necessary. Mitigation for these potential impacts could include preservation, onsite construction, or the purchase of mitigation credits through the HCP or an agency-approved mitigation bank or in lieu fee program, e.g., Wildlands Inc. This measure may be implemented through the proposed project, or the expansion of the City's infrastructure systems. (b) Implement Mitigation Measures 4.5-1(a), 4.5-2, 4.5-3, 4.5-4 and 4.5-6.	LS	LS
4.5-8 The proposed project may be inconsistent with General Plan goals and policies for the protection of biological resources.	S	S	4.5-8 (A/B) Implement Mitigation Measures 4.5-1, 4.5-2, 4.5-3, 4.5-4, 4.5-6 and 4.5-7.	LS	LS
4.5-9 The proposed project, in combination with other cumulative development, would convert undeveloped land to urban uses, resulting in the loss of general wildlife habitat for resident and migratory species.	S	S	4.5-9 (A/B) Implement Mitigation Measures 4.5-1, 4.5-2, 4.5-3, 4.5-4, 4.5-6, and 4.5-7.	SU	SU
4.6 Traffic and Circulation					
4.6.1 The proposed project would cause an increase in a.m. and p.m. peak hour traffic volumes at study intersections, resulting in unacceptable levels of service and warranting the installation of traffic signals.	S	S	4.6-1 (A/B) (a) A traffic signal shall be installed at the E. Gum Avenue/Matmor Road intersection and each approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. These improvements were warranted by previously approved development and are included in the City of Woodland Major Projects Financing Plan (MPFP) as being funded by development fees ~~an assessment district~~. However, the proposed project could require implementation of the improvements prior to their programmed installation in the MPFP. Therefore, the project applicant shall prepare a traffic impact study for each tentative map	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. If this intersection requires signalization and widening prior to the programmed installation of these improvements in the MPFP, then the project applicant shall be required to install the improvements and shall be reimbursed by development fees~~the assessment district~~.		
	S	S	(A/B) (b) A traffic signal shall be installed at the Pioneer Avenue/E. Gum Avenue intersection and each approach shall be widened to include an exclusive left-turn lane and a shared through/right-turn lane. These improvements were warranted by previously approved development and are included in the City of Woodland Major Projects Financing Plan (MPFP) as being funded by an assessment district. However, the proposed project could require implementation of the improvements prior to their programmed installation in the MPFP. Therefore, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. If this intersection requires signalization and widening prior to the programmed installation of these improvements in the MPFP, then the project applicant shall be required to install the improvements and shall be reimbursed by the assessment district.	LS	LS
	S	S	(A/B) (c) The project applicant shall install geometric design features to prohibit left-turn movements at the Gibson Road/Road 101 intersection. These improvements shall be completed prior to the issuance of building permits.	LS	LS
	S	S	(A/B) (d) A traffic signal shall be installed at the Gibson Road/Ogden Street intersection and the northbound and southbound approaches shall be widened to include an exclusive left-turn lane and a shared through/right-turn lane. These improvements were warranted by previously approved development and are included in the City of Woodland Major Projects Financing Plan (MPFP) as being funded by an assessment district. However, the proposed project could	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			require implementation of the improvements prior to their programmed installation in the MPFP. Therefore, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. If this intersection requires signalization and widening prior to the programmed installation of these improvements in the MPFP, then the project applicant shall be required to install the improvements and shall be reimbursed by the assessment district.		
		S	(B) (e) The project applicant shall install a traffic signal at the I-5 Northbound Ramps/Road 102 intersection. In addition, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	NA	LS
4.6-2 The proposed project may be inconsistent with roadway-related policies of the City of Woodland General Plan and design standards contained in the City of Woodland Standard Specifications and Details.	S	S	4.6-2 (A/B) (a) (i) The project applicant shall modify the Estate Street design to include a minimum width of 35 feet and the Road 25A design to include a minimum width of 64 feet. The project applicant shall also modify Plan A/Plan B to include provisions for minimizing potential conflicts between new development and agricultural uses as it relates to the potential conflicts between automobiles, pedestrians, bicyclists, trucks, and tractors on Road 25A and Road 102. This modification would result in consistency of Plan A and Plan B with the General Plan policies. (b) Offsite roadways needed to serve the project site (e.g., Road 101, Road 25A ~~and E Street~~) shall be improved to meet City design standards. <u>The specific segments that must meet the standard are:</u>	LS	SU
			<u>Road 101 from Gibson Road to Road 25A.</u> <u>Road 25A from SR113 to Road 101.</u>		
	S		(A) (c) (i) The project applicant shall modify Plan A to include an	LS	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			enhanced roadway network that reflects a denser pattern of arterial and collector streets, consistent with existing Woodland residential neighborhoods. The average street density for arterials and collectors within the modified plan should be approximately nine centerline miles per square mile and the maximum block length shall be 1,320 feet. The enhanced roadway system shall consider potential consequences on residential neighborhoods and the need to incorporate traffic calming measures consistent with General Plan Policy 3.B.6. OR (ii) Find that the proposed project is substantially consistent with the General Plan policies.		
		S	(B) (d) (i) The project applicant shall modify Plan B to include an enhanced roadway network that reflects a denser pattern of arterial and collector streets, consistent with existing Woodland residential neighborhoods. The average street density for arterials and collectors within the modified plan should be approximately nine centerline miles per square mile and the maximum block length shall be 1,320 feet. The enhanced roadway system shall consider potential consequences on residential neighborhoods and the need to incorporate traffic calming measures consistent with General Plan Policy 3.B.6. (ii) With regard to the overcrossing of SR 113, the City shall find that the proposed project is substantially consistent with General Plan policies by preserving right-of-way for a future overcrossing should one be desirable.	NA	SU
			(iii) Grid-pattern local streets shall be required to complement the proposed curvilinear arterials and collectors, to provide more effective connections to parks, schools, and commercial uses for bicyclists and pedestrians.		
4.6-3 The proposed project would increase demand for	S	S	4.6-3	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
public transit service to an area that is not currently served by YCTD.			(A/B) All development within the Specific Plan~~The project applicant~~ shall contribute a~~its~~ fair-share of the capital and operating costs associated with providing public transit service to the Plan Area~~project site~~. It is anticipated that new transit vehicles would be required to provide the additional service within the project site. However, the final determination of additional capital equipment or other costs shall be determined by the City of Woodland and YCTD. The fair-share cost or a plan for providing the fair-share cost over time shall be submitted to the City of Woodland prior to the issuance of building permits.		
4.6-4 The proposed project would increase demand for public transit and create inconsistencies with transit-related policies in the City of Woodland General Plan.	S	S	4.6-4 (A/B) (a) (i) The project applicant shall modify the proposed project to identify (or require with each development the identification of) the specific locations of sheltered transit stops with bus turnouts. The City of Woodland and YCTD shall approve the location, design, and implementation timing of the sheltered transit stops and bus turnouts prior to the issuance of building permits.	LS	LS
		S	(B) (b) Implement Mitigation Measure 4.6-2(d)(ii).	NA	LS
4.6-5 The proposed project would disrupt existing bikeway facilities and create inconsistencies with bicycle- and pedestrian-related policies of the City of Woodland General Plan and the City of Woodland Bikeway Master Plan.	S	S	4.6-5 (A/B) (a) (i) The Specific Plan shall be modified to include the following: ▪ Class II bike lanes on both sides of Road 102 from Road 25A to Gibson Road (these facilities must be depicted in street sections and on the circulation plan);	LS	SU
			▪ Class I bike path on the north side of Road 25A from Road 102 to SR 113 (these facilities must be depicted in street sections and on the circulation plan); ▪ Realign the Road 101 Parkway Class I bike path to provide direct access to the retail shopping and employment center of Plan A and Plan B (these changes		

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			must be depicted in street sections and on the circulation plan); ▪ Class II bike lanes on all collectors and arterials; ▪ Class I bike path grade separations of collectors and arterials <u>at the time Class I facility is installed</u>; and ▪ Standards for requiring secure and convenient bicycle parking and other support facilities at schools, commercial centers, and employment centers. OR (ii) The City shall find that the proposed project is substantially consistent with the General Plan policies.		
		S	(B) (b) (iii) Implement Mitigation Measure 4.6-2(d)(i) to provide a street system and pedestrian walkway system that is more conducive to walking.	NA	SU
4.6-6 The proposed project, in conjunction with cumulative development, would increase cumulative a.m. and p.m. peak hour traffic volumes at study intersections, causing unacceptable levels of service and warranting the installation of traffic signals.	S	S	4.6-6 (A/B) (a) <u>Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development</u>~~The project applicant~~ shall contribute its fair-share cost to modify the traffic signal at the East Street/E. Main Street intersection and widen the eastbound approach to include an exclusive left-turn lane, two exclusive through lanes, and one exclusive right-turn lane. This improvement was previously identified in the East Street Corridor Specific Plan, City of Woodland, May 19, 1998. The City of Woodland shall determine the method and timing of the contribution for this mitigation measure. To assist the City in its determination, the <u>developer</u>~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	LS	SU

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**		**Level of Significance After Mitigation**	
	Plan A	**Plan B**			**Plan A**	**Plan B**
	S	S	(b)	Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development~~The project applicant~~ shall contribute its fair share cost to modify the traffic signal at the Gibson Road/East Street intersection and widen the northbound and southbound approaches to include two exclusive left-turn lanes, one exclusive through lane, and one shared through/right-turn lane. These improvements were previously identified in the East Street Corridor Specific Plan, City of Woodland, May 19, 1998. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	LS	SU
	S	S	(c)	Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development~~The project applicant~~ shall contribute its fair share cost to modify the traffic signal at the Gibson Road/Matmor Road intersection and widen the northbound and southbound approaches to include one exclusive left-turn lane, one through lane, and one right-turn lane. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	LS	LS
	S	S	(d)	~~The project applicant shall~~ Implement Mitigation Measure 4.6-1(c).	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
	S		(A) (e) Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development ~~the project applicant~~ shall contribute its fair share cost to install a traffic signal at the Road 25A/East Street intersection and widen the northbound, southbound, and eastbound approaches to include an exclusive left-turn lane and a shared through/right-turn lane. The westbound approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	LS	NA
		S	(B) (e) *Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development ~~The project applicant~~ shall contribute its fair share cost to install a traffic signal at the Road 25A/East Street intersection and widen the northbound, southbound, and eastbound approaches to include an exclusive left-turn lane and a shared through/right-turn lane. The westbound approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.*	NA	LS
	S		(A) (f) ~~The project applicant shall install~~ A traffic signal shall be installed at the Road 25A/SR 113 Southbound Ramps intersection. The City	LS	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.		
	S		(A) (g) ~~The project applicant shall install~~ A traffic signal shall be installed at the Road 25A/SR 113 Northbound Ramps intersection. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	LS	NA
		S	(B) (f,g) ~~The project applicant shall reconstruct the Road 25A/SR 113 interchange to a partial cloverleaf (Caltrans type L-9) configuration with a four-lane overcrossing and single-lane ramps.~~ Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share to the modification of the Road 25 A/SR 113 interchange. The design modification to the interchange shall be based on the outcome of the Caltrans Project Study Report (PSR) conceptual approval process. The four lanes on Road 25A shall extend from East Street to Parkway Drive. The southbound and northbound off-ramp approaches to Road 25A shall include a minimum of two exclusive left-turn lanes and an exclusive right-turn lane. To assist the City in its determination, the developer~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. Should the Parkway Drive overcrossing be constructed, further traffic study is required to determine the extent of additional improvements to the Road 25A/SR 113 interchange if needed.	NA	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
	S		(A) (h) ~~The project applicant shall install~~ A traffic signal shall be installed at the Pioneer Avenue/A Street intersection and ~~construct~~ the eastbound and westbound approaches to include an exclusive left-turn lane and a shared through/right-turn lane shall be constructed. ~~The project applicant shall also construct~~ Pioneer Avenue shall be constructed to its ultimate four-lane width as identified in the Specific Plan prior to 2020 and ~~provide~~ additional signalized access shall be provided to the proposed high school. The westbound approach to this intersection would serve the proposed high school. The level of traffic generated by the high school during the a.m. peak hour will likely be sufficient to warrant another signalized access and potentially require additional improvements at the Pioneer Avenue/A Street intersection. Traffic operations in this location could also be adversely affected by the middle school, which is proposed directly south of the high school. The close proximity of these two schools would not be desirable given the a.m. peak hour traffic volume characteristics for schools. This issue would also apply to the Gibson Road/Pioneer Road intersection in both plans and the Pioneer Avenue/B Circle North intersection in Plan B. The proposed Sports Park in the vicinity of these intersections also has the potential to create adverse traffic operations impacts. The location of the schools and Sports Park need to be carefully considered in relation to their access and circulation needs. These potential issues need to be addressed on a more detailed level no later than the time at which a site plan for the high school, middle school, or Sports Park is developed.	LS	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation improvements and timing that are required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.		
	S		(A) (i) ~~The project applicant shall install~~ A traffic signal shall be installed at the Parkway Drive/D Street intersection and ~~construct~~ the northbound and southbound approaches shall be constructed to include an exclusive left-turn lane and a shared through/right-turn lane. In addition, the ~~project applicant shall construct~~ eastbound and westbound approaches shall be constructed to include an exclusive left-turn lane, an exclusive through lane, and a shared through/right-turn lane. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer ~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	LS	NA
		S	(B) (j) ~~The project applicant shall install~~ A traffic signal shall be installed at the Parkway Drive/Road 25A intersection and ~~construct~~ the northbound approach to include one exclusive left-turn lane and one exclusive right-turn lane shall be constructed. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer~~project applicant~~ shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	NA	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
		S	(B) (k) ~~The project applicant shall install~~ A traffic signal shall be installed at the Pioneer Avenue/B Circle North intersection and ~~construct~~ the eastbound and westbound approaches shall be constructed to include an exclusive left-turn lane and a shared through/right-turn lane. ~~In addition, the project applicant shall implement~~ Mitigation Measure 4.6-6(A)(h) shall be implemented as it relates to intersection improvements associated with school access. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the ~~project applicant~~ developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	NA	LA
4.6-7 The proposed project, in combination with cumulative development, would create inconsistencies with roadway-related policies of the City of Woodland General Plan.	S	S	4.6-7 (A) (a) (i) Plan A shall be modified to comply with the functional classification system of the General Plan. OR (ii) Find that the proposed project is substantially consistent with General Plan policies.	LS	LS
		S	(B) (b) (i) Plan B shall be modified to comply with the functional classification system of the General Plan. OR (ii) Find that the proposed project is substantially consistent with the General Plan policies.	NA	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			AND (iii) With regard to the overcrossing of SR 113, the City shall find that the proposed project is substantially consistent with the General Plan policies by preserving right-of-way for a future overcrossing should one be desirable.		
4.6-8 Development of the proposed project would generate 48,690 to 52,200 daily vehicle trips under the specific plan portions of Plan B or Plan A (respectively) and 115,330 to 127,240 daily vehicle trips under full build out of Plan A and Plan B (respectively).	S	S	4.6-8 (A/B) (a) Development within the new growth area shall be assessed its fair share of offsite and onsite roadway improvement costs based on its use of existing and proposed facilities and consistent with General Plan Policy 3.A.6. A fee mechanism shall be established to fund necessary roadway/freeway improvements prior to approval of any tentative map or issuance of a building permit within the boundaries of the specific plan. These fees shall subsequently be charged of all development that proceeds in the area. (b) Every development within the new growth area shall be required to submit an acceptable traffic impact study to confirm existing conditions and identify roadway and intersection improvements required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. These project level traffic studies will determine the timing of local improvements (such as traffic signals) to be implemented with each development. The analysis shall take into account proposed lotting, site design, local street pattern, access, traffic calming, and other pertinent factors including consistency with General Plan Policies 3.B.1, 3.B.5, and 3.B.6. If a project-level study identifies a needed improvement prior to the collection of sufficient fees to fund the improvement, the developer shall install the improvement prior to occupancy and receive credit against future fees or be reimbursed.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(c) A plan for financing public facilities shall be finalized and shall identify the means to fully fund all improvements wholly or partially triggered by the Turn of the Century Specific Plan. These mechanisms shall be put into place ~~and the collection of fees shall commence~~ prior to the approval of the first tentative map within the plan area. Fees shall be collected with final maps or building permits, whichever occurs first. (d) A capital improvement program (CIP) shall be finalized and shall identify and cost-out all improvements wholly or partially triggered by the Turn of the Century Specific Plan. This plan shall provide a schedule for implementation of identified improvements, in coordination with the existing citywide Major Projects Financing Plan and the Specific Plan public facilities financing plan. This CIP shall be updated on a regular basis, based on the results of the monitoring of traffic volumes and based on project-specific traffic impact studies. (e) ~~All applicants~~ Each development shall be required to pay appropriate traffic mitigation fees or contractually bind themselves to voluntarily do so, prior to ~~approval of tentative~~ acceptance of final maps, or issuance of building permits, where a map is not required.		
4.7 Air Quality					
4.7-1 Project-related construction activity would generate criteria air pollutants.	PS	PS	4.7-1 (A/B) In addition to Specific Plan Policies 11.13.Q, 11.13.R and 11.13.S, the Specific Plan shall be revised to require the contractor to implement the following: (a) Trucks hauling dirt and debris shall be adequately covered to ~~reduce wind blown dust and spills.~~prevent visible dust emissions.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
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	Plan A	**Plan B**		**Plan A**	**Plan B**
			(b) On dry days, dirt or debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction related dirt in dry weather. (c) ~~Onsite~~ Exposed soils and onsite stockpiles of excavated materials shall be covered, stabilized or watered to prevent dust emissions from creating a nuisance in the vicinity or to surrounding properties. (d) Onsite vehicle speeds shall be operated on unpaved surfaces at speeds that will not create dust emissions that would cause a nuisance in the project vicinity or to surrounding properties. ~~not exceed 15 miles per hour.~~ ~~(e) At least 2 feet of freeboard shall be maintained when transporting soil or other material by truck.~~ ~~(f) The amount of grading shall be limited to 28 acres per day.~~ (e) Soils shall not be exposed nor grading shall occur during periods when wind speeds would cause dust emissions to create a nuisance in the vicinity or to surrounding properties.		
4.7-2 Project-related traffic would contribute to local CO emissions.	LS	LS	4.7-2 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.7-3 Operational emissions resulting from project-related energy consumption and motor vehicle trip generation could exceed ROG, NO_X and CO standards.	S	S	4.7-3 (A/B) The Specific Plans shall be revised to include the following residential design features to be incorporated in the project development regulations and required for all residential development: (a) Solar water heaters, in conjunction with low-NO_x gas fired water heaters shall be provided in 50 percent of the units. (b) All new wood burning appliances, such as wood stoves, shall be certified (EPA Phase II) by the US EPA.	SU	SU

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact		**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
		Plan A	**Plan B**		**Plan A**	**Plan B**
				(c) Only high efficiency gas or electric appliances shall be installed in each unit. (d) A separate electric outlet shall be provided in each garage to allow for the convenient recharging of cordless electric lawn mower and gardening equipment. (e) One cordless electric lawnmower shall be provided with each single-family residential unit. (f) Light colored roofing materials shall be used on all structures in order to reduce energy demand.		
4.7-4	**Existing agriculture operations, industrial uses such as sugar processing facilities, and the City's wastewater treatment plant could produce odors that could be experienced by future residents of the project site.**	PS	PS	4.7-4 (A/B) Implement Mitigation Measure 4.1-1 from Section 4.1, Land Use.	LS	LS
4.7-5	**The proposed project may be inconsistent with the City of Woodland General Plan policies regarding air quality.**	LS	LS	4.7-5 No mitigation measures would be required to reduce or avoid significant environmental effect.	NA	NA
4.7-6	**Project emissions, in combination with other development in the air basin, could interfere with achievement of Attainment Plan goals.**	S	S	4.7-6 (A/B) Implement Mitigation Measures 4.7-1 and 4.7-2.	SU	SU
4.7-7	**Project-generated traffic, in combination with other cumulative development, would increase CO levels at local intersections.**	LS	LS	4.7-7 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.8 Noise						
4.8-1	**The proposed project would increase traffic noise on roadways in the vicinity of the project site.**	LS	LS	4.8-1 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact		**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
		Plan A	**Plan B**		**Plan A**	**Plan B**
4.8-2	**Noise-sensitive uses within the project site could be exposed to traffic noise in excess of City standards.**	S	S	4.8-2 (A/B) Prior to approval of each tentative map, the project applicant shall demonstrate that exterior and interior noise levels will not exceed the levels shown in Table 4.8-2. The noise standards may be achieved through a combination of site design, sound attenuation measures (interior and exterior) and/or noise barriers.	LS	LS
4.8-3	**Construction noise could exceed City of Woodland noise standards, and/or expose future residents within the project site to substantial short-term increases in ambient noise levels.**	LS	LS	4.8-3 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.8-4	**Although the project site is located well beyond the noise impact zone (60 dB L_{dn} contours) for the Sacramento International Airport, occasional overflights by commercial aircraft may disturb project residents.**	PS	PS	4.8-4 (A/B) A disclosure statement shall be provided to all prospective buyers of properties within the project site notifying that Sacramento International Airport Commercial Aircraft overflights of the project site at relatively low altitudes currently occur and will continue to occur in the future.	LS	LS
4.8-5	**If the private airstrip remains in use, occasional small aircraft arrivals, departures and overflights at the private airstrip could disturb project residents.**	PS	PS	4.8-5 (A/B) A disclosure statement shall be provided to all prospective buyers of properties within the project site notifying that the Hollman Field may continue to exist and operate small aircraft following commencement of development within the project site.	LS	LS
4.8-6	**Noise from agriculture operations, including crop-dusting, could disturb project residents.**	S	S	4.8-6 (A/B) Implement Mitigation Measure 4.1-1 from Section 4.1, Land Use and Planning.	LS	LS
4.8-7	**The Regional Park east of the southeast corner of the project site could result in clearly audible noise levels at the proposed low-density residential uses.**	S	S	4.8-7 (A/B) (a) A disclosure statement shall be provided to all prospective buyers <u>or tenants</u> of properties within 300 feet of the Regional Park site notifying of the presence of existing and future noise-producing model airplane, rodeo, and playing field activities. <u>Notification of prospective tenants shall be the property-owners responsibility.</u> (b) If the operation of the model airplanes is shown to exceed City standards at noise-sensitive land uses within the project site,	LS	LS

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Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			additional noise mitigation measures shall be implemented as necessary and appropriate. Such measures could include limiting the allowable flight patterns, limiting operations to muffled airplanes, restricting the loudest engine types, and limiting hours of operation of the model aircraft operations.		
4.8-8 Noise-producing aspects of certain land uses developed within the project site could exceed the City of Woodland General Plan noise standards or expose future residents within the project site to substantial short-term increases in ambient noise levels.	PS	PS	4.8-8 (A/B) (a) The Specific Plan shall specify that active recreation areas of school playgrounds and neighborhood parks shall be located as far as possible from residential property lines and solid noise barriers shall be constructed at the interfaces of such playgrounds and residential areas. Noise barrier heights shall be sufficient to intercept line of sight from the play areas,(including elevated play structures) to the center of adjacent back yards at a height of 5 feet. In most cases, a barrier height of 6 feet would be sufficient. Noise barriers shall be constructed of solid materials such as masonry or precast concrete, rather than wood, or shall be earthen berms or a combination of berm and wall. (b) The Specific Plan shall specify that loading dock areas shall be located as far as possible from residential property lines and consideration shall be given to constructing solid noise barriers at the interfaces of loading docks and residential areas. In addition, to the extent possible, truck deliveries shall be limited to daylight hours.	SU	SU
			(c) The Specific Plan shall specify that car washes associated with new gas stations are to be conditionally allowed uses only. Each car wash facility shall demonstrate that site design and proposed operations would not result in noise levels above the applicable City of Woodland noise standards. Specific attention shall be paid to the locations of dryers and vacuums relative to nearby residential areas. (d) Implement Mitigation Measure 4.1-4, which requires that the Sports Park be subject to a conditional use permit. Active areas, such as diamonds and bleachers, shall be located a minimum of 100 feet from the eastern boundary of the park site.		

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(e) The following measures shall be implemented for the sports park: (i) Park maintenance activities shall be limited to the hours of 7 a.m. to 10 p.m. on weekdays. (ii) All park equipment using internal combustion engines shall be properly muffled in accordance with manufacturers specifications. (iii) The public address system shall be designed and tested so as not to generate noise levels in excess of 50 dB Leq during the day or 45 dB Leq between 10 p.m. and 7 a.m., at the park property boundaries. Consideration should be given to increasing the number of speakers and using lower volume settings, focusing the speakers on the spectator areas (away from residential uses). (iv) Earth berms and or solid noise barriers shall be erected at the interface of all residential uses located adjacent to the park site to a sufficient height to intercept line of sight from park activities (including parking lots) to the adjacent residential back yards or outdoor activity areas. (v) Implement Mitigation Measure 4.1-4(d) for Plan B.		
		S	(B) (f) The fire station in Plan B shall be relocated so that it is not immediately adjacent to residential or other land uses which have a high sensitivity to noise.	NA	SU
4.8-9 Future cumulative plus project traffic noise levels could exceed the 60 dB L_{dn} exterior noise level standard of the City of Woodland at proposed residential uses located within the project site.	S	S	4.8-9 (A/B) Implement Mitigation Measures 4.8-1 and 4.8-2.	SU	SU
4.9 Visual Resources And Aesthetics					
4.9-1 The proposed project may be inconsistent with the General Plan goals and policies related to visual character and the City's Community Design	S	S	4.9-1 (A/B) (a) Figures 5.5.A and 5.5.B of the Specific Plan and associated text	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact		**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**		**Level of Significance After Mitigation**
		Plan A	**Plan B**		**Plan A**	**Plan B**
	Guidelines.			shall be modified to show garages subordinate to the main living area, pursuant to the City's Community Design Guidelines, Guidelines for Single-Family Development, Site Planning for Single-Family Residences. (b) Figure 5.5.C of the Specific Plan and associated text shall be modified to show 5-foot minimum sidewalks and 20-foot minimum front yard setbacks, pursuant to the Community Design Guidelines, Neighborhood Design Standard 6.		
			S	(B) (c) If Plan B is adopted, the City shall amend the Community Design Guidelines to allow for the Plan B street pattern.	NA	LS
4.9-2	**The proposed project would alter the visual character of the project site, and could intrude into major view corridors.**	LS	LS	4.9-2 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.9-3	**The proposed project could be visually incompatible with surrounding land uses.**	LS	LS	4.9-3 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.9-4	**The proposed project could substantially increase artificial light in the project site.**	LS	LS	4.9-4 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.9-5	**Development of the proposed project, in combination with other cumulative development, would contribute to alteration of the City's visual character.**	LS	LS	4.9-5 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
				4.10 Cultural Resources		
4.10-1	**The proposed project could damage or destroy unidentified prehistoric and historic cultural resources.**	PS	PS	4.10-1 (A/B) In addition to Specific Plan Policy 5.5.P., the Specific Plan shall be amended to include the following measures which shall be implemented during project construction: (a) If a Native American site is discovered, then the evaluation process shall include consultation with the appropriate Native American(s). (b) If human remains are discovered, California law requires that work must stop immediately and the County Coroner must be notified, according to Section 7050.5 of the California Health and Safety	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			Code. If the remains are Native American, the coroner shall notify the Native American Heritage Commission, which in turn shall inform a most likely descendant. The descendant will then recommend to the landowner appropriate disposition of the remains and any grave goods which may include in-situ reinterment of the remains and any associated artifacts and capping the site or relocation and reinterment.		
4.10-2 The proposed project could substantially alter a potentially significant historic resource and/or its context.	PS	PS	4.10-2 (A/B) The Specific Plan shall be amended to require that, prior to modification or removal of any potentially historic existing structures, the project applicant submit a report from a professional architectural historian assessing the historical significance of the structure/resource. If significant historic structures are identified, mitigation pursuant to Sections 15064.5 and 15126.4 of the CEQA Guidelines, as identified and applied in the architectural historian's recommendations, shall be followed.	LS	LS
4.10-3 Construction of offsite infrastructure could damage or destroy undiscovered archeological and/or historic resources.	PS	PS	4.10-3 (A/B) The Specific Plan shall be amended to include the following:	LS	LS
			(a) Phase I archaeological surveys (archival research and visual surface inspections) shall be required for all offsite infrastructure, prior to final design. If potentially significant cultural resources are identified during the Phase I archaeological survey(s), mitigation pursuant to Section 21083.1 of the Public Resources Code and Sections 15064.5 and 15126.4 of the CEQA Guidelines and any other applicable regulations, as identified and applied in management recommendations made by a qualified expert, shall be followed. (b) In the event that cultural resources are uncovered during project construction (e.g., foundations, historic tools, refuse/trash piles, shell deposits, arrowheads, chip stone, objects that appear to be out of place are observed), implement Mitigation Measures 4.10-1 (a) and (b).		
4.10-4 The proposed project may be inconsistent with the City of Woodland General Plan policies regarding	LS	LS	4.10-4 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
cultural resources.					
4.10-5 Cumulative development in the City of Woodland, in conjunction with the development of the proposed project, could contribute incrementally to the regional loss of cultural resources in Yolo County.	PS	PS	4.10-5 (A/B) Implement Mitigation Measures 4.10-1 (a) and (b), 4.10-2 and 4.10-3(a) and (b).	LS	LS
4.11 Population, Employment and Housing					
4.11-1 The proposed project would increase the City's population over existing conditions.	LS	LS	4.11-1 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.11-2 The proposed project would increase demand for affordable housing.		S	4.11-2 (B) (a) (i) Specific Plan B shall be amended to provide that 35% of total dwelling units are multifamily. OR (ii) The City shall find that Specific Plan B is substantially consistent with the Housing Element.	NA	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
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	Plan A	**Plan B**		**Plan A**	**Plan B**
			(A/B) (b) Prior to approval of the first tentative map, an Affordable/ Special Needs Housing Plan shall be prepared for the Specific Plan and submitted to the City for review and approval. The Housing Plan shall indicated how a fair-share of the affordable/special needs housing obligations of the City will be implemented within the Specific Plan on a subdivision basis. The Plan shall demonstrate compliance with the policies of the City Housing Element including: ▪ Identification of areas for land donations and/or other sites for construction of affordable housing under various programs or as proposed by the developer. Specific sites for multiple units within each phase shall be identified in advance and disclosed on deeds and in real estate documents for underlying and adjoining subdivisions, marketing brochures, and via signage posted at the sites. ▪ Achievement of the requirements shown in Table 4.11-5. Methods shall be identified shall be identified by which these units will be proportionately required within each of the Phases on a subdivision by subdivision basis, so that affordable housing of all types keeps pace with construction of single family market rate housing as development within the Plan Area occurs.	NA	NA
			▪ Criteria for individual subdivisions to ensure that affordable housing/special needs housing is integrated within all single family subdivisions including requirements for duplexes on corner lots, second units on single-family lots, senior housing, congregate care facilities, single rooms/studios in non-residential areas, and other types of projects. ▪ Mechanisms for ensuring that permanent affordability be incorporated into the Plan.		

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
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	Plan A	**Plan B**		**Plan A**	**Plan B**
			▪ Provisions for ensuring compliance with the inclusionary housing provisions of the ordinance (Section 6A-3-60). ▪ Mechanisms for reservation, protection, and disclosure of lots for affordable projects.		
4.11-3 The proposed project would result in a citywide jobs/housing ratio of 0.81.	LS	LS	4.11-3 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.11-4 The proposed project may be inconsistent with the City of Woodland General Plan policies.	S	S	4.11-4 (A/B) (a) (i) The Specific Plan shall be amended to incorporate a greater range of densities; (ii) Proposed large blocks of multi-family units shall be more evenly distributed throughout the Plan Area; and (iii) The Specific Plan shall identify and incorporate varying types of multi-family and affordable housing, such as co-op housing, corner duplexes, and senior facilities. OR (b) For any rejected measure, the City shall make a finding of substantial conformity with the General Plan.	LS	LS
			(c) The Specific Plan shall be revised to require that no more than 100 multi-family units be located in any one area.		
4.11-5 The proposed project, in combination with future buildout in the City of Woodland, would increase the City's population.	S	S	4.11-5 (A/B) (a) The City shall regulate growth in the Master Plan Remainder Area so that the City of Woodland population does not exceed 60,000 by the Year 2015. OR (b) Find that the proposed project is essentially consistent with the direction of General Plan policies.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			OR (c) Amend the General Plan to allow for growth beyond 60,000 by 2015.		
4.11-6 The proposed project, in combination with future buildout of the City of Woodland, would increase demand for affordable housing.	LS	LS	4.11-6 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.11-7 The proposed project, in combination with future buildout in the City of Woodland, would result in a balanced mix of employment and residential use.	LS	LS	4.11-7 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.12 Public Health and Safety					
4.12-1 The proposed project could expose future occupants and construction workers to localized soil or groundwater contamination due to prior site uses.	PS	PS	4.12-1 (A/B) (a) Prior to tentative map approval for each development within the project site, the applicant shall complete an Environmental Site Assessment (Phase 1) in accordance with professional standards to determine the potential for past or current uses within the project site to have resulted in soil or groundwater contamination at any location that will be developed under the proposed project, or for releases from offsite locations (e.g., the former ~~Woodland~~ City ~~Dump~~ landfill) to have adversely affected groundwater under the project site. Results of the site assessment shall be provided to the City of Woodland Planning Department and Yolo County Environmental Health Department. (b) If contamination is suspected, the applicant shall proceed with additional investigation (Phase 2), including, but not limited to, soil and groundwater testing. A work plan for and results of the investigation shall be submitted to the City of Woodland Community Development Department and Yolo County Environmental Health Department for review and concurrence. The results of the study shall identify recommended measures to reduce potential risks, if any, to individuals and the environment that could occur during site development or future occupancy.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**		**Level of Significance After Mitigation**	
	Plan A	**Plan B**			**Plan A**	**Plan B**
			(c)	If risk management measures are determined to be necessary, the applicant shall develop a plan for use prior to, during, and after site development that identifies requirements for soil management (e.g., excavation, re-use, or disposal), construction dewatering, and air monitoring to protect construction workers, current and future onsite occupants and visitors, and offsite populations. The plan shall also identify contingency measures in the event previously unidentified hazards are encountered during site development. Contract specifications shall reflect identified risk management measures. (d) The applicant shall obtain necessary agency approvals prior to implementing any identified measures in the risk management plan. The results of additional testing, monitoring, tank removal, soil or groundwater cleanup, or other equally effective risk management measures shall be submitted to the regulatory agency/agencies with jurisdiction over the particular risk management activity prior to, during, or after development, as appropriate for the type of activity. Agencies that could require notification would include, but would not be limited to, Woodland Fire Department, Yolo County Environmental Health Department, Yolo-Solano Air Pollution Control District, Central Valley Regional Water Quality Control Board, or California Department of Toxic Substances Control. All activities shall comply with applicable federal, State, and local laws and regulations pertaining to hazardous materials management.		
4.12-2 The proposed project could increase the number of people exposed to potential hazards associated with crop dusting on adjacent farmland.	LS	LS	4.12-2	No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.12-3 The proposed project could increase the number of people who could be exposed to accidental release of hazardous materials at the WWTP.	LS	LS	4.12-3	No mitigation measures would be required to reduce or avoid significant environmental effects	NA	NA
4.12-4 The proposed project could expose future residents and construction workers to nuisance pests (black gnats).	S	S	4.12-4 (A/B)	Prior to each construction season, ~~the applicant~~ each landowner or developer with a project under construction shall consult with the Sacramento-Yolo Mosquito Vector Control District to identify	SU	SU

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			safe, effective, and feasible means to reduce onsite Valley black gnat populations during construction activities that take place during the active season. Such methods could include physical controls, such as watering, or the use of chemical insecticides. The applicant's contractor shall use only those methods for site insect control that it has developed through consultation with the District.		
4.12-5 Detention basins and other storm drainage system water features could increase mosquito and other vector populations.	S	S	4.12-5 (A/B) (a) Prior to final design of storm drainage system features that convey or store water, the City shall ensure compliance with applicable vector control standards as adopted by the Sacramento-Yolo Mosquito and Vector Control District. Vector control measures shall include, but would not be limited to: ▪ Adequate drainage shall be incorporated to drain minor flows and prevent ponding; ▪ Detention/retention facilities shall be designed to minimize mosquito production and shall be capable of being completely drained; ▪ Adequate access and clearance for motorized vector and weed control equipment shall be provided; and ▪ Project design shall incorporate features to minimize the amount of surface runoff carrying nutrients into slow-moving channels or standing water. (b) During project operation, the City shall coordinate with the Sacramento-Yolo Mosquito and Vector Control District to ensure onsite open drainages, channels, and detention/retention facilities are monitored and managed to control mosquitoes and other vectors. If the District determines additional controls are necessary, the City shall ensure implementation of the controls.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.12-6 If the private airstrip remains operational, development of the proposed project could expose people and property to aircraft hazards.	S	S	4.12-6 (A/B) (a) As long as the airstrip remains operational, the project applicant shall ensure that the placement and height of structures east of the airstrip runway achieve the 20:1 approach surface criterion. This may be accomplished by limiting the height of structures and selection of appropriately sized landscape trees, or providing adequate distance separation where limiting the height is not practical or feasible. At no time shall the distance between the east end of the runway and the nearest project feature be less than 200 feet. (b) Prior to occupancy of any structure where height or siting design standards have been imposed to meet the 20:1 approach surface criterion, the applicant shall provide proper notification to the Caltrans Division of Aeronautics and/or Federal Aviation Administration, as appropriate. The notification shall provide required details of proposed development in accordance with agency regulations (FAR Part 77). (c) If warranted by safety and/or nuisance concerns, the City shall require closure of the airstrip by revocation of the use permit, or amortization/abatement of the use as non-conforming. (d) Implement Mitigation Measure 4.8-5.	LS	LS
4.12-7 The proposed project, in combination with development that could occur with General Plan buildout, would increase the number of people who could be exposed to potential hazards associated with hazardous materials (including agricultural operations), vectors (primarily mosquitoes), and aircraft operations.	LS	LS	4.12-7 (A/B) (a) Implement Mitigation Measure 4.12-1(a) through 4.12-1(d) (Contaminated Sites). (b) Implement 4.12-5(a) through 4.12-5(b) (Mosquitoes and Vectors). (c) Implement 4.12-6(a) through 4.12-6(d) (Private Airstrip Operations).	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.12-8 The proposed project, in combination with development of other projects that could occur with General Plan buildout, would increase the number of people who could be exposed to nuisance pests (black gnats).	S	S	4.12-8 (A/B) Implement Mitigation Measure 4.12-4 (Black Gnats).	SU	SU
4.13 Public Services and Facilities					
4.13-1 The proposed project would increase demand for fire protection services.	S	S	4.13-1 (A/B) (a) Prior to ~~final~~ the first tentative map approval, the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan shall demonstrate that fire station locations and operations will be adequate to service the new development according to City fire standards and policies. (b) The Specific Plan shall be amended to provide for the construction of Fire Station Four in the project site when one of the following project elements is constructed beyond the four minute response time from an existing Woodland Fire Station: (i) Two light commercial or planned unit developments with a fire flow of 2,500 gpm are constructed; OR (ii) One educational occupancy with a combined fire flow of 2,500 gpm for use with grades 12 and under is constructed for year-round scheduling; OR (iii) One-hundred dwelling units. (c) Per the Woodland Fire Department requirements, all new construction built prior to the construction and staffing of the fire station shall be supplied with a disclosure notice informing the owner or tenants of the delayed level of response.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(d) The Fiscal Impact Analysis for the Turn of the Century Specific Plan shall demonstrate that the identified increased demand for fire fighters, support personnel, and equipment will be adequately funded, on a phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficiency, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing. (e) The City's existing Major Projects Financing Plan shall be amended and fee schedule revised to incorporate construction of the new fire station. This station (including the phase of development at which time it will be required) shall be described in greater detail in the Turn of the Century Specific Plan Public Facilities Financing Plan and Capital Improvements Plan. Individual projects proposed within the project site shall pay the appropriate capital facility fees to finance the construction of new fire protection capital facilities. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.		
4.13-2 The proposed project would impede the ability of the fire department to efficiently access all portions the project site.	LS	S	4.13-2 (B) (a) Prior to the first tentative map approval, the project applicant shall demonstrate that the entire project site can be served within 4 minutes from existing and planned fire stations. The City's Fire Station Location Study Model shall be used to determine response time OR (b) If response times cannot be met, the project applicant shall provide for an additional fire station or other acceptable mechanism, located to achieve the 4 minute response time standard.	NA	LS
4.13-3 The proposed project would have adequate fire flow to service the project site.	LS	LS	4.13-3 (A/B) The water distribution system installed for the proposed project shall meet the requirements of the City of Woodland fire hydrants and mains installed to meet current fire protection standards and the most current City design standards.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
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	Plan A	**Plan B**		**Plan A**	**Plan B**
4.13-4 The proposed project may be inconsistent with the City of Woodland General Plan policies related to fire protection.	S	S	4.13-4 (A/B) (a) Implement Mitigation Measure 4.13-1(a) through (e).	LS	LS
		S	(B) (b) Implement Mitigation Measure 4.13-2(a) or (b).	NA	LS
4.13-5 The proposed project, in conjunction with future development in the City of Woodland, would create demand for additional fire protection services.	S	S	4.13-5 Implement Mitigation Measures 4.13-1 and 4.13-2.	LS	LS
4.13-6 The proposed project would increase the demand for police protection services.	S	S	4.13-6 (A/B) (a) The Fiscal Impact Analysis for the Specific Plan shall demonstrate that the identified increased demand for officers, non-sworn personnel, and equipment will be adequately funded, on a phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficiency, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing. (b) ~~The City's existing Capital Facility Fee program shall be amended and fee schedule revised to include construction of one new police substation. This substation (including the phase of development at which time it will be required) shall be described in greater detail in the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan. Individual projects proposed within the project site shall pay the appropriate capital facility fees to finance the construction of new law enforcement capital facilities. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.~~	LS	LS
4.13-7 The proposed project may be inconsistent with the City of Woodland General Plan policies related to police protection.	S	S	4.13-7 (A/B) (a) Implement Mitigation Measure 4.13-6. (b) Amend General Plan policy 4.H.1 to conform with the inconsistencies identified related to staffing ratios.	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
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	Plan A	**Plan B**		**Plan A**	**Plan B**
			OR (c) Find that the proposed project is substantially consistent with General Plan policy 4.H.1.		
4.13-8 The proposed project, in conjunction with cumulative development in the City of Woodland, would increase the demand for police protection services.	S	S	4.13-8 (A/B) Implement Mitigation Measure 4.13-6.	LS	LS
4.13-9 The proposed project would increase the demand for wastewater treatment.	S	S	4.13-9 (A/B) Prior to approval of each tentative map, the applicant shall demonstrate that WWTP treatment capacity is adequate to serve the flows generated by new development covered by the tentative map.	LS	LS
4.13-10 The proposed project would require wastewater conveyance infrastructure.	LS	LS	4.13-10 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.13-11 Groundwater infiltration into offsite wastewater infrastructure could affect WWTP capacity.	PS	PS	4.13-11 (A/B) (a) The Specific Plan shall require that the sewer collection system is designed to reduce the potential for groundwater infiltration. The design shall comply with criteria established by the City, when such criteria are adopted. If such criteria have not been adopted prior to the first tentative map, each individual project shall identify specific design features that will be incorporated into wastewater line design and installation to minimize groundwater infiltration so that conveyance line or WWTP is not adversely affected. (b) Offsite infrastructure connections to the WWTP shall be constructed at the start of project construction.	LS	LS
4.13-12 The proposed project, in conjunction with cumulative development in the City of Woodland, would increase the demand for wastewater treatment.	LS	LS	4.13-12 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
4.13-13 The proposed project would increase demand for domestic water.	S	S	4.13-13 (A/B) (a) The City's existing Major Projects Financing Plan shall be amended and fee schedule revised to include the development of wells to serve project development. The location, number and phasing of wells shall be described in greater detail in the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan. Individual projects proposed within the Plan Area shall pay the appropriate capital facility fees to finance the construction of new wells. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.	LS	LS
4.13-14 The proposed project would require extension of the City's water distribution infrastructure.	LS	LS	4.13-14 No mitigation measures would be required to avoid or reduce this impact.	NA	NA
4.13-15 The proposed project may be inconsistent with the City of Woodland General Plan policies.	LS	LS	4.13-15 No mitigation measures would be required to avoid or reduce this impact.	NA	NA
4.13-16 The proposed project, in conjunction with future development of the General Plan, would increase demand for domestic water.	LS	LS	4.13-16 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-17 The proposed project would increase the amount of solid waste disposed of at the Yolo County Landfill.	LS	LS	4.13-17 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-18 The proposed project would generate construction debris.	LS	LS	4.13-18 (A/B) (a) At the beginning of each job, the construction contractor ~~should~~ shall set up bins or other means of containment to hold separated scraps of recyclable material (i.e., cardboard, lumber, etc.). The contractor ~~should~~ shall identify processors in the area that are interested in the materials. The paper, cardboard, and metal packaging that the building materials and major appliances come in ~~should~~ shall also be separated and stored for future recycling. (b) The contractor ~~should~~ shall work with the City of Woodland Recycling Coordinator to establish construction recycling measures to reduce the amount of construction waste disposed of at the landfill.	NA	NA

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
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	Plan A	**Plan B**			**Plan A**	**Plan B**
4.13-19 The proposed project may be inconsistent with the City of Woodland General Plan policies on solid waste.	LS	LS	4.13-19	No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-20 The proposed project, in conjunction with future buildout of the General Plan, would increase the amount of solid waste generated and disposed of at the Yolo County Landfill.	LS	LS	4.13-20	No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-21 The proposed project would increase the demand for natural gas.	LS	LS	4.13-21	No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-22 Installation of the offsite sewer pipeline could intercept the high-pressure natural gas line.	PS	PS	4.13-22 (A/B)	Prior to the installation of offsite wastewater infrastructure, all potential conflict locations with the existing PG&E high-pressure natural gas line shall be potholed and verified.	LS	LS
4.13-23 The proposed project would be consistent with the City of Woodland General Plan policies regarding natural gas.	LS	LS	4.13-23	No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-24 The proposed project, in conjunction with future buildout of the General Plan, would increase the demand for natural gas in the City of Woodland.	LS	LS	4.13-24	No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-25 The proposed project would increase the demand for electrical service.	LS	LS	4.13-25	No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA
4.13-26 The proposed project may be inconsistent with the City of Woodland General Plan policies regarding provision of public utilities.	S	S	4.13-26 (A/B)	Pursuant to General Plan Policy 4.J.2, all utilities shall be undergrounded within the Specific Plan area unless an acceptable assessment of infeasibility is prepared by the applicant and adopted by the City.	LS	LS
4.13-27 The proposed project, in conjunction with future buildout of the General Plan, would increase the demand for electricity in the City of Woodland.	LS	LS	4.13-27	No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA

TABLE 3-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation		Mitigation Measure(s)	Level of Significance After Mitigation	
	Plan A	Plan B		Plan A	Plan B
4.14 Recreational, Educational, And Community Services					
4.14-1 Implementation of the proposed project would increase the demand for parks and recreational facilities.	S	S	4.14-1 (A/B) (a) Individual projects proposed within the project site shall pay the appropriate park development fees to finance the construction of new parks and open space areas. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit. (b) The City shall allow payment of in-lieu fees for a fair share portion of future community and regional parks, and consider providing credit toward underserved Special Use/Sports Parks for overserved neighborhood parks. (c) The Fiscal Impact Analysis for the Turn of the Century Specific Plan shall demonstrate that the identified increased demand for recreational programs, employees, equipment, and park maintenance will be adequately funded, on a phase-by-phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficiency, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing. (d) Implement Mitigation Measure 4.1-5 requiring consolidation and expansion of mini parks into two additional neighborhood parks.	LS LS	LS NA
4.14-2 The proposed project may be inconsistent with the City of Woodland General Plan and Parks Master Plan policies.	S	S	4.14-2 (A/B) Find that the proposed project, as mitigated by Measure 4.14-1, is substantially consistent with the General Plan Policies.	LS	LS
4.14-3 The proposed project, in combination with the future buildout of the City of Woodland, would increase the demand for parks and recreational facilities, resulting in a shortfall of services.	S	S	4.14-3 (A/B) Implement Mitigation Measure 4.14-1.	LS	LS
4.14-4 The proposed project would increase the demand for school services.	S	S	4.14-4 (A/B) The Specific Plan shall designate an additional public school site of at least 10 acres for the development of an elementary school. This school ~~should~~ shall be sited in conjunction with one of the neighborhood parks required in Mitigation Measure 4.14-1.	LS	LS
4.14-5 The proposed project may be inconsistent with General Plan policies regarding education.	S	S	4.14-5 (A/B)	LS	LS

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			(a) Implement Mitigation Measure 4.14-4. (b) Find that the proposed project, as mitigated, is substantially consistent with the General Plan Policies.		
4.14-6 The proposed project would designate a school site on land under a current Williamson Act contract.	LS	LS	4.14-6 No mitigation measures would be required to reduce or avoid significant environmental effects.	NA	NA
4.14-7 The proposed project, in combination with future buildout in the City of Woodland, would increase the demand for school facilities.	S	S	4.14-7 (A/B) Implement Mitigation Measure 4.14-4.	LS	LS
4.14-8 The proposed project would increased demand for the City of Woodland Library facilities.	S	S	4.14-8 (A/B) (a) The Fiscal Impact Analysis for the Turn of the Century Specific Plan shall demonstrate that the identified increased demand for library services will be adequately funded, on a phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficit, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing. (b) The City's existing Major Projects Financing Plan shall be amended and fee schedule revised to include lease or construction of ±5,300 square feet of additional space for the Woodland Library. This expansion (including the phase of development at which time it will be required) shall be described in greater detail in the Turn of the Century Specific Plan Public Facilities Financing Plan and Capital Improvement Plan. Individual projects proposed within the project site shall pay the appropriate capital facility fees to finance the lease or construction of expanded library space. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.	LS	LS
			As an alternative to expansion of the main library facility, a new neighborhood branch facility could be located within one of the public/quasi public land use designations on the Turn of the		

TABLE 3-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measure(s)**	**Level of Significance After Mitigation**	
	Plan A	**Plan B**		**Plan A**	**Plan B**
			Century Specific Plan land use plan. If this alternative is chosen, the location of the facility shall be such that the greatest number of people in the area could walk, bicycle, or take public transit to the facility.		
4.14-9 The proposed project may be inconsistent with the City of Woodland General Plan policies regarding library facilities.	S	S	4.14-9 Implement Mitigation Measure 4.14-8.	LS	LS
4.14-10 The proposed project, in combination with future buildout in the City of Woodland, would result in an increased demand for the City of Woodland Library facilities.	LS	LS	4.14-10 No mitigation measures would be required to reduce or avoid a significant environmental effect.	NA	NA

4. WRITTEN COMMENTS AND RESPONSES

State of California **The Resources Agency**

MEMORANDUM

To: Project Coordinator
Resources Agency

Ms. Heidi Tschudin
City of Woodland
Community Development Department
300 First Street
Woodland, CA 95695

Date: September 7, 1999

RECEIVED
SEP 9 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

From: **Department of Conservation**
Office of Governmental and Environmental Relations

Subject: Draft Environmental Impact Report (DEIR) for the Turn of the Century Specific Plan – **SCH #99022069**

The Department of Conservation's Division of Land Resource Protection (Division) has reviewed the referenced DEIR. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments for your consideration.

The Turn of the Century Specific Plan project site encompasses 1,097 acres of land within the Woodland General Plan Planning Area. Included within the project site are 940 areas of agricultural land, 650 acres of which is Prime Farmland and 290 acres of other Important Farmland. Three active Williamson Act contracts covering 362 acres currently exist on the project site, while the total amount of Williamson Act land being affecting by the project could reach 612 acres. Two of these three Williamson Act contracts are under nonrenewal and will expire in 2000 and 2003, respectively. 1-1

The Department's major concern with the project is that it appears to perpetuate a "leapfrog" pattern of urban growth into an area of agricultural soils. This is clearly contrary to state policy as expressed in the Williamson Act and other state land use planning laws. Figure 2-4 shows the phasing (Phase 1 and Phase 2) for Specific Plans A and B. Phase 1 will include 443 acres of development between 2000 and 2008, while Phase 2 will develop 154 acres between 2009 and 2015. Phase 1 is depicted as spanning the entire length of the project site, from Gibson Road to Road 25A, yet there is no clear indication as to where the initial Phase 1 build-out will begin. If development were to commence on parcels other than those directly adjacent to Gibson Road, this would constitute "leapfrog" development. 1-2

In enacting the Williamson Act in 1965, the Legislature stated that the "premature and unnecessary conversion of agricultural land to urban uses is a matter of public interest." The Legislature targeted "discontiguous development patterns" as a problem to be addressed by public policy, in this case the Williamson Act. Given this policy, the DEIR should clarify the specific sequence of development within both Phases of the project. If, indeed, the project will be "discontiguous" in nature, the DEIR should include a discussion of the public benefits that will be served that override the public's interest in agricultural land conservation and compact and efficient urban growth patterns. **1-2 Cont'd.**

Also, mitigation measures should be included in the DEIR to address the land use conflict impacts of the development on surrounding agricultural lands, lands that will presumably remain in production pending complete Specific Plan build-out. **1-3**

Page 4.2-13 indicates that additional Williamson Act land could be publicly acquired for offsite detention and retention basins, and other public improvements. It is the policy of the State (Government Code section 51290) that public agencies avoid the acquisition of land in agricultural preserves—especially on prime land currently under contract, for public improvements. In fact, specific findings must be made by an acquiring public agency in order to justify locating public improvements on land restricted by a Williamson Act contract. Considering the amount of Williamson Act acreage already being affected by this project, we recommend that alternate sites be considered for the proposed public infrastructure. If Williamson Act lands cannot be avoided, the City will need to comply with Government Code sections 51290 et. seq. A summary of the requirements of these sections is attached. **1-4**

Finally, as the DEIR correctly points out, the two Williamson Act contracts currently under nonrenewal are still active contracts (Government Code section 51246(a)). The DEIR should further note that the land restricted by these active contracts are off limits to development and any grading until the contracts actually expire, in 2000 and 2003, respectively. Development of these lands can only occur prior to the completion of contract nonrenewal if the contracts have been terminated via contract cancellation. For cancellation to occur, a series of findings supported by substantial documentation must be made by the City. In addition, a cancellation penalty of 12.5% of the unrestricted current fair market value (based on the proposed alternative use) of the affected property must be paid by the landowner to the county treasurer for transmittal to the State. The law provides provisions for the suspension of a contract in lieu of the dedication of a conservation easement on land of equivalent quality and quantity elsewhere. However, this project will not qualify for this form of contract termination if the development of the contracted property will result in "discontiguous" patterns of urban growth. **1-5**

Thank you for the opportunity to comment on the DEIR. If you have any questions about our comments, please contact Luree Stetson at (916) 324-0850. You may also call me at (916) 445-8733.

Jason Marshall
Assistant Director

Attachment

cc: Luree Stetson, Assistant Director
Division of Land Resource Protection

Yolo County Resource Conservation District

COMMENT LETTER 1: Jason Marshall, California Department of Conservation, Office of Governmental and Environmental Relations

Response to Comment 1-1:

The status of Williamson Act lands at the project site is presented on page 4.4-2 in the DEIR. In that discussion, it states that there is one 45-acre and one 155-acre parcel remaining under Williamson Act contract that have filed for non-renewal. Turn of the Century has filed for recision of a contract for 162-acres of another parcel. As noted by the commentor, total Williamson Act contracts cover 362 acres at the project site. If a detention or retention facility were constructed off-site, it is conservatively assumed that up to approximately 62 acres could be used for such purposes. If that land is subject to Williamson Act contract, the total amount of Williamson Act land that could be affected would be 424 acres, not 612 acres, as indicated by the commentor. The City is not able to substantiate the connector's estimate of 612 acres, and the commentor has provided no supporting evidence of this estimate.

Response to Comment 1-2:

As discussed in Impact 4.4-1 on page 4.1-30 in the DEIR, the project site, although within the County's jurisdiction, has been designated within the City of Woodland's 1996 General Plan for future development (Planned Neighborhood) and is within the City's defined Urban Limit Line (see Figure 2-2 on page 2-3). As shown in Figure 4.1-1 on page 4.1-2, the site is contiguous with existing residential uses along Gibson Road to the north, and the northern boundary of the plan area is directly adjacent to developed uses along Gibson Road that are within the Woodland city limit line. As such, there is no aspect of the proposed project that should be considered discontiguous or "leap-frog" development.

Figure 2-4 on page 2-12 in the DEIR illustrates the proposed internal phasing of the project. As noted by the commentor, proposed Phases 1 and 2 would extend south from Gibson Road. The specific sequence of development within both phases relative to existing development along Gibson Road is a local issue subject to deliberation and City Council action. It will be guided by market and economic forces, as well as infrastructure and financing factors. The identification of specific phasing and discussion of the public benefits related to the pattern of development within the project site is anticipated to be a topic of focused discussion in the upcoming hearings on the merits of the project. The City will make all appropriate findings at the time of their final decision, in accordance with the provisions of State law.

Response to Comment 1-3:

Impact 4.1-1 on pages 4.1-30 through 4.1-37 in the DEIR presents a comprehensive discussion of potential land use conflicts that could occur under the proposed project. The analysis specifically addresses land use compatibility issues west, south, and north of the project site where agricultural land uses are present. Mitigation Measure 4.1-1 directs that all residential units within 500 feet of active (interim or long-term) agricultural uses be provided a deed disclosure regarding the proximity and nature of neighboring agricultural uses. Impacts 4.2-3 and 4.2-4 on pages 4.2-13 through 4.12-16 in Section 4.2, Agricultural Resources, in the DEIR further analyze land use issues specific to agricultural operations. The potential for odors from agricultural operations to affect the site is

evaluated in Impact 4.7-4 on pages 4.7-26 through 4.7-27. Impact 4.8-6, on pages 4.8-25 through 4.8-26 in Section 4.8, Noise, discusses potential effects on project occupants from noise generated by adjacent agricultural operations, and Impact 4.12-2 on pages 4.12-11 through 4.12-12 in Section 4.12, Public Health and Safety, evaluates hazards associated with crop dusting on adjacent agricultural properties.

Response to Comment 1-4:

As shown in Figure 2-12 on page 2-23 of the DEIR, two potential locations for offsite basins were identified, totaling 62 acres. The 62 acres is a conservative figure, because both basins are not necessary. As discussed on page 4.4-28 of the DEIR, basins are not required by the City's Storm Drainage Facilities Master Plan. Mitigation Measure 4.4-1(a), as revised, requires that the project's storm drainage plan ensure that the project would not exacerbate existing downstream flooding problems. This standard can be achieved through on- and/or offsite conveyance and storage facilities. The DEIR evaluated the potential effects of possible infrastructure, given the information available at the time of the analysis. The DEIR noted that, if constructed, these basins would result in the loss of additional farmland, and that this would be a significant impact, even with implementation of mitigation. The applicant has since suggested other possible locations for drainage facilities. As noted by the comment, if any of the sites eventually chosen for offsite infrastructure are under Williamson Act contract, the City will need to make findings pursuant to State law.

Response to Comment 1-5:

The City is aware of the requirements set forth in Government Code Section 51240 et seq. and 51290 et seq. regarding contracting, cancellation, and recision requirements, including those that would apply to drainage infrastructure. The Williamson Act does not specifically prohibit all development-related activities on active contracted land. As provided by Section 51241 of the Government Code, there is no requirement for all contracts to be identical. The language of each Williamson Act contract that could be affected would need to be reviewed for specific restrictions and land use issues. Section 51241 further provides that rules adopted by the local jurisdiction (i.e., City of Woodland) would apply to the activities performed in contract lands.

Section 51256 of the Government Code contains specific requirements pertaining to the recision of Williamson Act contracts. In addition to the information provided by the commentor, Section 51256 requires that the City Council find that the contract agreement will not result in discontiguous patterns of urban development and that it would not remove adjacent land from agricultural use. The City respectfully disagrees with the commentor's conclusion that the project may not qualify for Government Code Section 51246(a) contract termination. As noted in Response to Comment 1-2, the proposed project would not be discontiguous and, as discussed in Impact 4.2-4 on pages 4.2-15 through 4.2-16 in the DEIR, it would not adversely affect the viability of adjacent agricultural lands.

LETTER 2

STATE OF CALIFORNIA - THE RESOURCES AGENCY

GRAY DAVIS, Governor

DEPARTMENT OF FISH AND GAME
SACRAMENTO VALLEY AND CENTRAL SIERRA
1701 NIMBUS ROAD, SUITE A
RANCHO CORDOVA, CALIFORNIA 95670
Telephone (916) 358-2900

SEP 7 1999

September 2, 1999

Ms. Heidi Tschudin, Contract Planer
Community Development Department
City of Woodland
300 First Street
Woodland, California 95695

Dear Ms. Tschudin:

The Department of Fish and Game (DFG) has reviewed the Draft Environmental Impact Report (DEIR) for the Turn of the Century Specific Plan, (SCH # 99022069). The plan area encompasses approximately 1,097 acres. Additional off-site improvements include new sewer lines, construction of new and upgrades to existing drainage channels, and two storm water detention basins. Three alternatives (Plan A, Plan B, no project) are proposed with impacts and potential mitigation measures. The plan area is bounded by East Gibson Road on the north, County Road 102 on the east, County Road 25A on the south, and (generally) County Road 101 on the west, and is located approximately three miles south of the City of Woodland, Yolo County.

Wildlife habitat resources in this area consist primarily of agricultural fields and associated irrigation ditches, and riparian wetland vegetation associated with Willow Slough and other small sloughs. Several different State-and/or Federally-listed plant and animal species occur on or near the project area. Previous comment letters by the DFG requested that the environmental document address impacts to listed species, cumulative and growth-inducing impacts to all wildlife species, impacts to wetland habitats, ground and surface water. Additionally, the DEIR should address apparent inconsistences with current land use and/or zoning. 2-1

The DFG has the following comments regarding the DEIR:

1. Page 4.5-28, paragraph 4, Direct take of an active Swainson's hawk (*Buteo swainsoni*) or other raptor nest site would be in violation of Section 3503.5 of the Fish and Game Code, as well as the California Endangered Species Act. 2-2

2 Page 4.5-29, Impact 4.5-3, mitigation measure (b). A .25 mile buffer zone should be established around active Swainson's hawk nest sites from March 1 through September 15, not March 1 through August 1, as presented in the document. 2-3

3. Pages 4.5-30, 31, Impact 4.5-4, mitigation measure (a). If the two proposed storm water detention basins are built, an additional 62 acres should be added to the 939 acres proposed as mitigation for impacts to Swainson's hawk foraging habitat. 2-4

4 Page 4.5-33, Impact 4.5-6, mitigation measure (b). Fish and Game Commission policy regarding development or conversion of wetland habitat is to oppose any project unless mitigation measures result in "no-net loss" of wetland habitat acreage and value. If a wetland delineation determines that jurisdictional wetlands comprise less than 1/3 of an acre of the project site, the applicant proposes to fill them under a nationwide permit from the U.S. Army Corps of Engineers. No mitigation for loss of this amount of wetland habitat is mentioned. To be consistent with DFG policy, any development which results in the loss of wetland habitat should be mitigated at a 1:1 ratio. 2-5

This project will have an impact to fish and/or wildlife habitat. Assessment of fees under Public Resources Code Section 21089, and Fish and Game Code Section 711.4 is necessary. Fees are payable by the project applicant upon filing of the Notice of Determination by the lead agency. 2-6

Pursuant to Public Resources Code Sections 21092 and 21092.2, the DFG requests written notification of proposed actions and pending decisions regarding this project. Written notifications should be directed to this office. 2-7

Thank you for the opportunity to review this project. If the DFG can be of further assistance, please contact Mr. Craig Stowers, Associate Wildlife Biologist, at (916) 691-2122 or Ms. Patricia Perkins, Senior Wildlife Biologist, Supervisor, at (916) 358-2868.

Sincerely,

Larry L. Eng, Ph.D
Assistant Regional Manager
Wildlife, Fisheries & Environmental Program

cc: Mr. Tom Lumbrazo
609 Court Street
Woodland, California 95695

Mr. Craig Stowers
Ms. Patricia Perkins
Mr. Larry Eng
Department of Fish and Game
1701 Nimbus Road
Rancho Cordova, California 95670

COMMENT LETTER 2: Larry L. Eng, Ph.D., State of California - The Resources Agency Department of Fish and Game Sacramento Valley and Central Sierra

Response to Comment 2-1:

Table 4.5-1 on page 4.5-7 in the DEIR provides a summary of special-status species. Other listed species (invertebrates and birds) are described on pages 4.5-10 through 4.5-14. Impact 4.5-1 on pages 4.5-25 through 4.5-26 addresses potential effects on alkali sink-type special-status species. Impact 4.5-2 on pages 4.5-26 through 4.5-27 evaluates potential effects on valley elderberry longhorn beetle (VELB), a listed species. Potential effects on the listed Swainson's hawk and other nesting raptors and habitat are discussed in Impacts 4.5-3 and 4.5-4 on pages 4.5-28 through 4.5-31 in the DEIR. An evaluation of potential effects on wetland habitats is presented in Impact 4.5-6 on page 4.5-32. Issues related to effects on habitat as a result of offsite infrastructure improvements are discussed in Impact 4.5-7 on pages 4.5-33 through 4.5-33. Impact 4.5-8 on page 4.5-34 addresses the project's consistency with applicable General Plan policies, and cumulative effects are described in Impact 4.5-9 on pages 4.5-35 through 4.5-36. Growth-related effects are addressed in Chapter 6, Other CEQA Considerations.

Response to Comment 2-2:

Comment noted.

Response to Comment 2-3:

Comment noted. Mitigation Measure 4.5-3(b) on page 4.5-29 of the DEIR is revised to read:

> (b) *If an active Swainson's hawk nest is identified within one half mile of the project site then a limited operating period shall be implemented within a (0.25) mile radius of the nest tree. No construction activities shall be initiated during the Swainson's hawk nesting period (March 1 – September 15 ~~August 1~~) without the approval by DFG.*

Response to Comment 2-4:

Comment noted. Mitigation 4.5-4(a) on page 4.5-30 of the DEIR is revised to read:

> *This agreement shall set aside in perpetuity, an equivalent amount (939 acres of the Specific Plan Area plus Important Farmland converted for offsite infrastructure) of contiguous, Swainson's hawk foraging land elsewhere in Yolo County through the purchase of development rights and execution of irreversible conservation or agricultural easement.*

It should be noted that 62 acres for offsite basins is a conservative estimate, because it is unlikely that both basins would be needed.

Response to Comment 2-5:

Comment noted. In order to ensure that no net loss of wetlands occurs, Mitigation Measure 4.5-6(b) on page 4.5-33 of the DEIR is revised as shown:

b) *If jurisdictional wetlands are verified, the project applicant shall provide for no net loss of wetland acreage through the federal permitting process. If the total acreage of the jurisdictional wetland is less than 1/3 of an acre, then the project applicant shall obtain a nationwide permit to fill the wetlands, and provide for a minimum 1:1 mitigation ratio. If the total area exceeds 1/3 of an acre then the project applicant shall obtain a individual permit through the U.S. Army Corps of Engineers.*

Response to Comment 2-6:

Comment noted.

Response to Comment 2-7:

Comment noted. The Department is on the City's standard mailing list for CEQA mandated notices. However, if the Department wishes to receive other notices mandated by Planning and Zoning laws, a supply of self-addressed stamped envelopes should be provided to the City Clerk and Planning Commission Clerk. This will ensure receipt of upcoming agendas for these bodies. Also, the Department should note the following anticipated hearing dates on the subject project. These are subject to change but reflect the best information at this time.

November 4, 1999	Planning Commission
November 18, 1999	Planning Commission
November 30, 1999	City Council
December 7, 1999	City Council
December 21, 1999	City Council

STATE OF CALIFORNIA-BUSINESS, TRANSPORTATION AND HOUSING AGENCY

GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 3, SACRAMENTO AREA OFFICE - MS 41
P.O. BOX 942874
SACRAMENTO, CA 94274-0001
TDD Telephone (916) 741-4509
FAX (916) 323-7669
Telephone (916) 324-6642

September 8, 1999

KYOL039
03-YOL-113 PM 9.228
Turn of the Century Specific Plan
DEIR
SCH#99022069

RECEIVED
SEP 13 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

Ms. Heidi Tschudin
City of Woodland
Planning Department
300 First Street
Woodland, CA 95695

Dear Ms. Tschudin:

Thank you for the opportunity to review and comment on the above referenced project. The Traffic and Circulation analysis needs to adequately consider the impacts of this proposal on State highways as follows:

- The "existing plus project" specific plan volumes at the County Road 102/I-5 ramp intersections, as shown in Figures 4.6-11 and 12, are unreasonably low. The I-X and X-I trip tables in the DEIR need to be revised, or the traffic volumes need to be hand-adjusted upward, in order to reflect current trip trends between downtown Sacramento and surrounding communities to produce reasonable results. 3-1

- Using the "average delay" for all vehicles that go through a stop sign controlled intersection is misleading. Stop signs do not spread out delay like a traffic signal. The Level of Service (LOS) for the worst approach or movement should be listed. This inconsistency is apparent on page 4.6-8, where the existing LOS for the I-5 northbound off-ramp is listed as "B", but 30 second delays are said to exist for the high volume of left turns from the ramp. 3-2

- On page 4.6-18, the DEIR lists LOS "E" as being the Yolo County CMP standard for I-5 through Woodland. Caltrans' updated Transportation Concept Report for this segment of I-5 has a concept LOS of "D". 3-3

- On page 4.6-54, a mitigation is listed that would eliminate all left turn movements at the Gibson Road/ Road 101 intersection. It is stated that this would shift substantial traffic to other adjacent intersections, but the impacts at these intersections are not specifically determined. These impacts must be analyzed before this mitigation measure should be considered to be feasible. This particular intersection should also be analyzed during the AM peak hour because of traffic generated by a nearby school. The timing of this mitigation measure should also be estimated based on the proposed circulation for the intial phases of development. 3-4

- On page 4.6-68, the DEIR states that an L-9 interchange will be needed at the County Road 25A crossing of SR 113 for Plan B. This appears to be an accurate assessment. The subsequent discussion indicates that more than a four-lane overcrossing may be required to serve cumulative traffic volumes, if the Parkway Overcrossing is never constructed. This also appears to be accurate. An analysis of Plan B with the construction of the Parkway Overcrossing included may reduce the total road improvement costs for this alternative. 3-5

  Plan A would require some geometric improvements at the Road 25A ramp intersection before signals could be installed. This would include the construction of both left and right turn lanes on Road 25A at each ramp intersection. These intersections should be analyzed accordingly. 3-6

- The proposed Capital Improvement Plan (p. 4.6-72) should be reviewed by Caltrans to ensure that the appropriate improvements to State highway facilties are included and that the estimated costs are reasonable. 3-7

Please provide our office with a copy of the FEIR, the mitigation monitoring plan, and any further actions regarding this project. If you have any questions regarding these comments, please contact Ken Champion at (916) 324-6642. 3-8

Sincerely,

JEFFREY PULVERMAN, Chief
Office of Regional Planning

c: Mosie Boyd, State Clearinghouse
Gary Wegener, City of Woodland Public Works

COMMENT LETTER 3: Jeffrey Pulverman, California – Department of Transportation

Response to Comment 3-1:

The City respectfully disagrees with the commentor regarding the "reasonableness" of the traffic analysis. Traffic forecasts for the existing plus project scenario were generated by incorporating the proposed project into the City of Woodland Travel Demand Forecasting (TDF) Model. Given the size of the project, this approach provides the most reasonable projections of traffic volumes on local and regional roadways because it reflects the addition of project trips and the potential changes that would occur to existing travel patterns. This model also includes a specific component for estimating travel to and from Woodland and external locations such as Sacramento, which is based on Census survey data and regional travel data from the SACMET travel demand model maintained by SACOG. It would not be appropriate to make the suggested manual adjustments to the model when actual data maintained by the responsible agencies reflect otherwise.

Response to Comment 3-2:

The use of average delay for stop sign-controlled intersections is not meant to be misleading, and is based on standard practice. The *Highway Capacity Manual, Special Report 209*, Third Edition, Transportation Research Board, 1994 determines level of service for unsignalized intersections based on the weighted average total delay for the entire intersection. The DEIR does include the estimate of total delay for individual movements at stop sign controlled intersections that would operate much worse than the overall intersection. Nevertheless, this is informational only and impacts are determined based on the technical procedures described in the Highway Capacity Manual.

Response to Comment 3-3:

Comment noted. The seventh line under Roadway Operations on page 4.6-18 of the DEIR is revised as shown:

I-5 (City limits to City limits) LOS ~~E~~ D

This change does not affect the transportation impact analysis or conclusions of the DEIR because it concerns only existing conditions without the project, and the actual volumes are unchanged.

Response to Comment 3-4:

The traffic shifts that could occur as a result of Mitigation Measure 4.6-1 would not require the widening of any existing or planned roadways. However, these changes could require the modification of turn lanes at adjacent intersections. The specific modifications would depend on development timing and phasing; therefore, Mitigation Measures 4.6-1(c) and 4.6-8 also require that more detailed traffic studies be completed for each development within the plan area (e.g, at tentative map approval) to ensure that the City's LOS threshold is maintained.

Response to Comment 3-5:

The City Council directed that two specific plans be analyzed and compared throughout the process. A description of the differences between the two plans is presented on page 4.1-25 in the DEIR. City staff agrees that a parkway overcrossing in Specific Plan B may reduce the total road improvement costs. However, the purpose of not including the overcrossing in Plan B was to evaluate the effects if the overcrossing were not constructed.

Response to Comment 3-6:

The specific timing and implementation of Mitigation Measures 4.6-6(f) and (g) would be determined by subsequent traffic studies submitted with each development (i.e., at tentative map approval) as required by these mitigation measures and Mitigation Measure 4.6-8. As part of the implementation process, the improvements to the SR 113 County Road (Road) 25A interchange would meet all Caltrans project development procedures during design and construction. The proposed improvements in Mitigation Measures 4.6-6(f) and (g) are the minimum required to provide acceptable level of service and reduce the impact to a less-than-significant.

Response to Comment 3-7:

Any improvements to the State highway system included in the Capital Improvement Program would be subject to Caltrans review as part of the Caltrans project development procedures.

Response to Comment 3-8

As a commentor on the DEIR, Caltrans will automatically be sent a copy of this Response to Comments document which includes the Mitigation Monitoring Program. Regarding other actions on the project, please refer to Response to Comment 2-7.

COMMENT LETTER 4: State of California, Governor's Office of Planning and Research State Clearinghouse

Response to Comment 4-1:

Comment noted.

PLANNING AND BUILDING DEPARTMENT
23 Russell Boulevard – Davis, California 95616
530/757-5610– FAX: 530/757-5660 – TDD: 530/757-5666

Davis
California

RECEIVED SEP 7 1999

September 7, 1999

Steve Harris, Director
City of Woodland Community Development Department
300 First Street
Woodland, CA 95695

RE: Comments on "Turn of the Century Specific Plan Draft EIR"

Dear Steve:

Thank you for the opportunity to comment on the Turn of the Century Specific Plan Environmental Impact Report (EIR).

In general, the EIR appears to be accurate, complete and well prepared. The City of Davis Planning and Building Department has the following comments:

1. Traffic and Circulation section, Page 4.6-16. The Environmental Setting describes the City of Woodland Bikeway Master Plan. The EIR should address the project's consistency with the Yolo County Bicycle Master Plan, if applicable. **5-1**

2. Agricultural Resources section, page 4.2-12. City of Davis staff is particularly supportive of Mitigation Measure 4.2-1 which in addition to requiring a 1:1 mitigation for the conversion of farmland states that "Acreage between Woodland and Davis, already experiencing, or likely to experience, growth pressures shall be targeted." City of Davis, City of Woodland, and Yolo County policies promote farmland preservation and avoidance of sprawl. Adding specificity to this mitigation measure on how, when, and where mitigation would occur would assist in implementation and support on-going efforts to preserve agricultural lands between the Cities of Woodland and Davis. For example, prior to recordation of a tentative map, and equal amount of acreage with comparable soils shall be set aside in perpetuity in the area bounded by CR 102, CR 99, CR 27, and the City of Woodland UGB. **5-2**

3. Agricultural Resources section, page 4.2-16. City of Davis staff is supportive of Mitigation Measure 4.3-4 which requires a buffer (500') within the project site adjacent to active agricultural uses to the south of Road 25A. The last sentence appears to have a typo as it begins "Should the City Council choose to report (change to "reject"?)…". Should the City Council consider rejecting the 500' buffer, a reduced option (such as 150 or 200') should be considered to minimize impacts upon agricultural users. **5-3**

4. Agricultural Resources section, page 4.2-19. City of Davis staff are unclear how implementation of mitigation measure 4.2-6, which allows the option of implementing mitigation measure 4.2-2 alone, would off-set the cumulative loss of important agricultural lands in a manner equally effective as implementation of both 4.2-1 and 4.2-2. **5-4**

5. Biological Resources section, multiple pages. City of Davis staff are unclear how the option of participating in the Yolo County Habitat Conservation Plan (HCP) would work if the HCP is adopted after the Turn of the Century Specific Plan is approved and project implementation has begun [mitigation measures 4.5-2(b), 4.5-4(b), 4.5-6(d)]. In addition, it appears that the project applicant must participate if the HCP is adopted. Does this preclude mitigation in the form of participation in the preparation of the HCP? What does adoption of the HCP mean? As currently written, individual jurisdictions have the option to participate. Would only the City of Woodland need to adopt the HCP for this option to be available to the project applicant? Or does the County and the City need to adopt the HCP? **5-5**

The City of Davis strongly supports preservation of agricultural and open space land uses between Woodland and Davis. Mitigation for this project presents an opportunity to take specific actions to further those efforts. The City of Davis looks forward to collaboration with the City of Woodland in making this long term goal a reality for future generations in our communities. **5-6**

Sincerely,

Bill Emlen

Bill Emlen
Planning and Building Director

Cc: John Meyer, City Manager of City of Davis

O\bwolcott\genplan\woodlandcom

COMMENT LETTER 5: Bill Emlen, City of Davis Planning and Building Department

Response to Comment 5-1:

The Yolo County Bikeway Master Plan, January 1993, identifies Road 102 as having existing Class II bike lanes. Implementation of the proposed project would not disrupt this existing facility. However, the DEIR did identify that Plan A and Plan B failed to depict a Class II bike lane on the east side of Road 102 in the proposed street section. As a result, Mitigation Measure 4.6-5(A/B)(a) requires the project applicant to modify Plan A and Plan B to depict the Class II bike lane in the street sections and in the circulation plan.

Response to Comment 5-2:

The commentor's support for Mitigation Measure 4.2-1 is noted for the record. Some details regarding how, when, and where this mitigation measure would be implemented are described in the wording of the measure itself and in the Mitigation Monitoring Program (MMP) for the EIR. Under the MMP, based on proposed phasing of development land of size, soil type and agricultural use similar to the Specific Plan Area must be identified and purchased within Yolo County prior to approval of the first tentative map. The developer of the first tentative map would then be reimbursed by developers of subsequent projects in the Specific Plan area. Please see also Responses to Comments 12-4, 16-6, and 32-20.

Response to Comment 5-3:

Comment noted. The last sentence of the second to last paragraph on page 4.2-16 of the DEIR is revised to read:

> Should the City Council choose ~~chose~~ to reject ~~report~~ this measure, special findings of "overriding considerations" would be required under CEQA. If the City Council does reject a 500 foot buffer, a reduced buffer may be considered.

Response to Comment 5-4:

The intention of Mitigation Measure 4.2-6 is that offsite acreage converted for infrastructure be included within the acreage subject to Mitigation Measure 4.2-1. As stated on page 4.2-13 of the DEIR, if Mitigation Measure 4.2-1(a), which requires preservation of farmland in amount equal to the acreage converted for the project, is implemented, Mitigation Measure 4.2-2 would not be necessary, because the Williamson Act contract land is included in the 940 acres considered in Measure 4.2-1(a).

Response to Comment 5-5:

In order for the Yolo County Habitat Conservation Plan (HCP) to be implemented, it must be adopted by the participating cities and county. Each of these entities would then be permittees. The applicant's participation will depend on the timing of Specific Plan approval and HCP adoption. The HCP will not apply to development that has been approved and permitted prior to HCP adoption. If the HCP is adopted prior to consideration of the first Tentative Map for the proposed

project, the applicant will participate in the HCP. If the HCP has not been adopted, the alternative measures (e.g., 4.5-2(a), 4.5-4(a), and 4.5-6(a)) will be implemented.

Response to Comment 5-6:

Comment noted.

Reclamation District #2035
45332 County Road 25, Woodland CA 95776
(530) 662-9080

RECEIVED
SEP 10 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

September 10, 1999

Heidi Tschudin, Contract Planner
Woodland Commuinity Development Department
300 First Street
Woodland, CA 95695

Dear Ms. Tschudin:

Reclamation District #2035 is a public agency formed to provide flood control and irrigation services to its landowners. The western boundary is approximately one mile to the east of the eastern boundary of the proposed Turn of the Century project. Furthermore, some of the offsite drainage ditches and facilities proposed by Turn of the Century roughly correspond with the western border of our district.

This letter documents our comments on the Draft Environmental Impact Report dated July 1999. The comments are as follows:

1) Page 4.4-4 to 4.4-5 "Groundwater Recharge": The groundwater recharge program described is a direct groundwater recharge program, not an "in-lieu recharge program" as inferred by the text in this section. If there is another program which is an in-lieu recharge program, then it should also be documented and I would like an opportunity to review and/or comment on such a program. **6-1**
2) Page 4.4-5 "Regional and Local Flooding": The DEIR should address the actual level of flood protection being provided by the SRFCP levees in the area, including those levees maintained by Reclamation District #2035. Reclamation District #2035 would be willing to participate in determining the level of flood protection being provided by levees in the district. **6-2**
3) Section 4.4 "Hydrology, Drainage, and Water Quality": The DEIR proposes numerous canals to convey storm drain water to the Yolo Bypass. The DEIR should address the sizing of such canals and the impacts from the potential for flooding from overtopping of these new and existing canals and ditches during peak storm events. **6-3**
4) Section 4.4 "Hydrology, Drainage, and Water Quality": The DEIR indicates that surface drainage from storm events flows into Willow Slough and is thereby conveyed to the Yolo Bypass. The DEIR should address the potential impacts from altering the timing and volume of those flows to downstream water conveyance facilities and to the historical riparian habitat provided by Willow Slough. **6-4**

Thank you for your consideration of these comments.

Very truly yours,

James D. Staker
General Manager

COMMENT LETTER 6: James D. Staker, Reclamation District #2035

Response to Comment 6-1:

The description of the "in-lieu recharge program" and use of the phrase "in-lieu recharge" on page 4.4-5 in the DEIR is based on information presented in a report prepared for the City by Montgomery Watson in November 1997 (Groundwater Impact Analysis Under the 1996 General Plan Water Use Conditions). As described on page ES-4 in that document,

> [T]he Yolo County Flood Control and Water Conservation District has been studying a groundwater recharge program involving delivery of surface water from Clear Lake, Indian Valley Reservoir, and a proposed Cache Creek Recharge and Recovery Project to agricultural users northwest of Woodland. Under the preliminary program, surface water would be delivered in about 50 percent of all years to supplement groundwater. Irrigators would use the surface water in lieu of groundwater pumping. The groundwater that would otherwise have been pumped is therefore stored in the groundwater system. This is referred to as in-lieu recharge.

The commentor is referred to the 1997 Groundwater Impact Analysis report, which is available for public review at City Hall, Public Works Department, 300 First Street, Woodland, or by contacting the Yolo County Flood Control and Water Conservation District.

As the commentor has correctly noted, the Cache Creek program would be a direct groundwater recharge program, not an in-lieu program, as implied by the text in the 1997 Groundwater Impact Report. Conjunctive use is defined as the integrated management of surface and groundwater supplies to meet overall water supply and resource management objectives. In-lieu recharge is accomplished by meeting demands on groundwater resources with surface water resources. To clarify the discussion regarding the District recharge program on page 4.4-5 in the DEIR, the last sentence of the first paragraph on page 4.4-5 of the DEIR is deleted as shown:

> ~~In-lieu recharge could raise the groundwater levels within the local City area from 3 to 8 feet.~~

The following text is added to the end of the first paragraph on page 4.4-5 of the DEIR:

> <u>An element of the Yolo County Flood Control and Water Conservation District's conjunctive-use planning includes a proposed in-lieu recharge project. The project would involve land located generally west of Woodland across County Road 98. The District has estimated that under this project it could supply 3.2 afy of surface water approximately 65 percent of the irrigation seasons. Farmers could use this surface water in-lieu of their own direct pumped groundwater. Project impacts would include higher localized water table levels (proximate to delivery canals and project land). Groundwater modeling completed by the City of Woodland has indicated that the District's project could increase water tables beneath the City on the order of three to eight feet.</u>

The second to last sentence at the bottom of page 4.4-36 is revised to read:

> In addition, the proposed District ~~in-lieu~~ recharge program would offset most or all of the effects of groundwater withdrawal, including incremental reductions in

recharge, if any, attributable to the proposed project.

The seventh sentence in the last paragraph on page 4.4-40 in the DEIR is also revised to read:

> The proposed District ~~in-lieu~~ recharge program would offset most or all of the effects of increased City groundwater pumping.

Response to Comment 6-2:

As indicated in the comment letter, the project site is not within the boundaries of Reclamation District #2035 (RD #2035). The level of flood protection provided by SRFCP facilities is described on page 4.4-5 in the DEIR. As noted in that discussion, the levee system protecting the City and vicinity does not provide 100-year protection, and Cache Creek levees are estimated to provide only approximately 10-year protection. Levees along the lower reaches of the Willow Slough Bypass and Cache Creek, which are within the boundaries of RD #2035, also provide some protection, as noted on page 4.4-5.

The primary sources of flooding in Woodland have been Willow Slough, Cache Creek, and the Sacramento River. As discussed on page 4.4-6, U.S. Army Corps of Engineers studies have confirmed that Cache Creek poses a greater flood threat to the City and to lands east of the City than predicted by the FIRMs. Flooding would result from water overflowing creek banks and breaching the levees *north and northwest* [emphasis added] of Woodland. A portion of the project site would be within the 100-year floodplain related to Cache Creek levees. The RD #2035 levee system is located a few miles *east* of the project site.

The level of flood protection provided by RD #2035 levees does not affect the proposed project, nor does the proposed project include any features that would affect the RD #2035 levees. The impact analysis concluded that the project would not create or exacerbate downstream flooding effects (please see Impact 4.4-1 on pages 4.4-24 through 4.4-29), assuming implementation of Mitigation Measure 4.4-1, as revised.

The Federal Emergency Management Agency and the U.S. Army Corps of Engineers, along with State and local agencies, are responsible for determining the level of flood protection afforded by levees under their jurisdiction. Determining the actual level of protection provided by RD #2035 levees would not be necessary for this type of development project, and the additional information requested by the commentor would not alter the conclusions of the DEIR.

Response to Comment 6-3:

The proposed project (not the DEIR) proposes a conveyance system to manage stormwater runoff. Figure 4.4-4 on page 4.4-11 in the DEIR shows the locations of existing and planned canals that may be used to convey stormwater from the project site. Offsite channel improvements shown in Figure 4.4-4 are based on Map 6 in the City of Woodland Storm Drainage Facilities Master Plan (SDFMP), which is available for public review at the Pubic Works Department, 300 First Street, Woodland.

As discussed on page 4.4-12 in the DEIR, hydrographs indicate that channels receiving stormwater runoff from future development, including the project site, would not be subject to any greater flows

than presently occurs. Moreover, the proposed combination of storm sewers, pipelines, and detention/retention facilities that would be installed as part of the Draft SDFMP (which includes the project site) would actually reduce future flows at most key locations, as compared to existing conditions. Therefore, the potential risk of flooding due to bank overtopping or changes in stream channel conditions (e.g., scour or erosion) at downstream areas would not be any greater than existing conditions, even with additional development. The hydrographs illustrating the potential for flooding and overtopping at downstream locations are included in Appendix B of the SDFMP.

For these reasons, it is not necessary to include detailed information or an analysis of the sizing of proposed channels and canals in the DEIR. Further, channel modifications and sizing would depend on the extent and timing of future development proposals at the project site (please see page 4.4-28 in the DEIR). As stated on pages 4.4-16 and 4.4-17 in the DEIR, SDFMP Guidelines and Criteria specify requirements for hydrologic calculations and assumptions to estimate runoff flow rates and volumes, pipeline and channel sizing. The proposed project must comply with those standards.

Response to Comment 6-4:

Willow Slough originates several miles west of the project site and is within the Lower Putah Creek hydrologic area. As noted on page 4.4-8 in the DEIR, only runoff from the southern part of the project site is conveyed via overland flows to Willow Slough; the entire project site does not drain to Willow Slough. Additional sources of drainage to Willow Slough include ditches along Road 102 and offsite properties east of Road 102. Flows from the project site and vicinity represent a portion of the drainage in the Willow Slough subshed.

Mitigation Measure 4.4-1(a), as revised, clarifies that increased runoff from the project site must be controlled so that the rate or volume of runoff will not create new flooding problems or exacerbate existing ones at downstream locations. Neither the City's Draft SDFMP nor the conceptual drainage plan for the proposed project identify features that would reduce flows to Willow Slough. The effect of timing and volume on other water conveyance facilities is further addressed in Response to Comment 6-3.

CITY OF WOODLAND
FINANCE DEPARTMENT
MEMORANDUM

RECEIVED
AUG 31 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

August 31, 1999

TO: Heidi Tschudin, Contract Planner

FROM: Finance Director

RE: Turn of the Century Draft Environmental Impact Report

Following are a few comments on the DEIR.

1. Page 2-26: Transfer of Density: "...applicant shall demonstrate that the requested transfer does not create significant changes in the distribution of traffic...". When discussing transfers of density, in general, a mechanism needs to be established for any such transfers effecting the financing program. 7-1

   For example, lots scheduled for single family are built to another specification. Assuming the financing plan is based upon number of specific building 'types', the debt service would be short the necessary revenue stream.

2. Page 3-19: 4.5-7: The mitigation measure discusses "... the City shall ensure that surveys have been conducted that are appropriate...". I find no discussion on who is to pay for these surveys or, if the City is paying, where the dollars might be found. 7-2

3. Page 3-36: 4.8-7: The mitigation states "...A disclosure statement shall be provided to all prospective buyers of property within 300 feet of the Regional Park...". I am concerned that this measure also be extended to renters in Multi Family units. 7-3

4. Throughout the DEIR, one mitigation measure listed is "... Fiscal Impact Analysis for the Specific Plan shall demonstrate that the 7-4

identified increased demand for *officers/fire/etc* will be adequately funded, on a phase basis, by general fund revenue generated by the proposed development on a phase basis...".

Just in Police and Fire, the plan is calling for 14 Officers and 10 Firemen at build out. Hypothetically, assuming 3,770 units were built and sold for $200,000 each, the 1% property tax would generate $7,540,000 in property tax.

Of that $7.5M, the City of Woodland receives approximately $0.15 on the dollar under proposition 13. That means about $1,050,000 in property tax revenue to the City, at build out. Sales Tax revenue may add to this revenue, but, it is unlikely it would cover the cost of salary and benefits for 14 officers and 10 firemen. That cost, alone, is estimated to be $1,580,000 per year in current dollars.

This does not include personnel costs for Sewer, Water, General Administration, Library, or Recreation. This is a major concern that will need to be seriously reviewed in the Fiscal analysis.

7-4 Cont'd.

COMMENT LETTER 7: Finance Director, City of Woodland Finance Department

Response to Comment 7-1:

Comment noted. This information has been forwarded to the financial consultant preparing the financing plan.

Response to Comment 7-2:

Because offsite infrastructure must be sized and designed to serve the entire Plan Area, the Specific Plan applicant is responsible for identifying such infrastructure and its source of funding. Once the final alignment and locations of offsite infrastructure have been identified, additional Specific Plan-level CEQA analysis may be necessary. For subsequent tentative maps and subdivision developments, the applicant for those individual projects would be required to provide necessary site-specific studies.

Response to Comment 7-3:

Comment noted. Mitigation Measure 4.8-7(a) on page 4.8-27 of the DEIR is revised as shown:

> *A disclosure statement shall be provided to all prospective buyers <u>or tenants</u> of properties within 300 feet of the Regional Park site notifying of the presence of existing and future noise-producing model airplane, rodeo, and playing field activities. <u>Notification of prospective tenants shall be the property-owner's responsibility.</u>*

Response to Comment 7-4:

Comment noted. As discussed in Response to Comment 7-1, a financing plan is being prepared for the proposed project. Pursuant to the General Plan requirement for fiscally-neutral or positive development, the DEIR mitigation measures require that the financing plan address any gaps in funding for services needed by the proposed project.

LETTER 8

City of Woodland

POLICE DEPARTMENT 520 COURT STREET WOODLAND, CALIFORNIA 95695 (530) 661-5900
FAX (530) 661-5898

TO: Heidi Tschudin
Contract Planner
Woodland Community Development Department
300 First Street, Woodland, CA 95695

FROM: Woodland Police Department
Administrative Services Division
Sergeant David Ingman

DATE: August 31, 1999

RECEIVED SEP 3 1999 CITY OF WOODLAND COMMUNITY DEVELOPMENT DEPARTMENT

EIR Review: Turn of the Century Specific Plan

In reviewing the EIR, specifically the purposed impact on police services section 4.13, the following amended recommendations should be included.

(4.13-16) Police Vehicles and Equipment/Project Impact and Mitigation Measures

The Woodland Police Department presently staffs 59 sworn and 25 non-sworn personnel. Based on a City population of 45,000 we currently have 1.3 sworn /1000 pop. and .55 non-sworn /1000 pop.

Plan A would require 13 new sworn officer positions / 6 civilian personnel.
Plan B would require 14 new sworn officer positions / 6 civilian personnel.

Based on one (1) new patrol vehicle for every 2.28 patrol positions the plan will require:

- Six (6) patrol vehicles

8-1

Based on one (1) plain sedan for every 2 investigative, support, or administrative positions (non-sworn personnel) the plan will require:

- Three (3) support vehicles.

One (1) cellular phone for every 6.5 sworn personnel **will not** meet department requirements in that **each** patrol car will have a cellular phone installed. This would necessitate seven (7) cellular phones, one for each patrol vehicle and the K-9 vehicle.

One (1) portable radio per every two sworn personnel will not meet department requirements. **Each** sworn officer is assigned a portable radio per department procedure. This would require thirteen (13) new portable radios per Plan A and fourteen (14) new portable radios per Plan B.

4.13-7 Specific Plans A and B

Paragraph one (1) line five, "ten officers" should read ***fourteen officers***.

8-2

Personnel and Facility Space

The formula for 315 square feet of total building space per employee shall be utilized when determining personnel space needs in anticipation of a new police facility. A police substation located in the Turn of the Century plan area is not anticipated at this time.

8-3

COMMENT LETTER 8: Sergeant David Ingman, City of Woodland Police Department, Administrative Services Division

Response to Comment 8-1:

The comment confirms the conclusions of Impact 4.13-6 regarding the number of officers that would be needed to serve the project. The comment provides additional information about the vehicles and equipment that would be needed by the Police Department. This information is particularly relevant for the fiscal analysis and financing plan, and has been forwarded to the financial consultant for the project.

Response to Comment 8-2:

Comment noted. The fifth line of the first paragraph on page 4.13-19 of the DEIR is revised to read:

> This would require the project to provide an additional thirteen (for Plan A) to fourteen (for Plan B) ~~ten~~ officers to serve the demand associated with buildout of the project.

Response to Comment 8-3:

Comment noted. Mitigation Measure 4.13-6(b) on page 4.13-18 of the DEIR is revised as shown:

> *The City's existing Capital Facility Fee program shall be amended and fee schedule revised to provide for additional police facilities needed to serve the project. ~~include construction of one new police substation~~. ~~This substation~~ Such additional space (including the phase of development at which time it will be required) shall be described in greater detail in the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan. Individual projects proposed within the project site shall pay the appropriate capital facility fees to finance the construction of new law enforcement capital facilities. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.*

City of Woodland

POLICE DEPARTMENT 520 COURT STREET WOODLAND, CALIFORNIA 95695 (530) 661-5900
FAX (530) 661-5898

RECEIVED
SEP 3 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

TO: Heidi Tschudin
Contract Planner
Woodland Community Development Department
300 First Street, Woodland, CA 95695

FROM: Woodland Police Department
Traffic Division
Sgt. George Bierwirth

DATE: September 2, 1999

DEIR Review: Turn of the Century Specific Plan

It is the position of the Traffic Division of the Police Department that Plan A be modified to be in compliance with the functional classification system of the General Plan, specifically these issues need to be brought into compliance, as referenced in the DEIR: 9-1

- Parkway Drive is not designated as a principal arterial from Road 102 to Pioneer Avenue and from East Street to College Street; 9-2
- Road 25A is not designated as a principal arterial from Road 101 to East Street; and 9-3
- Pioneer Avenue is not designated a principal arterial from Parkway Drive to Road 25A. 9-4

It is our opinion that compliance with the General Plan is the only mitigation option available to address these issues. 9-5

The saturation of schools, commercial and residential development, and the sports complex, in the area of Parkway Drive, Pioneer Avenue, Gibson Road, and Co. Rd. 102 require the issues addressed in the EIR be corrected in a manner compliant with the General Plan. 9-6

Finally, it is our belief traffic will flow better in the area of Gibson, Parkway, and Pioneer if the proposed high school and middle school are separated by the proposed sports complex and Fire Department Station. Access to the high school would be from Pioneer Avenue only, and access to the middle school would be from Parkway Drive only. Additionally, a proposed elementary school on Parkway Drive near Co. Rd. 102 will affect traffic flow on Parkway Drive. Even with these proposed changes, Gibson Road, Pioneer Avenue, and Parkway Drive will be heavily impacted by traffic during the morning commute and in the afternoon, much the same as Gibson School affects Gibson Road, on a smaller scale. **9-7**

COMMENT LETTER 9: Sergeant George Bierwirth, Woodland Police Department, Traffic Division

Response to Comment 9-1:

This comment acknowledges information contained in the DEIR regarding the non-compliance of the proposed project with General Plan functional classifications for the roadway system. These differences were evaluated in Section 4.6 of the DEIR and will be further discussed as the plan is considered by the City. Specific streets raised in the comment are discussed below.

Response to Comment 9-2:

The General Plan does show Parkway Drive as a principal arterial, although the General Plan shows 2 lanes east of Pioneer Avenue (see Figure 3-1 of the General Plan), which appears to be an error.

Response to Comment 9-3:

Road 25A is shown as a 2-lane principal arterial in the General Plan.

Response to Comment 9-4:

The General Plan does not show Pioneer Avenue as a principal arterial from Parkway Drive to Road 25A, but does show it as a 4-lane minor arterial to Road 25A.

Response to Comment 9-5:

Comment noted.

Response to Comment 9-6:

Comment noted.

Response to Comment 9-7:

This comment acknowledges information contained in the DEIR regarding potential traffic impacts associated with the concentration of schools and other land uses in the area bounded by Parkway Drive, Pioneer Avenue, Gibson Road, and Road 102. Specifically, Mitigation Measure 4.6-6(h) recommends that the proximity of these land uses should be carefully considered and addressed prior to their final development approvals. As indicated by the comment, traffic would increase in the a.m. hours. Intersection operations during the a.m. peak hour are analyzed in Impacts 4.6-1 and 4.6-6, and shown in Table 4.6-7.

With respect to the elementary school proposed near Road 102, City staff will likely be making a recommendation that the access to the school site be from collectors or other lower volume streets, rather than an arterial such as Parkway Drive.

City of Woodland

RICHARD L. KIRKWOOD
City Manager

7-19-99

Heidi Jacobsen -

Mr. Pfanner ~~is~~ represents The Taxpayers association. He said he was unhappy the City is considering this annexation - 10-1

His concern relates to the unmet needs of the School District and this plan will force more debt (school debt) on to the taxpayer - He plans to show up at an upcoming School Board meeting. I gave a heads up to Linda Weaver 10-2

Rick

City Hall, 300 First Street, Woodland, California 95695
Office Phone: (530) 661-5800 • Fax: (530) 661-5813
Internet: rick.kirkwood@ci.woodland.ca.us

COMMENT LETTER 10: Richard Kirkland, City of Woodland City Manager

Response to Comment 10-1:

Comment noted. The issue of whether and where Woodland should grow was addressed in the City's 1996 General Plan, which concluded that the City should accommodate new growth by developing land to the south, including the Specific Plan area. The Specific Plan process is being used to examine how (and when) to grow. Such development would require annexation of the Specific Plan area to the City. The annexation could occur early in 2000 assuming an approval of the project. The comment will be considered by the City Council in their deliberations.

Response to Comment 10-2:

Comment noted. The possible sources and limitations on school financing are discussed on pages 4.14-21 through 4.14-23 of the DEIR. As discussed on page 4.14-27 of the DEIR, the proposed project will provide elementary, middle and high school sites within the Specific Plan area, and will contribute its "fair share" of taxes, a portion of which would support schools.

WOODLAND
Joint Unified School District
Linda Weesner, Superintendent
630 Cottonwood Street • Woodland, California 95695-3615
(530) 662-0201.4333 • FAX (530) 666-7039
Business Services Division

Board of Trustees
Robert Salley, President
Robert Young, Vice President
Cirenio Rodriguez, Clerk
Elaine Lytle
Tim Sharp
Michael Silan
Meg Stallard

September 1, 1999

City of Woodland, Planning Department
Mr. Steve Harris
300 First Street
Woodland, CA 95695

Re: T.O.C. Student Generation Formula

Dear Mr. Harris,

I appreciated the opportunity to talk with you today on the phone and discuss issues related to the Draft EIR. Specifically, the author of the EIR used student generation factors for multi-family dwellings as if they were single family homes. There is a different factor for multi-family dwellings and for single family homes. If the correct field factor had been applied, the number of elementary schools required would be reduced by one. 11-1

The school district is currently engaged in preparing a study known as a Developer Fee Justification Study. The primary focus of this study will be to produce current and correct student yield factors as generated by the Sycamore Ranch development for single family homes and a 1991 study for numbers developed for multi-family dwellings. Because this study will not be completed in time to address the numbers used in the EIR, we are not in a position to contest or correct the statements made. Generally, except for the statements related to student yield numbers, we are in agreement with the Draft EIR. 11-2

If you have any further questions, please feel free to call me next week at 662-0201, Ext. 4315.

Sincerely,

Russell Miller
Associate Superintendent/Business

Russell Miller
Associate Superintendent,
Business Services

LuAnn Boone
Associate Superintendent,
Educational Services

Richard Pierucci
Associate Superintendent,
Human Resource Services

COMMENT LETTER 11: Russell Miller, Associate Superintendent/Business, Woodland Joint Unified School District

Response to Comment 11-1:

The generation factors used in the EIR were obtained from conversations with representatives of the Woodland Joint Unified School District and from the *Facilities Master Plan 1999-2018*, dated April 1999. These generation rates were applied to all housing units, similar to the application used to calculate future residential construction impact on district enrollment in the *Facilities Master Plan*. The commentor does not provide alternative student generation factors for single-family or multi-family dwellings nor were any available at the time this information was requested of the District. Since the release of the DEIR, the District has provided a new preliminary student generation rate for multi-family residential units in Woodland. This rate is 0.462. The multi-family generation rate was applied to the proposed project. These calculations are shown below in Table 4.14-10, Revised Student Enrollment Estimates – Woodland Joint Unified School District.

TABLE 4.14-10(Revised)

TENTATIVE STUDENT ENROLLMENT ESTIMATES – WOODLAND JOINT UNIFIED SCHOOL DISTRICT

Residential Units		District Student Yield Factor	Student Grade Breakdown (approximate)			Total Number of New Students
		K-12	K-6 (.286 multi .509 single)	7-9 (0.65 multi .119 single)	10-12 (.111 multi .198 single)	
Plan A						
Multi-family	1,324 units	.462	379	86	147	612
Single-family	2,296 units	.827	1,169	273	455	1,897
Total Plan A	**3,620 units**		**1,548**	**359**	**602**	**2,509**
Plan B						
Multi-family	1,237	.462	354	80	137	571
Single-family	2,508	.827	1,277	298	497	2,072
Total Plan B	**3,745**		**1,631**	**378**	**634**	**2,643**

1. Senior apartments and convalescent care units are not included, because they would not generate any students.

Source: Dwight Berg, Public Economics, Inc., Kim Van Gundy, Woodland Joint Unified School District, personal communication, October 1999.

As shown above in the revised table, the total number of elementary school students generated under Plans A and B with new generation rate would be 1,548 students, and 1,631 students, respectively. Because the initial capacity of elementary schools is approximately 500 to 550, implementation of the proposed project would still appear to require the construction of three elementary schools. Because three schools are required, and because the multi-family rate is considered preliminary, the text of the EIR appropriately reflects possible (worst case) impacts. No change has been made.

Response to Comment 11-2:

Comment noted.

LETTER 12

County of Yolo

PLANNING & PUBLIC WORKS DEPARTMENT
292 WEST BEAMER STREET WOODLAND CA 95695-2598
(530) 666-8775 FAX (530) 666-8156

TOMMY J. DAVIS
DIRECTOR

City of Woodland Community Development Department
Heidi Tschudin, Contract Planner
300 First Street
Woodland CA 95695

August 31, 1999

Re. **Turn of the Century Specific Plan Draft Environmental Impact Report (DEIR)**
(SCH #99022069)

Dear Mrs. Tschudin:

On behalf of the County of Yolo, Planning & Public Works Department has completed review of the DEIR and is submitting the following comments.

Please feel free to contact us if discussion is necessary prior to the preparation of responses. David Daly, Senior Planner can be reached at (530) 666-8043 to coordinate any efforts in this regard.

Land Use & Planning

Mitigation Measure / Impact: 4.1-1	1. This measure needs revision to identify additional incompatible land uses, other than adjoining agricultural operations, including industrial agricultural processing facilities, the WWTP, Woodland Biomass, etc;	12-1
	2. Deed Disclosures re. incompatible land uses, as a means of mitigation, do not reduce the actual level of impact from "Significant" to "Less than Significant". Impacts from adjacent and area land use activities, i.e. agricultural operations, the sugar refinery, etc., may be in perpetuity (unless ceased) regardless of disclosures to homeowners; Deed Disclosures re. such matters are due course, however, based on a disclosure's practical ineffectiveness to reduce the real level of impact, i.e. odors, chemical application activities, dust, noise, etc., the Level of Significance concerning Impact 4.1-1 needs to be changed to "Significant and Unavoidable". Commensurate with this, findings of fact and corresponding overriding considerations will be needed.	12-2

Agricultural Resources

4.2-1	1. The timing of set aside acreage to compensate for the loss of Farmland (940 acres) needs to be verified prior to annexation of the entire initial project area versus at the time of development activity within any particular development in the project area;	12-3
	2. The mitigation proposed would allow for compensation agricultural land to be set aside on a piecemeal basis, geographically and acreage, versus as a 940 acre block of land(s), in a single location such as the proposed development site.	12-4

4.2-2	The 162 acre conservation easement and Williamson Act contract required by the mitigation measure, and all pertinent matters surrounding lands under the existing Contract, need to be completed to the satisfaction of Yolo County.	5
4.2-4	The proposed mitigation measure needs to be modified to require a 500-foot buffer from active agricultural land uses also located to the west and east of the project area as identified on Page 4.1-3 of the DEIR - "Existing Uses Adjacent to the Project Site".	12-6
	Hydrology, Drainage & Water Quality	
4.4-1 & -9	1. The DEIR discusses offsite channel modifications that will impact drainage of property in the unincorporated County south and east of the TOC project. Proposed mitigation measures don't ensure that Yolo County will be able to exercise sufficient control over the design of channel improvements within the County's jurisdiction. The County is particularly concerned about conveyance capacity, impacts to existing drainage facilities and patterns, and safety issues with regards to open channels adjacent to County Roads;	12-7
	2. The DEIR doesn't address drainage impacts from agricultural lands, located west of the project, on the engineered storm water collection system in the TOC project;	12-8
	3. Measures should be taken to minimize siltation of drainage facilities.	12-9
	Traffic & Circulation	
4.6-2	Mitigation Measure 4.6-2 (b) should be clarified to include Road 101 between Gibson Rd and County Road 27, and County Road 25A between County Road 102 and State Route 113. The Standards of Significance for the Roadway System include "add substantial vehicle trips to a roadway facility that does not meet applicable design standards." The data presented in the DEIR indicates that peak hour traffic volumes on County Road 101 between County Roads 25A and 27 will triple under either Plan A or B. While the current traffic volumes are low, over the last 10 years 10 accidents have been reported on this section of road. Sliding and fish tailing on the gravel road surface is discussed in six of the ten accident reports. The introduction of additional vehicle trips to the sub-standard County Road 101 is a significant public safety impact.	12-10
	Air Quality	
4.7-4	1. Please note comments re. 4.1-1 above, concerning incorporation of additional land uses;	12-11
	2. The level of impact identified is "Potentially Significant". Based on the relationship with Impact 4.1-1, the level of significance should be changed to "Significant".	12-12
	3. With respect to the reference to 4.1-1, please see staff comments concerning the realistic ineffectiveness of deed disclosures in reducing an actual impact to a less than significant level, changes to the level of significance, and the need for findings of fact and overriding considerations.	12-13

	4. Using DEIR traffic data, particulate emissions from the unpaved section of County Road 101 between 25A and 27 would triple over current levels;	12-14
	5. Mitigation Measure 4.7-4 references 4.1-1 which will not adequately disclose odor problems to all homeowners in the project area. The odor problem can extend across the entire Specific Plan. All potential homeowners should be made aware of these conditions.	12-15
	Noise	
	General comment regarding possible noise impacts on sensitive receptors from the Yolo County Animal Shelter adjacent to the northeast corner of the project area. The facility was not identified and/or described with respect to any possible acoustical impacts.	12-16
	Public Health & Safety	
4.12-2	1. Given the variability of air movement and changes in wind direction, it is the recommendation of staff that the level of impact be changed from "Less than Significant" to "Significant and Unavoidable". Commensurate with this, findings of fact and corresponding overriding considerations will be needed.	12-17
	2. As a result of #1, an appropriate mitigation measure and/or reference will need to be adopted addressing potential health hazards as a result of interfacing urban residential, educational and public park areas with adjacent agricultural operations, specifically with respect to chemical pest control application activities, i.e. project setback buffer, until such time as adjacent chemical application ceases.	12-18
	Public Services and Facilities	
4.13-1 (a)	Demonstration of adequate fire services and operations should be accomplished prior to tentative subdivision map approval versus final map.	12-19
(c)	1. A deed disclosure to residents re. delayed fire department emergency response times is not a means to reduce the level of short-term impact to "Less than Significant". Until such time as the fire station is operational the level of impact should be changed to "Short-Term Significant" for "(c);	12-20
	2. The mitigation is contrary to 4.13-2 which requires, prior to tentative subdivision map approval, that the applicant: 1) demonstrate that adequate fire department emergency response time can be maintained; or, 2) construct of an additional fire station.	12-21

Sincerely,

for John Bencomo, Assistant Director

c. David Daly, Senior Planner
Jim Campbell, Senior Civil Engineer

COMMENT LETTER 12: John Bencomo, Assistant Director, Planning & Public Works Department, County of Yolo

Response to Comment 12-1:

As discussed on page 4.7-9 in the DEIR, the Wastewater Treatment Plant (WWTP) is located approximately three-quarters of a mile east of the project site. It is not adjacent to the project site. Potential odor sources from the WWTP are discussed in page 4.7-9, and Impact 4.7-4 concludes that odors from the WWTP would not significantly affect the proposed project. Impact 4.7-4 also addresses odors from the sugar refinery, which also does not adjoin the project site. There are no "industrial agricultural processing facilities" adjacent to the site, and Woodland Biomass is located a few miles north of the site. All of these facilities are generally downwind of the project site under most conditions. With the exception of odor complaints regarding the sugar refinery (at locations closer to the plant than the project site), the potential for odors from industrial facilities to affect the project site is not considered substantial. The City respectfully disagrees with the commentor's suggestion to provide a disclosure to future homeowners. Odors from adjacent agricultural operations could affect the project site, but Mitigation Measure 4.7-4 was identified to reduce such impacts, as discussed on page 4.7-27. This would ensure that future homeowners are notified of the potential for nearby agricultural operations on private lands to generate odors that may be considered offensive. Impact 4.12-2 on pages 4.12-11 through 4.12-12 in Section 4.12, Public Health and Safety, evaluates hazards associated with crop dusting on adjacent agricultural properties.

Response to Comment 12-2:

While deed disclosure regarding incompatible adjacent uses does not reduce the level of physical effect on future homebuyers in the Plan Area, it does provide the buyer with information on potential incompatibilities prior to purchase and allows the buyer to consider the information in the choice to purchase property. It is assumed that buyers who choose to purchase property after disclosure of potential nuisance activities have considered the potential nuisance and determined that the nuisance is not personally significant. Therefore, for new growth areas, the City does believe the disclosure requirement is an effective and appropriate mitigation tool.

Response to Comment 12-3:

Please see Responses to Comments 5-2, 16-6, and 32-20.

Response to Comment 12-4:

Mitigation Measure 4.2-1 requires that the project applicant set aside 940 acres (plus the amount of Important Farmland converted for offsite infrastructure) of contiguous, active agricultural acreage prior to commencement of any development activity. Even if the compensation land were dedicated with each individual development, instead of in a 940-acre block, 940 acres of land would still be preserved for agricultural use. Although conservation of a single 940-acre parcel could have advantages, the project site is currently operated by several different farmers, not as an entire 940-acre block, which demonstrates that smaller parcels can be effectively farmed.

Please also see Responses to Comments 5-2, 16-6, and 32-20.

Response to Comment 12-5:

The City agrees that discussions related to the Williamson Act recision request should be decided by the local agency with jurisdiction. At the present time that is the County.

Response to Comment 12-6:

As stated on page 4.2-16 of the DEIR, the loss of viability on land adjacent to Road 102 (to the east of the project site) is considered less than significant because existing land uses already restrict the ability to aerially spray those properties. Therefore, the proposed project would not create any additional restrictions on these properties and no additional buffer would be required. Additionally, this area is identified as Urban Reserve which signifies potential development at some point in the future, at which time the buffer could become a burdensome land use.

Impact 4.2-3 discusses impacts on agricultural land to the west of the project site. This area (the Master Plan "Remainder Area") is identified in the General Plan as the next logical place for growth, after the Specific Plan. The DEIR appropriately indicates that interim unavoidable impacts could occur in this area, but planned growth would rectify this situation over time. As to the east, creation of buffers for this area at this time could result in burdensome land use patterns when future planned growth does occur.

Response to Comment 12-7:

The DEIR does not state that offsite channel modifications will affect drainage of property in the unincorporated County south and east of the proposed project. The DEIR (page 4.4-8) acknowledges that flooding often occurs at several locations east of Road 102 and south of Gibson Road. The project is not required to reduce or eliminate the existing flooding problem in that area. However, because the proposed project would increase stormwater runoff over existing conditions, which could further affect flooding at offsite locations (please see Impact 4.4-1 on pages 4.4-24 through 4.4-29 in the DEIR), Mitigation Measure 4.4-1(a) is recommended to ensure that increased runoff from the project site would not exacerbate the existing problem. Specifically, Mitigation Measure 4.4-1(a), as revised, directs that hydrologic and hydraulic calculations be used to design a system that will manage increased flows. This would ensure that no additional water would flow during peak events into areas east and south of Road 102 where flooding already occurs. See also Response to Comment 6-3, which addresses offsite improvements anticipated by the City of Woodland under its Storm Drainage Facilities Master Plan (SDFMP) and conveyance system capacity.

The design of any offsite channel improvements within County jurisdiction would not only be required to meet City standards but also any applicable regulations of the County and Flood Control District as the jurisdictional agencies.

Response to Comment 12-8:

The SDFMP infrastructure addresses drainage originating west of the plan area. As part of the City Public Works review process, the City would ensure that storm drainage runoff from agricultural

areas to the west are accounted for in the design of the drainage system.

Response to Comment 12-9:

As discussed on page 4.4-10 in the DEIR, one of the components of the City's SDFMP is "Storm Water Quality Regulations and Control Measures." This document outlines the regulatory context and identifies controls that could be used to reduce adverse water quality effects on the drainage system, including siltation. As noted in Impact 4.4-3 on pages 4.4-31 through 4.4-33 in the DEIR, the proposed project would be required to incorporate appropriate Best Management Practices (BMPs) to minimize pollutants in urban runoff. The selected BMPs would be based on the type of development and land uses in the project site, taking into account local and regional drainage and water quality considerations. Structural BMPs in the drainage system could include engineered features that provide some treatment, such as vegetative drainage ways, detention infiltration ponds, or filtration basins and sand filters. These features would reduce the amount of sediment conveyed to and within the drainage system.

Response to Comment 12-10:

As requested Mitigation Measure 4.6-2(b) on page 4.6-58 is clarified as follows:

(b) *Offsite roadways needed to serve the project site (e.g., Road 101, Road 25A ~~and E Street~~) shall be improved to meet City design standards. <u>The specific segments that must meet these standards are:</u>*

<u>Road 101 from Gibson Road to Road 25A</u>
<u>Road 25A from SR 113 to Road 101</u>

Improvements to Road 101 south of 25A are not required as a result of the proposed project. As shown in Figures 4.6-2, 4.6-11 and 4.6-12 of the DEIR, traffic volumes on Road 101 south of Road 25A would increase from 22 vehicles in the existing peak hour to 60 vehicles with Plan A or Plan B. Under cumulative conditions, approximately 40 vehicles would occur in the peak hour with or without the proposed project (see Figures 4.6-13, 4.6-14 and 4.6-15). These volumes do not warrant improving a county road to city standards.

Response to Comment 12-11:

Please see Response to Comment 12-1.

Response to Comment 12-12:

This impact is identified as "potentially significant" because there is not enough information available to reach a certain conclusion, yet the potential for the impact to occur is clearly there. Potentially significant impacts in this document are treated no differently from significant impacts and require the identification of feasible mitigation measures. The City believes the text presented in the DEIR is appropriate and no changes have been made.

Response to Comment 12-13:

See Response to Comment 12-2.

Response to Comment 12-14:

As discussed in Response to Comment 12-10, the proposed project would increase traffic on Road 101 south of Road 25A under existing plus project conditions by approximately 40 cars in the p.m. peak hour. There would be no increase in traffic on this roadway under cumulative conditions. The air quality methodology does assume that roads are paved. Because Road 101 will not be paved south of Road 25A, the increase in traffic on the unpaved portion of Road 101 would generate more dust than indicated by the model output. However, the increase would not be substantial enough to warrant a change in the methodology or to alter the DEIR conclusions regarding project emissions.

Response to Comment 12-15:

See Responses to Comments 12-1 and 12-2.

Response to Comment 12-16:

Animal shelters can be a source of nuisance noise if located in close proximity to noise-sensitive land uses. Due to the separation of this facility from proposed noise sensitive land uses by the intervening college property, adverse noise impacts associated with the shelter are not expected.

Response to Comment 12-17:

As discussed on page 4.12-3 in the DEIR, the Yolo County Department of Agriculture, Weights and Measures has established specific requirements governing the aerial application of pesticides (crop dusting). The purpose of these standards is to ensure that health risks to the general public as a result of routine pesticide applications on agricultural lands are reduced to the extent required by law. These requirements are imposed throughout Yolo County, and are applicable to agricultural operations adjacent to the project site. As noted in that discussion, in addition to distance requirements, aerial applications are only allowed when air movement is away from sensitive areas and winds speeds are less than 10 miles per hour. This aspect of the requirements is specifically intended to address "the variability of air movement and changes in wind direction."

Section 15064(h) of the CEQA Guidelines allows the Lead Agency to use certain approved environmental standards to determine significance. Such standards must have a quantitative, qualitative, or performance requirement found in an adopted statute or ordinance. The Yolo County Department of Agriculture, Weights and Measures "Conditions Covering the Use of Restricted Materials" is an adopted ordinance that applies to agricultural lands adjacent to the project site. Because such standards exist and are intended to reduce the exposure of people to a potential health or safety hazard, the impact is considered less than significant, based on regulations in effect.

Response to Comment 12-18:

Impact 4.2-3 on pages 4.2-13 through 4.2-15 in Section 4.2, Agricultural Resources, addresses potential effects of interfacing urban residential areas with adjacent agricultural operations. As

noted in that discussion, buffers would be established, and minimum distance requirements for crop dusting would apply to offsite agricultural operations. In addition, Mitigation Measure 4.2-3 refers to Mitigation Measure 4.1-1, which directs that all residential units within 500 feet of active agricultural uses be provided a deed disclosure regarding the proximity and nature of agricultural uses. Because impacts related to crop dusting are already regulated, as discussed in Response to Comment 12-17, additional mitigation is not required.

Response to Comment 12-19:

Mitigation Measure 4.13-1 (a) on page 4.13-9 of the DEIR is revised to read:

> *Prior to the first tentative ~~final~~ map approval, the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan…*

Response to Comment 12-20:

Based on Ordinance 1276, the City does not agree that the referenced conclusion of significance should be changed. Ordinance 1276 requires automatic sprinklers in all new residential construction. Mitigation Measure 4.13-1(b) simply reflects a Fire Department policy to allow some development to commence prior to construction of the new station. The first 100 units, therefore, triggers the need. Mitigation Measure 4.13-2 relates entirely to the curvi-linear street pattern proposed for Plan B. If Plan B is adopted, this measure requires an examination of response times based on the indirect routing that would result.

Response to Comment 12-21:

Please see Response to Comment 12-20 above.

LETTER 13

County of Yolo

PLANNING AND PUBLIC WORKS DEPARTMENT
292 WEST BEAMER STREET, WOODLAND, CA 95695-2598 • (530) 666-8775

BUILDING/PLANNING FAX (530) 666-8156 PUBLIC WORKS FAX (530) 666-8728
DIVISION OF INTEGRATED WASTE MANAGEMENT
(530) 575-5577 , FAX (530) 757-5570

TOMMY J. DAVIS
DIRECTOR

September 3, 1999

Oyang Development Inc.
Bruce Bailey
18115 County Road 96B
Woodland, CA. 95695

Dear: Mr. Bailey,

As per our conversation on the above noted date, the property identified as Assessor's Parcel Number (APN) 042-030-01 has been inappropriately designated as Agricultual Preserve (A-P) on Exhibit 4.1-5 -Existing Yolo County Zoning Map prepared by EIP Associates. The correct zoning of the property is Agricultural General (A-1) as referenced in the attached property profile and delineated on the zoning map of Yolo County. 13-1

If you have any other questions in regards to this matter, please do not hesitate to call me. I can be reached at (530) 666-8018.

Respectfully,

Lance E. Lowe, Assistant Planner

Attachments: Zoning Map of Yolo County
Property profile (APN: 042-030-01)

COMMENT LETTER 13: Lance E. Lowe, Assistant Planner, Planning & Public Works Department, County of Yolo

Response to Comment 13-1:

Comment noted. Figure 4.1-3, Existing Yolo County Zoning on page 4.1-5 of the DEIR has been revised to reflect the changes. The revised figure is shown in Chapter 2, Revisions to the Draft EIR.

RECEIVED
AUG 18 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

LETTER 14

YOLO COUNTY DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH SERVICES
10 Cottonwood St.
Woodland, CA 95695
(530) 666-8646

LAND USE PROJECT EVALUATION

PROJECT DESCRIPTION

Title: Turn of the Century Specific Plan

Type: EIR Draft

Location: South of Gibson Rd., West of CR 102

Applicant: Turn of the Century C/O Tom Lumbrazo APN: Numerous

Date Received by E.H.: 8/11/99

Environmental Health has evaluated/reviewed the above referenced project proposal and would like to comment as follows:

The Draft EIR adequately addresses previous comments submitted in response to the Notice of Preparation. No further comments. 14-1

-Continued on Next Page-

Environmental Health Recommends:

☐ Approval of Project.

☒ Approval with Conditions:

Conditions (mitigation measures) specified in the Draft EIR.

☐ EIR ☐ ND

☐ No Recommendation until the following additional information is available for evaluation:

☐ Other:

☐ This project requires no further review or evaluation by Environmental Health.

Our office ☒ has ☐ has not previously reviewed an application on any portion of this project.

PROJECT EVALUATED BY: Paul Fitzmaurice **DATE:** 8/16/99

TS\f:\luform

COMMENT LETTER 14: Paul Fitzmaurice, Department of Public Health Environmental Health Services, Yolo County

Response to Comment 14-1:

Comment noted.

Yolobus

"When You're Going Somewhere"

City of Davis • City of West Sacramento • City of Winters
City of Woodland • County of Yolo
Ex Officio - CalTrans District 3 • University of California - Davis

Yolo County Transportation District
350 Industrial Way
Woodland, CA 95776
(530) 661-0816 FAX:(530) 661-1732

September 7, 1999

Heidi Tschudin
Contract Planner
City of Woodland
Community Development Department
300 First Street
Woodland, CA 95695

SEP 7

Dear Heidi:

Thank you for the opportunity to review the draft Environmental Impact Report for the Turn of the Century Project (TOC). As both the operator of the Yolobus transit service and the Yolo County Congestion Management Agency, staff have comments regarding both transit services and the level of service impacts for the project.

Impact 4.6-3 identifies that the proposed project would increase demand for transit services in an area as yet unserved. The mitigation, which identifies capital costs associated with increasing transit services, should also include a plan to offset some portion of the operating costs associated with transit service to this area. Staff would recommend part of the fair share cost plan include operating assistance for the incremental service increases, and that this plan be developed by Woodland, YCTD and the project developer. **15-1**

In terms of the phasing of the development, in order to provide transit services efficiently, staff believe the project should develop from the west to the east, maintaining a development contiguous with the rest of Woodland. **15-2**

From the aspect of the Congestion Management Agency, impacts to Road 102, which is in the County CMP system, may require the development of a deficiency plan and agreement for improvements to the County CMP system in other locations; likewise, impacts to Gibson Road may trigger a deficiency plan within the City of Woodland. Staff would propose that street alternative plan A (the more grid-like plan) including the over-crossing of State Route 113, would have the lower impacts on the rest of the roadways and is the preferred alternative. **15-3**

If you have any questions or require further information, please call me at 661-0816.

Sincerely,

Terry Bassett
Executive Director

COMMENT LETTER 15: Terry Bassett, Executive Director, Yolo County Transportation District

Response to Comment 15-1:

The comment is correct that the project will result in incremental increases in the operational costs of transit service. To some extent, these costs will be funded with ridership fees and other sources. The first sentence of Mitigation Measure 4.6-3 on page 4.6-59 of the DEIR is revised as shown:

> *~~The project applicant~~ All development within Specific Plan shall contribute ~~its~~ a fair-share of the capital and operating cost associated with providing public transit service to the plan area ~~project site~~.*

Response to Comment 15-2:

Comment noted. Please refer to the discussion of phasing in Response to Comment 1-2. As the proposed project develops, the circulation system will accommodate extension of transit services. The internal phasing is most likely to be driven by the cost of water, drainage, and sewer infrastructure.

Response to Comment 15-3:

Based on the traffic analysis, which took into account CMP thresholds for significance, there were no unmitigated impacts that would trigger the preparation of a deficiency plan. The staff's support for the Plan A grid pattern is noted.

Yolo County Local Agency Formation Commission
625 Court Street, Room 202
Woodland, CA 95695
(530) 666 – 8048
(530) 666 – 8046 (fax)

RECEIVED
SEP 13 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

September 13, 1999

City of Woodland Community Development Department
Heidi Tschudin, Contract Planner
300 First Street
Woodland, CA 95695

Dear Mrs. Tschudin;

On behalf of the Yolo County Local Agency Formation Commission (LAFCO) I have reviewed the Draft Turn of the Century Specific Plan Draft Environmental Impact Report (SCH # 99022069). LAFCO is charged with three main objectives under state law: 1) promoting orderly development; 2) insuring adequate municipal services; and, 3) conserving agricultural land. I have reviewed the DEIR primarily in relation to these goals.

I have two points of clarification concerning graphics in the DEIR. The answers to these clarifications may change some of the comments I make in this letter. 16-1

First, throughout the sections discussing off-site detention ponds the text refers to a possible location "south of County 25 and west of County Road 102". This area is within the specific plan area, not outside. My question is if this text should read "south of County Road 25A and west of County Road 102". This second description would be an area outside the specific plan and matches the site alluded to on the map on page 2-23. Review of page 2-23 clearly brings up questions of what effects all the proposed off-site options might have on existing agricultural uses, the impact on the County of Yolo, and generally why these detention and retention basins are shown offsite instead of within the specific plan area. Could locating these ponds outside the planning area, in fact, create more growth inducing impacts? Couldn't they be within the specific plan area, perhaps as a part of the buffer between agriculture and urban uses? 16-2

The second clarification concerns the maps depicted in the 4.2 section of Agricultural Resources. Consistently in the DEIR, the land shown immediately south of the property under consideration for rescission is identified as nonprime and of the same agricultural value as that of the land requested for rescission. However, during the rescission discussions the southern property has been described as good land intended to remain in agricultural use. If the identification of both areas as poor agricultural land is accurate on the maps, how does that classification affect the long-term use of the southern property for agriculture? 16-3

4.1 Land Use and Planning

The discussion that appears in this section seems to fall short of addressing several concerns. First, the phasing of the development and how the timing can affect impacts on the existing agricultural uses. For example, developing at the north portion of the specific plan first and continuing south, instead of the proposed opposite approach. Preliminary comments that the area to the south has to be developed first due to engineering constraints do not seem supported by the analysis presented in this DEIR. The ability to phase the development in a more contiguous manner from the current city limits would reduce the impact on existing agricultural land. 16-4

The question of the Specific Plan's consistency with the Yolo LAFCO Agricultural Conservation Policy is a policy issue to be addressed by the Yolo County LAFCO when annexation is considered. In addition, the Commission, upon receipt of a complete reorganization request, will also consider policy issues outlined in Government Code §56000 et.al., the Yolo County LAFCO Standards of Evaluation and the Sphere of Influence methodology. 16-5

4.2 Agricultural Resources

Mitigation for the loss of agricultural land through a 1:1 agricultural easement purchase plan is appropriate. However, to intimate that the purchase plan be instituted through independent buyers with no standards for land type or location is questionable as an effective mitigation. This mitigation is proposed early in the process and its application can be much earlier than the subdivision map process. 16-6

In addition, the use of substantial buffers, perhaps using agricultural easements close in to the planning area boundaries, seems of value to the City of Woodland identity and quality of life. The references to an "urban forest" are vague and unproductive. 16-7

The use of disclaimers concerning the affect of agricultural operations on new homes is inadequate to address the urban/agricultural conflict. The City of Woodland should consider adopting a Right to Farm ordinance, possibly using the County of Yolo or City of Davis ordinances as models. 16-8

4.4 Hydrology, Drainage and Water Quality

On page 4.4-4, second paragraph, an explanation is given that at full build out there could be a ground water deficit of about 3,800 afy. This is turn could result in a decline in groundwater levels of 7.4 feet. The text then goes on to compare this change to the Sacramento County area. This does not seem appropriate. A decline of 7.4 feet in groundwater levels would seem significant. In an urban setting there is not the ability to just stop using water, or only use it seasonally. Later in the DEIR it is repeated several times that there is no significant effect on groundwater as a result of this development. That conclusion does not seem supported by the discussion in the analysis done in this section as it relates to the drop in groundwater level and possible subsidence issues. 16-9

A date for the completion of the Storm Drainage Facilities Master Plan update should be given. 16-10

4.13 Public Services and Facilities

The Local Agency Formation Commission is designated to review the ability of service agencies to provide adequate services to annexing areas. This section outlines the provision of fire, police, domestic water, and wastewater, which are the primary services considered by LAFCO. However, there is not complete documentation concerning the extension of services.

The analysis of when, how, and if these services can be provided relies on documents not yet available: the Fiscal Impact Analysis for the Specific Plan and the updates of the Capital Facility Fee program and Facilities Master Plans. These are crucial documents in order to insure that the proposed mitigations are sufficient to meet the service needs of the area. A city service plan for this area is a part of the LAFCO annexation process. Without the noted documents it is questionable a service plan can be adequately provided for the specific plan area. 16-11

Another concern is the tie of the completion of these documents to that of final map approval, which occurs after the LAFCO process. Stipulating that these documents can be final just prior to the final map approval is much too late in the process for sufficient review. Will there only be one final map? The use of the final map approval creates a piecemeal and uncertain approach to service extension given that there will probably be many maps for the whole area. 16-12

A primary LAFCO responsibility is to confirm that the annexing agency has the ability to provide services to the new area, and that extension does not negatively impact the existing residents of the agency. At this point, that confirmation is not feasible. Based on the proposed mitigations, the required documents would not need to be complete until after the LAFCO process. This would severely limit the LAFCO Commission's ability to determine the city's ability to provide adequate services. 16-13

I appreciate that you have allowed me a few extra days in which to review and respond to the Draft EIR. If you have any questions concerning my comments, please contact me at (530) 666 – 8221.

Sincerely,

Elizabeth Castro Kemper
Executive Officer

cc: Yolo LAFCO Commission

s: tocdeirresponse

COMMENT LETTER 16: Elizabeth Castro Kemper, Executive Officer, Yolo County Local Agency Formation Commission

Response to Comment 16-1:

Comment noted. The third sentence of the second paragraph on page 4.4-28 of the DEIR is revised to read:

> Offsite detention or retention storage is being considered at two locations: a detention basin to attenuate peak flows could be constructed immediately south of the project site, ~~on the~~ south ~~side~~ of County Road 25A and west of County Road 102…

The sites for the detention /retention basins were proposed by the project applicant.

Response to Comment 16-2:

As stated on page 6-2 in the DEIR, the rate and location of growth in the region could be influenced by the proposed project; however, the amount of growth would not be affected by project infrastructure because project infrastructure would not be sized to accommodate growth beyond that assumed in the General Plan. It is assumed for the purposes of the analysis that the detention/retention basins would be sized to accommodate only the project area, and, therefore, would not be a significant inducement for growth. The DEIR addressed additional impacts to agricultural land associated with the construction of off-site basins in Impact 4.2-1, where it was concluded that the potential loss of an additional 62 acres of Important Farmland would be a significant and unavoidable impact.

Response to Comment 16-3:

The *Agronomic Study of Turn of the Century Property, North Half of Yolo County Assessor's Parcel Number 042-003-003* (included in Appendix B) analyzed only the portion of the parcel (APN 042-003-003) within the Specific Plan area and not the entire parcel. The commentor is correct that Figures 4.2-3 and 4.2-4 require revision to show only the property within the Specific Plan area as having severely limited soils. The revised figures are shown in Chapter 2, Summary of Changes.

Response to Comment 16-4:

Sections 4.1 (Land Use and Planning) and 4.2 (Agricultural Resources) contain extensive discussions and analysis of compatibility of proposed/planned development and existing uses. The City respectfully disagrees with the commentor's inference that this assessment may be inadequate. Neither the City nor the EIR take a position regarding the efficiency or appropriateness of the applicant's proposed phasing, other than to examine it in the context of environmental impact and policy consistency. There appear to be a number of possible phasing strategies that could ensure contiguity. Precise phasing is anticipated to be influenced by market and infrastructure cost and will be deliberated in the upcoming public hearings. Please see also Response to Comment 1-2.

The project site was designated for urban uses in the Woodland General Plan, which considered impacts on agricultural land. The proposed project would not result in impacts beyond those considered in the General Plan EIR (see Impact 4.2-1).

Response to Comment 16-5:

Comment noted. Annexation of the project site and LAFCO's jurisdiction over annexation decisions are discussed in Impact 4.1-10 on page 4.1-60 through 4.1-64 of the DEIR.

Response to Comment 16-6:

As stated in Mitigation Measure 4.2-1, soils on land set aside to compensate for the loss of agricultural land must be "equivalent or superior to the project area." Although the purchase of compensation acreage may be through independent buyers, the City of Woodland is responsible for determining if the conditions of the mitigation are met, including the type and location of the land. Please also see Responses to Comments 5-2, 12-4, and 32-20.

Response to Comment 16-7:

The City is aware of the value of various buffer opportunities including placement of 1:1 mitigation required in Mitigation Measures 4.2-1 and 4.5-4, buffers required in Mitigation Measure 4.2-4, and various design components proposed by the Specific Plan (including the "urban forest" concept). How to best take advantage of these opportunities in conjunction with other land use concurs will be deliberated by the City Council in the upcoming hearings.

The description of the "urban forest" as provided thus far, was supplied by the applicant in the Specific Plan submittal. The City staff agree that greater specificity will be needed.

Response to Comment 16-8:

Mitigation identified in the DEIR requires that potential impacts caused by agricultural operations be disclosed to all new home buyers. Such disclosures are often a fundamental tool of Right to Farm Ordinances such as referenced by the commentor. Please see also Response to Comment 12-2. The following is added to Mitigation Measure 4.2-3 on page 4.2-15 of the DEIR:

4.2-3
(A/B) (a) *Implement Mitigation Measure 4.1-1.*

(b) *The City of Woodland shall consider adopting a Right to Farm Ordinance to address interim land use conflicts that could occur between new development and planned growth areas that may remain in agricultural uses until future conversion.*

Response to Comment 16-9:

As indicated by endnote references 4, 6, and 7 on pages 4.4-4 through 4.4-5 in Section 4.4, Hydrology, Drainage, and Water Quality, in the DEIR, information regarding groundwater conditions in the Woodland area was summarized from *Groundwater Impact Analysis Under the 1996 General Plan Water Use Conditions*, a report prepared for the City of Woodland by Montgomery Watson in November 1997. An additional source of information included the Woodland General Plan. The description of groundwater conditions presented in the Setting section in the DEIR (page 4.4-4) and the significance of changes in groundwater levels as a result of Woodland General Plan buildout and nearby conditions in Sacramento County is based on information included in those documents and is not intended to reflect an independent analysis of those data.

As discussed on page 4.4-40 in the DEIR, the City's groundwater consultant concluded that although increased groundwater pumping could result in a gradual lowering of groundwater levels by 7.4 feet over the next approximately 20 years, aquifer overdraft is unlikely. The consultant also concluded that existing surface water storage facilities, such as Indian Valley Reservoir, help maintain the groundwater levels in the county, and groundwater levels are likely to stabilize at lower levels created by the anticipated increased pumping rates. In addition, the proposed District recharge program would offset most or all of the effects of increased City groundwater pumping. As discussed in Impact 4.4-10 on pages 4.4-40 through 4.4-41 in the DEIR, the proposed project would incrementally contribute to, and slightly exceed (by approximately 10 percent for the project site itself), these previously identified effects. The added increment associated with the project falls within the margin of error for the analysis and would be indistinguishable within the rise and fall of groundwater levels associated with regional and seasonal agricultural pumping. The Woodland General Plan EIR concluded that cumulative effects on water would be less than significant, assuming implementation of relevant General Plan policies, which included additional groundwater studies (completed) and monitoring and various administrative mechanisms for water conservation (in place). It was concluded that the project would not result in any new or substantial impacts on groundwater levels or subsidence beyond those previously identified in the General Plan EIR.

Response to Comment 16-10:

The Storm Drainage Facilities Master Plan was adopted by the City Council on July 20, 1999.

Response to Comment 16-11:

Although CEQA does not require evaluation of fiscal impacts the City does consider fiscal effects when reviewing a project. Prior to approval of the Specific Plan by the Woodland City Council, the applicant will be required to demonstrate that the development of the Specific Plan Area as a whole would feasibly be able to finance all necessary improvements to public services. Mitigation measures in Section 4.13, Public Services, are intended to ensure that prior to any development, each individual project would demonstrate its ability to finance all public services required for that development. This required fiscal impact analysis, Financing Plan, and Capital Improvement Plan will be available for LAFCO consideration.

Response to Comment 16-12:

The only mitigation measure in Section 4.13, Public Services and Facilities that was tied to a final map was Mitigation Measure 4.13-1(a) which was in error. Please see Response to Comment 12-19.

Response to Comment 16-13:

As discussed in Response to Comment 16-11, the applicant will be required to demonstrate that the development of the Specific Plan Area as a whole would feasibly be able to finance all necessary improvements to public services. This must be done for the entire Plan Area prior to the first tentative map. The documentation of the project's ability to provide financing for public services will be forwarded to LAFCO for consideration with the annexation application, which should provide sufficient information to confirm that annexation would not negatively impact existing residents.

LETTER 17

1947 Galileo Court, Suite 103 • Davis, California 95616

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

(530) 757-3650 • (800) 287-3650 • Fax (530) 757-3670

RECEIVED
SEP 7 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

September 7, 1999

Heidi Tschudin
Contract Planner
City of Woodland
Community Development Department
300 First Street
Woodland, CA 95695

SUBJECT: Comments on Draft EIR for the Turn of the Century (TOC) Specific Plan

Dear Ms. Tschudin,

Thank you for the opportunity to respond to the Draft EIR for the TOC Specific Plan.

Below are the Districts comments:

Land Use and Planning

1) The District supports the inclusion of Retail Commercial (Neighborhood Commercial) and Office Commercial (General Commercial) areas that allow uses that can provide residents with daily goods and services in close proximity to residential areas, reducing local vehicle trips and trips to commercial areas outside of the project area. 17-1

2) The District believes that the distance of 500 feet is inadequate under mitigation 4.1-1 for the provision of a deed disclosure for residential units regarding the proximity and nature of neighboring agricultural uses. Dust and odor from agricultural and related uses can be transported well in excess of 500 feet. 17-2

Traffic and Circulation

1) The District supports adoption of a specific plan that incorporates a grid or modified grid circulation pattern for major arterials and collectors to facilitate optimal interconnectivity and efficiency of the transportation system for vehicles, bicycles pedestrians and public transportation (Plan A alternative). 17-3

2) The District recommends the incorporation of a local street system that will maximize interconnectivity and eliminate barriers between residential areas and parks, schools and commercial uses for vehicles, bicycles and pedestrians and access to transit. 17-4

3) The District supports adoption of mitigation measurers 4.6-5 (a) (i) over 4.6-5 (a) (ii), with the additional provision that bike lanes be provided on both sides of Road 25A from State Highway 113 to Road 102. This will reduce bicycle vs. vehicle conflicts for eastbound bicyclists at the intersections of D Street, Road 101, Pioneer Ave., E Street and Road 102. 17-5

4) The District recommends consideration of a bicyle/pedestrian under- or over- crossing at the intersection of Parkway Drive and Road 101 to be constructed at the time that Road 101 is converted to a parkway. 17-6

5) The District supports a provision for a vehicle/bicycle/pedestrian overcrossing of State Highway 113 on Parkway Drive and a bicycle/pedestrian overcrossing of State Highway 113 between County Road 24 and B Street. 17-7

6) Urban development in the specific plan area will create an incremental increase in traffic volumes on Road 101 which is currently unpaved between Road 25A and Road 27. This incremental increase in traffic will result in additional particulate emissions, contributing to the existing regional non-attainment status for state PM10 standards and dust emissions from the road could potentially impact residents in the project area during periods of strong southerly winds. The District supports mitigation measure 4.6-2 (b) and recommends that Road 101 be improved to meet County design standards for paved roadways between Road 25A and Road 27 prior to build-out of the specific plan to reduce PM10 emissions. The paved roadway should also include Caltrans standard bike lanes on both sides of the road that will provide a significant gap closure for the proposed Woodland-Davis Bike Route along this corridor. 17-8

Air Quality

1) The District recommends that mitigation measures 4.7-1 (a) through (f) be amended as follows: 17-9

   (a) Trucks hauling dirt and debris shall be adequately covered to prevent spills and visible dust emissions.

   (b) Retain as written.

   (c) Exposed soils and onsite stockpiles of excavated materials shall be covered, stabilized or watered to prevent dust emissions from creating a nuisance in the vicinity or to surrounding properties.

(d) Onsite vehicles shall be operated on unpaved surfaces at speeds that will not create dust emissions that would cause a nuisance in the vicinity or to surrounding properties.

(e) Strike mitigation measure (e) since the mitigation is covered in measure (a) above.

(f) Soils shall not be exposed nor grading occur during periods when wind speeds would cause dust emissions to create a nuisance in the vicinity or to surrounding properties.

17-9 Cont'd.

2) The District supports mitigation measures 4.7-3 (a) though (f). 17-10

Thank you for your consideration of the above comments on the TOC Specific Plan Draft EIR. If you have any questions, I may be reached at (530) 757-3653.

Sincerely,

Jim Antone

Jim Antone
Associate Planner
f:\plan\proj\toc.deircmmts

COMMENT LETTER 17: Jim Antone, Associate Planner, Yolo-Solano Air Quality Management District

Response to Comment 17-1:

The City agrees with the comment that local vehicle trips and trips to commercial areas outside the project site can be reduced by including various commercial land uses in the Specific Plans. It should be noted, however, that the size of the commercial areas should reflect market demand and may be oversized as proposed. City staff anticipate making a recommendation in this regard.

Response to Comment 17-2:

The 500-foot distance is based on the Yolo County Department of Agriculture, Weights and Measures "Conditions Covering the Use of Restricted Materials" (January 1999). This distance is typical in the region and is assumed to provide an acceptable level of risk reduction to sensitive land uses from hazards associated with agricultural chemicals that are aerially applied. If the 500-foot distance is sufficient to reduce risks associated with potentially hazardous substances that may become airborne, the City believes that distance would be similarly effective in mitigating nuisance odors or dust. The City Council will consider other distance recommendations suggested by the YSAQMD as part of the decision-making process for this project.

Response to Comment 17-3:

The District's support for the grid pattern is noted for the record.

Response to Comment 17-4:

Comment noted.

Response to Comment 17-5:

Mitigation Measure 4.6-2 requires that Road 25A be improved to a minimum 64-foot width street section consistent with its identification as an arterial in the General Plan. This street section would include on-street (Class II) bike lanes on both sides, as advocated by the commentor. Additionally, Mitigation Measure 4.6-5 requires one two-way off-street (Class I) bike paths along the north side of Road 25A.

Response to Comment 17-6:

Mitigation Measure 4.6-5 (A/B)(a)(i) states that the Specific Plan shall be modified to include Class I bike path grade separations of collectors and arterials. This mitigation would apply to the arterial crossing of Parkway Drive by the Road 101 Class I bike path. The City agrees with the commentor's proposed timing; this is reflected in revised language for the fifth bullet of Mitigation Measure 4.6-5(a) on page 4.6-63 of the DEIR as follows:

- *Class I bike path grade separations of collectors and arterials <u>at the time the Class I facility is installed;</u> and ...*

Response to Comment 17-7:

Both Plan A and Plan B provide for a pedestrian/bike crossing of Highway 113 between Road 24A and B Street. Plan A also provides for bicycle and pedestrian lanes on the Parkway Drive overcrossing of Highway 113. Plan B does not provide for any overcrossing of Highway 113 at Parkway Drive. The General Plan identifies one vehicular/pedestrian/bicycle overcrossing, which the staff will advocate. The district should note that the overcrossing at Road 24A and B Street may or may not be financially feasible in light of other critical improvements. This is being examined in the financing plan.

Response to Comment 17-8:

Paving or other improvements to CR 101 between CR 25A and CR 27 are not identified as a mitigation of the project as there is no reasonable nexus (see Response to Comment 12-10). The concept of the Woodland-Davis bike connection is currently being studied separately from the proposed project. Preferred alternatives are understood not to include the subject segment of CR 101. None-the-less, based on preliminary work, there are no aspects of the proposed project that would preclude the Woodland-Davis bike connection, or the use of CR 101 for that purpose.

Please also see Responses to Comments 12-10 and 12-14.

Response to Comment 17-9:

Comment noted. Mitigation Measure 4.7-1 (a) through (f) on page 4.7-20 of the DEIR is revised to read:

(a) *Trucks hauling dirt and debris shall be adequately covered to prevent ~~reduce wind blown dust and~~ spills visible dust emissions.*

(b) *On dry days, dirt or debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction related dirt in dry weather.*

(c) *Exposed soils and onsite ~~Onsite~~ stockpiles of excavated materials shall be covered, stabilized or watered to prevent dust emissions from creating a nuisance in the vicinity or to surrounding properties.*

(d) *Onsite vehicle speeds shall be operated on unpaved surfaces at speeds that will not create dust emissions that would cause a nuisance in the vicinity or to surrounding properties ~~not exceed 15 miles per hour~~.*

~~(e)~~ ~~*At least 2 feet of freeboard shall be maintained when transporting soil or other material by truck.*~~

~~(f)~~ ~~*The amount of grading shall be limited to 28 acres per day.*~~

(e) *Soils shall not be exposed nor grading occur during periods when wind speeds would cause dust emissions to create a nuisance in the vicinity or to surrounding properties.*

Response to Comment 17-10:

Comment noted.

September 7, 1999

RECEIVED
SEP 7 1999

Bruce Bailey
Ag. Property Services
18115 Rd. 96B
Woodland, CA 95695

Attn. Heidi Tschudin, Contract Planner
Woodland Community Development Department
300 First St.
Woodland, CA 95695

Dear Sirs:

At the September 2nd Planning Commission hearing regarding the draft E.I.R. for the T.O.C. Specific Plan, I expressed two concerns that I feel are not being effectively dealt with in the presented study; the issues of floodplain development and the developmental phasing.

1) Development in a known floodplain.

The October 23, 1998 FEMA map includes portions of the area being studied as within flood impacted lands. The mitigation to resolve this city hazard potential may take many years and millions of taxpayer dollars before a resolution is reached. The consultant, E.I.P. Associates does not include this issue on its list of non-mitigatable impacts. Why? I feel a grave error has been made and that this is a definite environmental impact of the T.O.C. Project, which must be confronted in depth. (See attached enclosures.) 18-1

2) Project phasing.

Coupled with the floodplain issue, the land abutting County Road 102 is Williamson Act property. This land is controversially being requested for immediate release from its contractual commitment. Thusly, the entire eastern portion of the project's boundary along C.R. 102 may take years to mitigate. Development has already begun in a North to South pattern with the proposed expansion of the County Fair Mall, the construction of the Woodland Christian School, the selected site of the new Woodland High School and the existing Woodland Community College along with the adjoining County facilities. 18-2

While some infrastructure will need to come through yet-to-be developed land along Co. Rd. 102; the North to South developmental progression will allow time to properly mitigate both the Williamson Act and floodplain issues. Considering the plan's 20-year time frame, it is difficult to understand what the rush is to develop in the two problem areas.

A further review of the Draft Document (figure 4.1-3) noted that AP #042-030-01 is represented by the consultant as being an A. P. (Agricultural Preserve) Williamson Act property. *The property is not, nor ever has been, zoned as such.* This is a grave error. Errors of this nature directly impact both the statistics and conclusions affecting this important study. Hopefully there are not additional areas incorrectly represented. As the source of the error is noted by the consultant as being the Yolo County Planning & Public Works Departments, their comment is included. 18-3

Thank you for the opportunity to comment on this draft document.

Sincerely,

Bruce Bailey

COMMENT LETTER 18: Bruce Bailey, Ag. Property Services

Response to Comment 18-1:

As stated on page 4.4-5 in the DEIR, FEMA maps published prior to 1990 indicate the project site is located in Zone C (area of minimal flooding). In October 1998, FEMA released a preliminary revised 100-year floodplain maps show flooding over a portion of the site adjoining Road 102. According to the draft FEMA maps, the area subject to flooding is designated as Zone A (base flood elevation and flood hazard not determined). A map depicting the location of the FEMA-proposed 100-year floodplain at the project site is provided in Figure 4.4-2 on page 4.4-7 in the DEIR. The map provided by the commentor is the map that was used to prepare Figure 4.4-2.

As discussed in Impact 4.4-7 on page 4.4-37 in the DEIR, there are currently no areas in the project site that would be subject to 100-year flooding, based on existing FEMA FIRMs. Therefore, people and property would not be exposed to increased risk of flooding, and mitigation would not be necessary. However, if the revised FEMA maps are adopted, some development along the west side of Road 102 would be located in Zone A and would potentially be subject to 100-year flooding, as correctly noted by the commentor and as explained on page 4.4-37 in the DEIR. The area designated Zone A is approximately 170 acres, or about 15 percent of the entire project site. As noted, development in that area would be subject to adopted regulations pertaining to flood protection. Of the 170 acres, approximately 155 acres are associated with Woodland Community College and Yolo County facilities, leaving approximately 20 acres that could be developed for other Specific Plan uses within the boundaries of the proposed floodplain.

The project itself is not required to address the overall flooding problem in Woodland. However, should the proposed project place structures within the floodplain (based on the revised FEMA mapping) the project would be required to ensure that it would not exacerbate the flood problem or cause additional flooding elsewhere. Consequently, the DEIR identifies actions (Mitigation Measure 4.4-7 on page 4.4-38) that would be implemented under certain conditions to mitigate the project's effect.

The commentor's concern regarding the cost and duration of flood protection improvements that could be required for the City is noted and will be forwarded to the City Council for its consideration during the decision-making process.

It should also be noted that in addition to the City's appeal of the FEMA maps, which is summarized on page 4.4-6 of the DEIR, an individual appeal has been submitted on behalf of the Turn of the Century (TOC) project and applicant. A copy of the City's appeal and the TOC information are provided in Appendix C.

Response to Comment 18-2:

As shown in Figure 4.2-2 on page 4.2-4 in the DEIR, land under Williamson Act contract does not extend the entire length of Road 102 from Gibson Road to Road 25A, as implied by the comment. The Williamson Act property in this portion of the plan area includes the southeasterly most quarter section. Although recision of the contract on this land was applied for in January 1999, it is still considered an active contract and is subject to the provisions of Government Code Section 51240 et

seq. and cannot be immediately released. Additional Williamson Act property is present south of Gibson Road and east of Road 101, as illustrated in Figure 4.2-2. Please see Response to Comment 1-5 for additional information regarding contract recision requirements.

If the revised FEMA maps are adopted, development south of Gibson Road and west of Road 102, primarily in the area of the College and County properties, could be within the 100-year floodplain (please see Response to Comment 18-1).

The applicant has proposed that development occur primarily from east to west. This issue will be considered further during the decision-making process. The commentor's concerns will be further considered at that time.

Please also refer to Responses to Comments 1-2 and 16-4.

Response to Comment 18-3:

Please see Response to Comment 13-1. The error was unintended and minor given the scope of the EIR. The commentor is referred to Chapter 2, Revisions to the Draft EIR of this document which identifies other clarifications and corrections to the DEIR, including Figure 4.1-3.

LETTER 19

RECEIVED
AUG - 6 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

GLEN BARTON
36 Grand Ave
Woodland, Ca. 95695

August 2, 1999

City of Woodland
Community Development Department
300 First Street
Woodland, Ca 95695

SUBJECT: Response to the Turn of The Century.s Draft EIR

ATTN. Heidi Tschudin, Contract Planner

Dear Ms. Tschudin:

I would like to take this opportunity to respond to the Draft EIR for the Turn of the Century project.

My concern is the drainage from the project during the construction phase. I feel the off site storm water drainage channels should be addressed and constructed before the winter rains come, as additional impervious surface is constructed the storm water run off will increase and the existing drainage facility (farmers Central Ditch) will not be adequate to carry the additional water down stream from the project.

In the winter the existing storm water conditions are such that at times the water at the intersection of Co. Rd 102 and the Farmers Central Ditch goes both ways in the roadside ditch. The water that flows north along the west side of Co. Rd. 102 crosses Co. Rd. 102 in a culvert and then proceeds to flood my land that is between Co. Rd. 102 and the west side of the Golf Course.

My desire is that no additional storm water will be generated from TOC.s project and allowed to flood across my property.

19-1

Sincerely,

Glen Barton

Glen Barton

COMMENT LETTER 19: Glen Barton

Response to Comment 19-1:

Mitigation Measure 4.4-1(a) has been revised to better reflect the concern expressed by the commentor. Please see Response to Comment 12-7.

August 17, 1999

RECEIVED
AUG 18 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

Ms. Heidi Tschudin
Contract Planner
Woodland Community Development Department
300 First Street
Woodland, CA 95695

Re: Circulation of Draft Environmental Impact Report (DEIR)
for the Turn of the Century Specific Plan (TOCSP)

Dear Ms. Tschudin:

After reviewing this document, we are concerned with the drainage from the project during the construction phase. We feel the off-site storm water drainage channels should be addressed and constructed before the winter rains come. As additional impervious surface is constructed, the storm water run off will increase and the existing drainage facility (Farmers Central Ditch) will not be adequate to carry the additional water down stream from the project. 20-1

In the winter, the existing storm water conditions are such that at times the water at the intersection of County Road 102 and the Farmers Central Ditch goes both ways in the roadside ditch. The water that flows south along the west side of County Road 102 crosses County Road 102 in a culvert and then proceeds to go across our land to a point on the southeast corner of my property where it flows into the roadside ditch on County Road 25.

Over the past few years, the Yolo County Mosquito and Vector Control has offered to clean out the ditch across our property. This ditch will not carry all the water that is generated up stream now and certainly will not accommodate any additional water. The purpose was to keep the water just standing on the ground, but flowing across the property and reduce the opportunity for mosquitoes to breed. 20-2

Our request is that no additional storm water will be generated from TOC's project and allowed to flood across our property. 20-3

Respectfully Submitted,

Susan Brauner
Trustee
8712 Bluff Lane
Fair Oaks, CA 95628

COMMENT LETTER 20: Susan Brauner

Response to Comment 20-1:

Mitigation Measure 4.4-1(a) has been revised to better reflect the concerns of the commentor. Please see Response to Comment 12-7 and Chapter 2.

Response to Comment 20-2:

Potential effects related to mosquito populations and standing water in ditches and channels are described in Impact 4.12-5 on page 4.12-14 in the DEIR. Because storm drainage facilities could contribute to an increase in mosquito populations, which was considered a significant impact, Mitigation Measure 4.12-5 was identified to ensure that storm drain facilities would be designed and maintained to control mosquito populations, thus reducing the impact to a less-than-significant level.

Response to Comment 20-3:

Please see Response to Comment 12-7.

LETTER 21

SEP 7 1999

734 College St.
Woodland, CA 95695
Sept. 2, 1999

Community Development Dept.
Woodland City Hall
Woodland, Ca 95695

Dear Sirs:

We wish to express our disapproval of both the Turn of The Century development plans as described in the Sept. 1st Daily Democrat. **21-1**

We feel that Woodland is growing at too fast a pace to be able to provide schools, water, sewage disposal and flood protection for nearly 4000 more residences. TOC apparently did not have the input of 38% of the property owners in the planning process. Developers should be held accountable for this oversight. **21-2**

Having lived in Woodland for 27 years, realizing how much more crowded the streets are now, many in poor condition, we feel adding thousands more people will bring down the quality of life for everyone. **21-3**

Also it is rather ironic that TOC keeps listing "historic street lights" as one of its selling points for a new housing development. Recently the Woodland City Council voted against allowing the residents of Woodland's historic district to vote to pay for their own historic lights. **21-4**

Sincerely,

Charles C. Hansen

Charles C. Hansen

Marjorie Hansen

Marjorie Hansen

COMMENT LETTER 21: Charles C. Hansen and Marjorie Hansen

Response to Comment 21-1:

Comment noted. The commentor's opposition to the project is noted for the record.

Response to Comment 21-2:

The EIR evaluates the proposed project's impacts on schools, water, sewage disposal, flood protection, and roadways. All property owners were given both formal and informal opportunities to participate in development of the proposed Specific Plan.

As stated on page 2-7 of the DEIR, the City's General Plan, adopted in 1996, directs that the bulk of the City's future residential growth occur to the south and east of the City, including the area in which the proposed project is located. In August 1997, Turn of the Century (TOC) filed a petition with the City of Woodland Community Development Department to initiate the Specific Plan process. The City of Woodland received no other petitions from other landowners in the General Plan boundary. After several public hearings before the Planning Commission and City Council, the City Council approved the petition on December 2, 1997. After several public hearings in 1997, the City Council approved a Specific Plan boundary comprised of 1,097 acres of the 1,748-acre Master Plan area designated in the General Plan growth area. The Specific Plan process commenced in 1998. Pursuant to the City's Specific Plan Procedures and Preparation Guide (June 1997), a Technical Advisory Committee (TAC) was formed comprised of key staff from the City, the County, and a number of special districts. The TAC began reviewing preliminary land use plans for the Specific Plan in the spring of 1998. In October 1998, the City Council directed that the two Specific Plans (Plan A and Plan B) be analyzed and compared throughout the Specific Plan process. The two plans are the subject of this EIR, and will be subject to public hearing and consideration by the City Planning Commission and Council.

Interested members of the public, including property owners within the Specific Plan area, have been notified of the Draft EIR and all public meetings on the proposed project, and will be able to voice their concerns and viewpoints with respect to the proposed project before the Planning Commission and/or City Council.

Response to Comment 21-3:

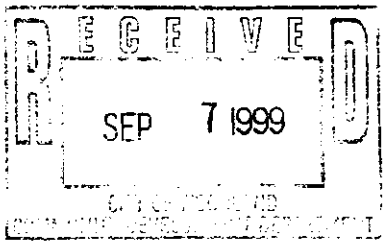
Comment noted. As noted in Response to Comment 21-2, the decision to develop the Specific Plan area was made as part of the City's General Plan Update in 1996.

Response to Comment 21-4:

Comment noted.

LETTER 22

September 5, 1999



Director
Community Development Department
City of Woodland
300 First Street
Woodland, CA 95695

Re: **Turn of the Century Draft EIR**

Dear Director;

In my review of the subject EIR, one element of the document jumped out at me and is the subject of this brief letter.

Specifically, the proposed circulation Plan A is **far superior** to Plan B. Have you ever been on Don Julio Boulevard in North Highlands? Because of its change of direction, Don Julio is one of the most confusing roads I have ever traveled. Plan B reminds me of driving that road. **22-1**

If you want to get lost in the WOOZ, go to Vacaville. Let's not create a bigger one here in Woodland. City of Woodland officials, **please support and implement Plan A!**

In addition, the overpass proposed IN PLAN A is essential to the long term circulation plan for Woodland. **22-2**

Respectfully submitted,

Bruce W. Jacks

Bruce W. Jacks
6 Amherst Place
Woodland, CA 95695

COMMENT LETTER 22: Bruce W. Jacks

Response to Comment 22-1:

The commentor's support of Plan A is noted for the record.

Response to Comment 22-2:

The commentor's support of the SR 113 overpass is noted for the record.

Jacobs
1049 Powers Circle
Woodland, Ca. 95776
530-662-8423

RAID
JUL 27 1999

Heidi Tschudin, Contract Planner
Woodland Community Development Department
300 First Street
Woodland, California 95695

July 23, 1999

Dear Ms. Tschudin;

We know the City of Woodland is going to grow no matter what any of us wants, but our concern is where it is growing. The DEIR for the TOP SP has indicated the City is thinking of developing the area South of Gibson, West of 102 and immediately north of 24C, extending over State Route 113. They are thinking of putting in schools and residential homes. Why in the same area as the County Detention Facility? **23-1**

Does the City realize the bus won't even pick-up individuals from the facility? Has anyone ever thought of the teenage girls and boys that may be in harms way when individuals are released from the facility? What about those individuals that have to walk home after being in the facility for a few hours, days, or months? We'er not saying all the people released from the facility have the tendency to commit bodily harm, but all it takes is one. One of our children put in harms way, when it is not necessary, is one to many. **23-2**

The Detention Center has been in it's present location for nine years. Didn't anyone think of what an impact this would have on growth? It's a little late now to ask. . . Why didn't someone think about this situation before the fact? The Detention Center could have been located a little farther from the residential areas, but it wasn't. Now, do we have to compound the fact and build homes around it? **23-3**

Leave this area in farm land. Build your extensions farther down. Start at 24C and go south from there. And please don't build a High School next to the College. These kids have enough influence with the drug crowd as it is. Someday the Detention Center may expand; they own the land east of the Center. Especially with the growth of Woodland. The facility holds approximately 400 now and with the population growing it will have to hold more. So they will have no choice but to expand the buildings. **23-4**

Please reconsider this venture; at least in this particular area.

Concerned Citizens;

Loren & Sharon Jacobs

Loren & Sharon Jacobs

COMMENT LETTER 23: Loren & Sharon Jacobs

Response to Comment 23-1:

As shown in Figure 4.1-5 on page 4.1-14 in and as discussed in Impact 4.1-1 on page 4.1-30 in the DEIR, the 1996 Woodland General Plan designated land west and south of the Yolo County Monroe Detention Center and Lienberger Minimum Security Facility, which includes the Specific Plan area, as Planned Neighborhood. This decision was thoroughly deliberated during General Plan consideration. The proposed project is generally consistent with the General Plan land use designation for that area.

Response to Comment 23-2:

As illustrated in Figure 4.6-3 on page 4.6-9 in the DEIR, the City currently does not provide transit (bus) service to that portion of Gibson Road where the Monroe Detention Center is located. That is why individuals can not ride transit from the detention facility to other destinations.

The Detention Facility release process includes the completion of paperwork within the facility. Individuals are then released out the front door. These people may be picked up at the facility, or a cab is called when requested. Those who do not have transportation or the means to acquire transportation are given bus passes. Bus service is not provided to the facility but is available from the Community College. Occasionally, transportation is provided by the Sheriffs department.

The population at the Monroe Detention Center includes inmates who have committed violent felonies and are serving terms of less than one year, while the Lienberger Minimum Security Facility houses those who have committed nonviolent crimes (see page 4.1-6 in the DEIR).

The County facilities are buffered within the ±40 acres owned by Yolo County, plus the ±140 acres surrounding the site, owned by Woodland Community College. The community decision to grow in this area was made with knowledge that these County facilities operate at this location as described.

Response to Comment 23-3:

As previously noted, land uses assumed under the proposed project are considered generally consistent with those identified in the 1996 General Plan. The residential and school sites in the Specific Plan area would be buffered from the County facilities by the community college, which fully surrounds the County property. The commentor's concern regarding the safety of school children who may be in the vicinity of the Monroe Detention Center and Lienberger Minimum Security Facility is noted and will be forwarded to the City Council for their consideration during the decision-making process.

Response to Comment 23-4:

See Response to Comment 23-1 regarding the land use designation for the project site. The 1996 City of Woodland General Plan (page 5-11) stated that the "specific sites of new schools will depend upon decisions by the Woodland Joint Unified School Board and private school boards and the availability of appropriate land." The WJUSD indicated some potential sites for a new junior high

school and a new high school in the 1996 Woodland General Plan. The designated sites in the General Plan were the locations adjacent to the west side of the community college campus. Notwithstanding the proximity of the County facilities, adjacency to the college is considered a benefit of these sites.

The commentor's concern regarding drug use at college campuses and the influence on high school students is noted and will be forwarded to the City Council for their consideration during the decision-making process.

The potential impacts associated with the operation of the Monroe Detention Center were evaluated under Impact 4.1-4 on page 4.1-43 of the DEIR. Future expansion of the community college is described in the EIR (see page 4.14-19 of the DEIR). New buildings are planned to be constructed immediately south of the existing buildings on the college campus. As stated in the EIR, the county is considering future expansion of the Monroe Detention Facility and the Lienberger Minimum Security facility, but formal plans are not finalized at this time. Should this occur, such action may require subsequent CEQA clearance. That would be determined at the time.

The Detention Center does own the adjacent land to the east of the existing building, west of Road 102. Land to the east of Road 102 is part of the Mountain Valley Golf and Teaching Center (see Figure 4.1-1 of the DEIR).

Dear Ms. Tschudin:

September 7, 1999

I find it hard to believe that the ozone standard we are operating under now is adequate given our circumstances in the Sacramento air basin. Certainly, whenever any development, such as the Turn of the Century project in Woodland, occurs extra pollution from cars and extra demand on the power grid are created. Extra demand may lead to production of extra fossil fuel powered electricity generating stations.

In the Summer, ozone levels increase commonly beyond levels that are considered to be hazardous. Sacramento is the Nation's 6th month polluted city, primarily because of its ozone levels. Everything else being the same, it still might be advantageous for us to require more stringent regulation.

24-1

However, everything is not the same. In the Summer, fires in the Sierras and elsewhere deliver large amounts of smoke to lungs already shocked by exposure to toxic levels of ozone. When ozone toxicity levels are determined, are they not determined in isolation--i.e. this amount of ozone will cause 'x' amount of damage no other factors being given? If that is so, our ozone levels surely must be called up for review and possible lowering. (Also, what is the economic cost to our agriculture of ozone exposure?)

Recently, smoke in Davis became so bad that a mother I know took off from work early so that she could take her children to the ocean where they could breath healthily. She is paid hourly and desperately needs the money but was concerned particularly for one of her kids who had a history of respiratory distress.

However, if this project must go forward, it might still be reasonable if there is adequate mitigation for the extra air pollution generated and electricity demand. One such mitigation has recently come to my attention, that of a stationary fuel cell(s) at each of of the proposed structures. Avista Corporation has recently developed one that is cost effective, may produce adequate wattage, and which only has water as output into the environment! There may be other fuel cell providers as well, particularly in the near future.

24-2

If you wish to contact Avista, the address is: Avista Laboratories, Inc., 1411 E. Mission Avenue, P.O. Box 3727, Spokane, WA 99220-3727. Also, a description of the corporation and product is on the inter net.

Sincerely,

Jim Leonard

Jim Leonard

COMMENT LETTER 24: Jim Leonard

Response to Comment 24-1:

The commentor's concern regarding the ozone standard is a comment on adopted regulations and is not a comment on the analysis in the DEIR. The DEIR (pages 4.7 through 4.7-13) describes the relationship between federal, State, and local standards and the processes through which adherence to those standards are monitored and enforced. The local air district (the Yolo-Solano Air Quality Management District) is responsible for implementing emissions standards and other requirements of federal and State laws. As noted in that discussion, national ambient air quality standards (NAAQS) for ozone and other criteria air pollutants are established by the U.S. Environmental Protection Agency. The State of California has adopted standards that are, in general, more stringent than the federal standards. As shown in Table 4.7-1 on page 4.7-3 in the DEIR, the State ozone hourly average standard is 0.09 parts per million; the federal standard is higher (0.12 parts per million). Information regarding the characteristics of ozone in the region are summarized on page 4.7-6 in the DEIR. Potential effects on crops and natural vegetation related to regional ozone concentrations are summarized on page 4.7-6 in the DEIR. While ozone generation is a regional issue, Table 4.7-3 on page 4.7-6 in the DEIR shows that the State 1-hour standard for ozone was exceeded in Woodland 6 days in 1995 and 1996, but in 1997 the ozone standard was exceeded on only 2 days.

The commentor's concern regarding the State ozone standard and human health issues is noted. The commentor may wish to contact the Yolo-Solano Air Quality Management District or the California Air Resources Board for additional information regarding public involvement opportunities in the standard-setting process.

Impact 4.7-3 discusses air emissions from vehicle trips and energy consumption related to increased activity that would occur with the proposed project. Emission-source assumptions and methods used to quantify project emissions are discussed on page 4.7-17 in the DEIR. The air quality and methodology consider increased use of electricity and gasoline. Implementation of Specific Plan A or B would generate levels of ozone precursors (ROG and NOx) that would substantially exceed standards for emissions (measured in pounds per day). Several methods for reducing air emissions that would be required in new development are listed in Mitigation Measure 4.7-3 (page 4.7-26 in the DEIR). These methods include solar water heaters, high-efficiency appliances, recharging outlets, and light-colored building materials.

Response to Comment 24-2:

Fuel cells are an alternative to the use of fossil fuels for power generation. Unlike a battery, which must be recharged as the electrochemical constituents are used up, fuel cells generate electricity continuously by combining hydrogen ions with oxygen atoms from outside the system as long as the hydrogen/oxygen fuel supply is maintained. Waste heat and water vapor are the byproducts of the electricity-generating process in the fuel cell.

Fuel cells are typically used for primary or backup megawatt-scale power production, such as in power plants. The economics of fuel-cell technology has, to date, precluded widespread use in residential or small-scale applications. Use of fuel cells in residential development project, such as

the proposed project, remains an emerging technology.[1]

LETTER 25

SEP 7 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

Legal Services of Northern California
Yolo County Law Office

619 North Street
Woodland, CA 95695
Main Line: (530) 662-1065
Sacto. Line: (916) 447-5798
Fax Line: (530) 662-7941
yolo@lsnc.net

Attorneys:
John F. Gianola, Manager
Christina Rosado, Law Graduate

Support Staff:
Elizabeth Sanchez, Office Mgr.
Dahlia C. Long, Sr. Secretary
Pedro A. Fung, Paralegal

HAND-DELIVERED

September 7, 1999

Heidi Tschudin, Contract Planner
Community Development Department
300 First Street
Woodland, CA 95695

RE: **Draft EIR for the Turn of the Century (TOC) Specific Plan**

Dear Ms. Tschudin:

Legal Services of Northern California (LSNC) previously submitted comments regarding Specific Plans A and B for the TOC project on March 18, 1999. I now wish to provide comments and objections regarding the Draft Environmental Impact Report for these Specific Plans as they relate to affordable housing. These comments will also incorporate by reference the comments in the March 18, 1999 letter. 25-1

A. The EIR Uses Faulty And Erroneous Figures From The Specific Plans.

As pointed out in LSNC's March 18, 1999 letter, the Specific Plans contained several erroneous computations. Instead of making corresponding corrections, the planners of the Draft EIR appear to simply reiterate these incorrect computations. 25-2

For example, the EIR (Table 2-2, p. 2-9 -- Specific Plan B) states that the Master

Plan area will contain 2,401 SFR/5 units. LSNC previously pointed out in its March 18 letter that this same table for Specific Plan B indicated a SFR/5 amount of 1,896 SFR/5 units for the Specific Plan and 502 SFR/5 units for the Master Plan remainder. The total for the Master Plan area, according to these figures, would be 2,398 - not 2,401. Elsewhere, the EIR states that the total of multifamily units for Specific Plan A is 1,424 (p. 4.11-12). However, multifamily units are computed at a rate of 18 du per acre which would equal 1,224 (see, Table 4.11-3, p.4.11-8). Even if you add the 100 affordable units, you still would still have less than 1,424 multifamily units.

25-2 Cont'd.

These are just two examples of the computation errors ignored by the planners of the EIR. Instead of reiterating all of the computation errors contained in this EIR, I refer you to LSNC's March 18 letter regarding TOC's Specific Plans. These errors are significant because they caused the planners to make erroneous computations of percentages of multifamily units and affordable housing units projected by the EIR. None of the projected figures for multifamily housing and affordable housing for this project can be relied upon until the planners correctly recompute all of their housing figures.

B. <u>Specific Plan B Should Be Rejected Or Modified To Increase The Number Of Multifamily Units.</u>

The Draft EIR acknowledges that Specific Plan B fails to provide an adequate percentage of multifamily units pursuant to the General Plan (see, p. 4.11-13).[1] The EIR properly indicates that this shortage of multifamily housing is "significant." However, the suggested mitigation measure allowing the City to simply ignore this shortage and find that Specific Plan B is "substantially consistent with the Housing Element" is unacceptable (see, pp. 4.11-13; 3-40 [Table 3-1])

25-3

The EIR points out that the City of Woodland does not currently meet its General Plan goals for affordable housing (see, e.g., pp. 4.11-19 and 20). Elsewhere, the EIR states that the City currently only has 1.3% affordable units. Moreover, the EIR acknowledges that low-income residents, especially very-low income families, have difficulty finding affordable housing (see, p. 4.11-3). Multifamily housing is the only practical and feasible means by which very-low income families can enjoy

25-4

[1] As stated previously, the planners must recompute these figures to have an accurate percentage of projected multifamily housing.

decent, safe, and affordable housing. It is essential for a healthy housing market[2] for all of the City's residents that a sufficient number of multifamily housing be provided in the community. In light of the serious lack of affordable housing in the community, Specific Plan B should not be adopted unless it complies with the General Plan goals for multifamily housing. 25-4 Cont'd.

C. **The Draft EIR States Confusing And Insufficient Numbers For Affordable Housing.**

Although the EIR reiterates the affordable housing policies and affordable housing percentages required by the City's Affordable Housing Ordinance (see, p. 4.11-8), the EIR repeatedly acknowledges that the Specific Plans will provide for only 100 units of affordable housing. For example, Tables 2-1, 2-2, 4.1-2, 4.1-3 only refer to 100 units of affordable housing which is far less than the percentages required by the Affordable Housing Ordinance. Moreover, the EIR confusingly states that Specific Plan B would increase the supply of affordable housing by only 100 units (p. 4.11-20) even though this figure seems to contradict other affordable housing figures in the EIR. The EIR needs to be modified to consistently, clearly, and properly state the total number of projected affordable housing units in all of its references to affordable housing computations.

25-5

Furthermore, using Specific Plan A as an example, Table 4.11-5, p. 4.11-12 indicates numbers of affordable units required by affordable housing requirements. Under this scenario, developers would be required to offer 230 single family homes affordable to low income buyers, 230 single family homes affordable to moderate income buyers, 142 multifamily units affordable to low income renters, and 214 multifamily units affordable to very-low income renters. This amounts to a total of 816 affordable housing units as a condition of development. Nevertheless, the planned number of affordable units stands at only 100, with no differentiation between rental and for-sale units (see, p. 4.11-8, Table 4.11-3.) The plan, therefore, discloses an affordable housing deficit of 716 units. The mere 100 units earmarked in the plan amounts to only 17% of the total number of affordable housing units required by law.

Unless the affordable housing computations are clarified, the EIR must recognize

[2] The General Plan promotes the provision of adequate affordable housing including a variety of housing sizes for all residents regardless of income (see, p. 2-5).

this affordable housing deficit as having a significant impact on the Woodland General Plan. The City is already far behind its affordable housing obligation. The existing affordable housing proportion is only 1.3% of existing housing stock. The additional gross shortfall of affordable housing in this project could make attainment of the General Plan percentages an impossibility. Thus, the EIR should suggest mitigation measures such as identifying lots and presently undivided larger parcels to earmark for affordable housing. Such mitigation measures must also take into account proximity to transportation, schools, stores, and other public and private services. 25-5 Cont'd.

D. **The EIR Must Commit To An Immediate Affordable Housing Plan In Order To Ensure Compliance With Affordable Housing Requirements And To Determine The Proposed Project's Feasibility.**

As stated in LSNC's March 18 letter, the Specific Plans merely reiterated the policies in the Affordable Housing Ordinance and gave no clear indication of how it would meet those requirements. The EIR also fails to state in practical terms how these requirements will met apart from stating that an Affordable Housing Plan will be created sometime prior to the first tentative map (see, pp. 3-41 [Table 3-1], and 4.11-14). The affordable housing requirements are too vital and important to be delayed or treated as an after-thought. 25-6

It is easy to merely state that the percentages required by the Affordable Housing Ordinance and General Plan will be met, but impossible to determine the feasibility of meeting those requirements without sufficient planning. LSNC's concern is that the process for this project has already moved too far without sufficient planning for affordable housing. The City has no assurances that sufficient affordable housing will be developed in this project and may later feel too invested in this project to require compliance with affordable housing policies if they are not taken into account soon. Therefore, I strongly urge the City to require the planners to immediately begin drafting an Affordable Housing Plan and have it available for review as soon as practical as a condition to any measure to approve this EIR.

E. **The Specific Plans Must Be Modified To Increase The Densities Of Multifamily Housing.**

The EIR acknowledges that the Specific Plans fail to meet the General Plan goals regarding range of residential densities (see, p. 4.11-16). Again, LSNC's March 18 25-7

letter pointed out the deficiency of the Specific Plans in allowing for greater densities. For example, the Specific Plans only allow for a residential density of 18 du per acre for multifamily housing even though the General Plan allows for a maximum density of 25 du per acre. By not allowing for any high densities for multifamily housing, the Specific Plans are very limited in options for the development of multifamily housing, hence, endangering the ability of the developers to meet the 35% goal of multifamily housing and, especially, the affordable housing requirements for multifamily housing.

Zoning densities are a critical factor in the development of multifamily housing. Generally, developers require higher densities to make feasible multifamily projects. This is especially true for developers of affordable housing. It is very short-sighted of the planners of the Specific Plans to limit the project to only 18 du per acre for multifamily housing when they have made no serious consideration of the necessity to develop affordable housing.

Therefore, I strongly support the suggested mitigation measure to amend the Specific Plans to incorporate a greater range of densities and, specifically urge the City to require the Specific Plans to allow for multifamily densities in the high end ranges of 21 to 25 du per acre as allowed for in the General Plan (see, p. 4.11-17). For the same reason, I strongly object to the suggested mitigation measure allowing for the City to make a finding that the Specific Plans substantially conform with the General Plan (see, p. 4.11-17). 25-7 Cont'd.

Moreover, the EIR misleadingly states that Specific Plan A provides for some areas of medium and high density housing (p. 4.11-13). As indicated above, the Specific Plans do <u>not</u> allow for high density multifamily housing as they only allow for densities of 18 du per acre. I also object to the conclusion of the EIR that there is no significant impact on the General Plan housing program because a higher density area "often includes condominiums and apartments, which are more likely to be affordable" (p. 4.11-13). As yet unknown "[a]dditional multi-family housing units" which "could potentially be affordable" are nowhere on the project horizon (see, p. 4.11-13). Yet the EIR concludes that the mere possibility of such units being required at some future date is enough to justify a finding of a "less-than-significant impact" on the Woodland General Plan. The data in the EIR indicates otherwise as there is no demonstration that adequate development of affordable housing, especially multifamily housing, is feasible under the current conditions of the Specific Plans. 25-8

F. **The Draft EIR Insufficiently Describes The Consequences Of A Lack Of Affordable Housing In The Community.**

The EIR acknowledges that affordable housing is a factor in reducing environmental impacts and well as improving social and economic conditions in the region. Moreover, the EIR states that a lack of affordable housing can have impacts such as "households paying more for housing than they can reasonably afford" (p. 4.11-2). Although true, this is a very general and weak description of the consequences of a lack of affordable housing in a community. I believe that it is important for city leaders to truly understand that a lack of affordable housing has very serious consequences for the entire community.

Allow me then to address three other specific consequences of the lack of affordable housing in the community:

1. When there is a lack of affordable housing and rental vacancy rates go much below 7%, the community unwittingly creates a market for slumlords. Currently, City Planning Staff has estimated that the vacancy rate in Woodland is at 1.75% for multifamily housing. When poor families are desperate for any available housing, they are perfect prey for slumlords. In such an environment, slumlords know that they can charge high rents for substandard housing. They have no incentive to maintain their property because the low vacancy rates and lack of affordable housing ensures their ability to keep their rental property occupied. I have witnessed an increase in the number of LSNC clients who are paying increasingly higher shares of their limited incomes for rent and who are occupying substandard and dangerous property. The community needs to be aware, therefore, that it is the **lack** -- not the increase -- of affordable housing that threatens property values and the overall health of the housing market because it creates a ripe environment for slum housing. 25-9

2. With the implementation of welfare reform and the new welfare-to-work programs, Yolo County is attempting to move many families from welfare to self-sufficient lives. However, if such families have no available decent, safe, and affordable housing in the community, many will have an almost insurmountable barrier to self-sufficiency. Many families who are overpaying for rent are in a perpetual state of crisis. They routinely struggle to scrape enough money together to pay rent and utilities and often live under the constant threat of eviction. 25-10

Simply finding jobs for such families is not the answer to moving them off of welfare - they need decent, safe, and affordable housing to become stable enough to help them move from welfare to self-sufficiency. 25-10 Cont'd.

3. I have also witnessed a sharp increase in the number of local families who cannot use their HUD Section 8 rental assistance due to the lack of affordable housing and the very low rental vacancy rates. HUD Section 8 is the largest type of federal housing subsidy program available. In order to properly work, however, there must be enough landlords who are willing to rent to families with Section 8. I am witnessing in Woodland what has occurred in other urban areas with low rental vacancy rates: Families are losing their Section 8 assistance because they cannot locate landlords willing to rent to them. Thus, over the past few years, I am aware of more families who must wait many years to get approved for Section 8 only to then lose this assistance because no one will rent to them. Again, with the lack of affordable housing and the low vacancy rates, fewer and fewer landlords are willing to rent to Section 8 families. A community knows it has a serious housing crisis when even low-income families with guaranteed sources of rent cannot locate housing. 25-11

G. **The Draft EIR Makes Unfair Representations About Multifamily Housing.**

The EIR states that large aggregations of rental housing can create "undesirable quality of life" and often have increased calls for police and fire services (see, p. 4.11-16). First, while I support the General Plan goal of dispersing multifamily housing throughout the community, I believe that some large congregation of multifamily housing may be unavoidable to create sufficient and feasible multifamily housing for the community. I believe that it is unfair, unsupported, and prejudiced to broadly state that rental housing can create an "undesirable quality of life." Most residents in the community reside in decent and safe rental housing. Concerns of declining quality of life are frequent unsupported claims of NIMBYs and such prejudices against rental housing, especially multifamily housing, should not be repeated in this EIR. 25-12

Moreover, the demand of areas dominated by multifamily housing should be expected to require greater police and fire services. There are simply more people occupying those areas than in areas dominated by single-family residences and it makes sense that those areas would demand greater city services. Therefore, it is

misleading that the EIR lists this fact as a factor contributing to the "undesirable quality of life." These unsupported statements foster unfair prejudices against poor families who need multifamily housing. 25-12 Cont'd.

H. **Conclusion**

Thank you for the opportunity to submit comments regarding the Draft EIR for the TOC Specific Plans. I strongly urge the City Council to take into account these comments and objections to the EIR and require corresponding changes and modifications to the EIR. 25-13

Please continue to keep me informed of the status of this project and send to me copies of any written comments submitted regarding this report.

Very truly yours,

JOHN F. GIANOLA
Managing Attorney

COMMENT LETTER 25: John F. Gianola, Managing Attorney, Legal Services of Northern California, Yolo County Law Office

Response to Comment 25-1:

Comment noted. Please see Responses to Comments 25-2 through 25-13.

Response to Comment 25-2:

The computation errors to which the comment refers were not ignored, but they were determined to be inconsequential. The comment is correct that there is a difference of 3 units when the Specific Plan B and Master Plan Remainder Area columns of Table 2-2 are added and compared to the Master Plan Area column, and that these differences appear in the Specific Plan. The differences are due to rounding errors, and the nature of the Plan Area, in that the applicant does not anticipate being able to plot every unit that 480.2 acres at 5 units per acre would indicate. The number of units shown for Specific Plan B is correct, and that is the number used to determine the proposed project's affordable housing requirements. A difference of 3 units, or 0.05 percent, does not alter the conclusions or mitigation measures contained in the DEIR. As stated on page 1-4 of the DEIR, "the EIR attempts to quantify the project and associated impacts, as specifically as possible. Though used for analytical purposes these numbers are approximations. Actual numbers may vary slightly, with no invalidation of this analysis or its conclusions."

The 1,424 multifamily units for Specific Plan A includes 1,224 units at 18 dwelling units per acre, and both 100 affordable housing units and 100 senior apartments.

Response to Comment 25-3:

As stated on page 4.11-13 of the DEIR, 33 percent of the housing units in Specific Plan B are designated multifamily, which falls short of the Housing Element's objective that 35 percent of new dwelling units be multifamily. Therefore, Mitigation Measure 4.11-2 requires that either the project be amended to designate 35 percent of its units as multifamily, or that the City Council find that the project is substantially consistent with the City's Housing Element. The City Council may determine this to be an appropriate action given that the 35 percent number is an objective, not a mandate. By including Impact 4.11-2, the City is not ignoring the shortfall in multifamily housing. Nonetheless, the City Council is the appropriate body to determine whether a project is consistent with General Plan policy, and will make the determination whether Specific Plan B is substantially consistent, or needs to provide additional multifamily units.

Response to Comment 25-4:

Comment noted. The commentor's opposition to Plan B and concern about affordable housing is noted for the record.

Response to Comment 25-5:

Regardless of the percentage of multifamily housing ultimately accepted/provided, the affordability of those units is mandated by City Ordinance. The proposed plan specifically designates only 100 affordable units; however, many more will be required to be affordable as well, based on the ultimate number of multifamily units and the requirements of Ordinance 1256. Mitigation Measure 4.11-2(b) requires the development of an Affordable Housing Plan for the Specific Plan, prior to the first tentative map, in order to ensure consistency with City requirements.

Response to Comment 25-6:

The City respectfully disagrees with the commentor that the DEIR mitigation does not practically meet City requirements. The performance standards are set in the mitigation measure and in the Ordinance. The delay in developing the plan after action on the Specific Plan but prior to development is appropriate in order to allow for deliberation of land use and design issues. The exact number of planned multifamily units and their location will not be known until that time. Because the Ordinance is regulatory, not legislative nor permissive, and because the mitigation measure will be a condition of the Specific Plan, the City will have every assurance it will be addressed. The commentor appears to agree with the mitigation but supports an alternate timeframe for implementation. This is noted for the record.

Response to Comment 25-7:

The commentor's support of the measure is noted for the record. The position taken by the commentor is understood. It should be noted that this is ultimately a policy decision of the Council that will be resolved as a matter of interpretation of the General Plan. Density has no effect on the percentage goal, but would result in a different number of units.

Response to Comment 25-8:

There was no intention to mislead readers in the EIR. However, the comment is correct that the City's medium density category is 8 to 25 du/ac. Therefore, the first full sentence on page 4.11-13 of the DEIR is revised as shown:

> The plan also provides for medium ~~and high~~ density housing, which often includes condominiums and apartments, which are more likely to be affordable to lower and moderate incomes than single family homes.

The DEIR recognizes that the proposed project provides for a limited range of densities (see Impact 4.11-4). Mitigation Measure 4.11-4(a) states that the proposed project shall provide for a greater range of densities. Please also see Responses to Comments 25-5 and 25-6.

Response to Comment 25-9:

Comment noted. As discussed in Response to Comment 25-5, the proposed project must provide affordable housing, consistent with City Ordinance 1256. Some of this housing will be rental and some will be owner-occupied. It would be speculative at this time to characterize the cost and/or

rent of such housing. Nonetheless, it is not the City's intent to create conditions under which "slums" and "slumlords" would take root in Woodland. The commentor's points are understood and noted for the record.

Response to Comment 25-10:

Comment noted. Please see Responses to Comments 25-5, 25-6 and 25-9.

Response to Comment 25-11:

Comment noted.

Response to Comment 25-12:

The comment has, perhaps inadvertently, misquoted the EIR. The DEIR does not state that all rental housing is undesirable, or intend to further unwarranted prejudice against any type of housing or resident. Rather, consistent with General Plan policy and the comment, it recognizes the value of distributing rental housing throughout the community, and that lack of resident ownership may result in an "undesirable quality of life" for the tenants themselves who desire ownership opportunities. In addition, as noted by the comment, multifamily housing is more dense, and may experience more frequent fire and police calls. The comment's concern that multifamily not be subject to NIMBY'ism and unfair prejudice is noted.

The point of the subject EIR discussion is that only two areas designated for multifamily units (totaling 708 apartments and 516 apartments, respectively) over $\pm$ 1,000 acres may not reflect the most desirable land use pattern for any interested party.

Response to Comment 25-13:

Comment noted. Please refer to Response to Comment 2-7.

WHITMAN F. MANLEY
716 FIRST STREET
WOODLAND, CALIFORNIA 95695
530/668-1641

July 30, 1999

Community Development Department
300 First Street
Woodland, California 95695

To whom it may concern:

Please add my name to the mailing list to receive all public notices, including but not limited to those issued by the City under the State Planning and Zoning Law or the California Environmental Quality Act, regarding the "Turn of the Century" project. In addition, please send me a copy of the Draft Environmental Impact Report for the project, or let me know how I can acquire a copy. Finally, please send me a copy of the staff report prepared in connection with the joint hearing of the City Council and the Planning Commission on July 29, 1999. 26-1

Thank you for your assistance.

Very truly yours,

Whitman F. Manley

90708pe.001

COMMENT LETTER 26: Whitman F. Manley

Response to Comment 26-1:

The commentor has been added to the distribution list to receive all CEQA notices regarding the "Turn of the Century" project. The commentor was provided with a copy of Turn of the Century Specific Plan DEIR. Please refer to Response to Comment 2-7.

MARGARET MILLIGAN
2522 Bombadil Lane
Davis, CA 95616
Tel: (916) 756-5138

LETTER 27

August 9, 1999

To: Woodland City Council
300 First Street
Woodland, CA 95656

Dear Council Members:

The article in the Davis Enterprise about Woodland's planned 30,000 new residents horrified me. It also invited comment. Although I am not a resident of Woodland, I am a resident of a once-wonderful city that forgot to think ahead, and let the 1980s enlarge it to the point that it is becoming unmanageable and unlivable. Please don't let Woodland do what Davis has done. **27-1**

Davis has been pressured partly by the presence of the University to enlarge in order to accommodate UCD's expansion. But Woodland does not have that pressure. It should try to remain the pleasant community it has been and not invite more traffic, more dirt from pollution and tire dust, more people crowding the facilities, and less peace and quiet in civil life.

Don't listen to the siren song of developers! A book which every council person and Planning Commissioner should read is Better Not Bigger by Eben Fodor. It shows very graphically how peripheral growth and huge new developments of housing do not make a city better, or richer, or have more amenities. Instead it makes traffic increase, air quality decline, police work more onerous, more crowded civic facilities, more expense for educational facilities, and less money for amenites than might be thought because the cost of the additional housing is more than the benefit of the tax they bring. Plenty of proof of these statements is given in this book. **27-2**

The effect of rampant growth is being felt in Davis, although those who pushed the growth, and the City Staff who approved the growth, don't want to admit it. Davis is in a mess, and Woodland will be in the same mess if you allow this enormous cancer to grow on your southeast flank.

Don't do it!

Margaret Milligan

COMMENT LETTER 27: Margaret Milligan

Response to Comment 27-1:

The commentor's concern is noted for the record. As discussed in Response to Comment 21-1, during the General Plan Update the City deliberated about the amount and nature of growth to occur in Woodland over the next two decades. The City concluded that developing land generally to the south of the City, including the project area, would be most appropriate given the character of Woodland and the nature of land surrounding the City. The City did take several steps in the General Plan to manage growth, including the identification of an Urban Limit Line, and limiting the City's population to 60,000 until after 2015. The conclusions of the General Plan Update were affirmed in public forums and a Citywide election.

Response to Comment 27-2:

The potential effects of the proposed project, including the population growth that would occur, are analyzed in Chapters 4 and 5 of the Draft EIR. Impacts related to traffic are analyzed in Section 4.6. Air quality impacts are discussed in Section 4.7. Impacts on public services, including education, are analyzed in Sections 4.13 and 4.14. Please see Response to Comment 16-11 for a discussion of the fiscal impacts of the proposed project.

Julie Partansky
c/o 23 Russell Blvd.
Davis, CA 95616

SEP 7 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

September 7, 1999

Heidi Tschudin
c/o Woodland Community Development Dept.
300 First Street
Woodland, CA 95695

Topic: Comments regarding "Turn of the Century Development Project"

Dear Heidi:

The following comments are being made by me as an individual and not in my official capacity as Mayor of Davis. **28-1**

In Volume II: APPENDICES, on page 2-32 of the Environmental Checklist, it is stated

> 4.9-4: Because new development could create a demonstrable aesthetic effect and introduce night lighting and glare, this impact is considered potentially significant and will be addressed in the EIR.

In the EIR, Volume I, page 3-38, it is stated: "4.9-4: The proposed project could substantially increase artificial light in the project site." It also states that the level of significance prior to mitigation is LS, and that no mitigation is required. **28-2**

After reading pages 4.9-18, 4.9-19, 5-84 and 5-85 of Volume I concerning lighting, I have no confidence that the effect of 1,000 acres of newly developed land with thousands of new lights is less than significant. Does the Community Design Guidelines Lighting Standards and the city zoning ordinance require <u>all</u> new lighting to be fully shielded and directed downwards? I suspect not. Consequently, Woodland's "sky glow" will increase dramatically with this project, and thereby further reduce all of Yolo County's residents' ability to see the stars.

I am concerned that the use of the word "should" in the Community Design Guidelines regarding lighting standards is a weak choice of words. Quite simply, I believe this project should have a lighting guideline that states: ALL LIGHTING SHALL BE FULLY SHIELDED and DIRECTED DOWNWARDS. This <u>shall</u> apply to <u>all</u> new lighting: residential, commercial, office, multi-family, street lights, etc." That's it. End of concern. **28-3**

Increasing sky glow and light pollution is a worldwide concern and is being recognized by thousands of people as a problem that needs careful attention. In 1970, Tucson, Arizona had the wherewithal to recognize the problem and pass a lighting control **28-4**

ordinance and institute a retrofit program. Today, nearly 30 years later in the middle of Tucson's huge metropolitan area, one can look up and see the Milky Way galaxy!

Last December, 1998, the Davis City Council adopted a comprehensive "Lighting Control Ordinance" that developers of new commercial projects are finding is very easy to follow. You simply order fully shielded light fixtures rather than glaring unshielded ones. We are already amending the ordinance to require all new residential housing to follow suit. Wall packs that are mounted on the sides of buildings can be among the worst lights one can use. Several residential developers are voluntarily following good lighting principles because they realize the aesthetic value of lighting other than wall packs, and such a choice has no adverse cost implications. **28-4 Cont'd.**

I would also like to suggest that the street pole height standards be lowered to provide a more homey, pedestrian scale ambience to the environment. **28-5**

I am enclosing numerous articles that address the following topics: Roadway lighting; examples of good and bad lighting fixtures; health effects of light; light trespass; good neighbor outdoor lighting; security lighting; glare, sports field lighting, and the Goals of the International Dark Sky Association. Also attached is a copy of the Davis "dark sky" ordinance. **28-6**

Heidi, I would appreciate it, if after you review the information contained in these articles, you would pass them along to the developers of the project if you don't want them for your files, or make copies for those who are interested.

Does this project adhere to the fundamental planning principles known as the Ahwanee Principles? For your analysis and answer to this question, I have included a copy of this document in addition to the "dark sky" articles. **28-7**

On page 6-6 it is stated:

> 4.6-6: The proposed project, in conjunction with cumulative development, would increase cumulative a.m. and p.m. peak hour traffic volumes at study intersections, causing unacceptable levels of services and warrant the installation of traffic signals.

28-8

I would like to encourage the City of Woodland to start installing round-abouts, or traffic circles, instead of traffic signals. They are a more efficient way to deal with traffic, are cheaper and safer and are FUN. The center circle can be beautifully landscaped. We have installed several on a temporary basis in Davis, and since they have passed the test of time they will now be made permanent. Also, several new ones are being planned for our developing industrial area. Please contact our Public Works staff if you need any information. They are keeping a file.

Finally, knowing that millions and millions of more people are being added yearly to the planet, I do believe it's irresponsible to be paving over some of the best farmland in the world. But if we must, the densities of the project should be increased so that less land will be consumed later. This would make public transportation more viable and thus not be as detrimental to our air quality. **28-9**

Please reconsider the design of this project to make it a model of good urban planning, rather than furthering suburban sprawl. **28-10**

By granting the zoning to the Turn of the Century project proponents, Woodland is enabling them to make somewhere in the neighborhood of $75,000,000 to $125 million profit, if not more. They should be required not only to give over the school sites, but also to build the schools. **28-11**

Thank you for this opportunity to comment on this project.

Sincerely,

Julie Partansky

Julie Partansky

JP/SRB
Enclosures

COMMENT LETTER 28: Julie Partansky

Response to Comment 28-1:

Comment noted.

Response to Comment 28-2:

The determination in the Initial Study that project light and glare would be potentially significant was tentative, indicating that additional analysis would be needed in the DEIR. After further consideration, the DEIR concluded that the impact would be less than significant.

The analysis of effects on the visual environment is necessarily qualitative. Human perception to visual stimuli are subjective and are therefore difficult to quantify. There are no definitive, universally accepted visual quality standards, which leaves little conformity in approach to analyzing potential effects. For purposes of the DEIR, the standard of significance for evaluating the effects of nightlighting is if the project would substantially increase light or glare that would affect day or nighttime views.

The comment notes that there would be "thousands of new lights" associated with the proposed project. However, no documentation to support that estimate was included in the commentor's letter. Literature provided by the commentor (please see Response to Comment 28-6, below) indicates that up to 50 percent of all light pollution may be the result of roadway lighting (Carl Shaflik, "Environmental Effects of Roadway Lighting," International Dark-Sky Association Information Sheet 125, August 1997). The proposed project would include approximately 70 acres of roadways, or 7 percent of the total site. It can, therefore, be reasonably concluded that the project's contribution to nighttime lighting (based on the 50 percent attributable to roadways) would not be substantial. It is interesting to note that Shaflik concludes that light pollution is "in the hands of traffic engineers, and it will become their responsibility to find adequate and economic solutions." Nonetheless, as recognized by the DEIR and the comment, the proposed project would increase the amount of light in the project area.

The City determined that the proposed project site was an appropriate area for expansion of the City. The City considers the urban lighting that would occur in this area an ancillary result of growth anticipated in the General Plan.

As discussed in Impact 4.9-4 on page 4.9-19 in the DEIR, project design would include features to reduce effects of lighting on adjacent properties. In particular, Community Design Guidelines 18 and 20 direct that lighting be confined within site boundaries and shielded from neighboring properties. To achieve this objective, the project would need to use shielding or downward-directed lighting, or equally effective methods. Such features would reduce the amount of nighttime lighting that could affect the level of sky glow in the project area. Therefore, the impact is considered less than significant.

Response to Comment 28-3:

The commentor's opinion regarding use of the word "should" in the Community Design Guidelines is a comment on the City's lighting guidelines, not a comment on the DEIR. As discussed in Response to Comment 28-2, the project would be consistent with the City's lighting guidelines. The suggestion that the project (i.e., Specific Plan) be required to include fully shielded and downward-directed lighting will be forwarded to the City Council for its consideration during the decision-making process.

Response to Comment 28-4:

Comment noted. The City appreciates the information on efforts in Arizona and the City of Davis to minimize nighttime lighting effects in those communities.

Response to Comment 28-5:

This is a comment on project design, not on the analysis presented in the DEIR. Safety is the primary purpose in the selection of the height of street pole light standards. The standards must be of sufficient height that they will not interfere with clear-vision standards for street intersection or pedestrian movement. Community Design Guideline 19 (page 4.9-19 in the DEIR) directs that light fixtures be designed to be architecturally compatible with main structures on a site. Specific Plan Policy 13.13.2 (page 4.9-12 in the DEIR) requires that the design of street furnishings match or complement the design of surrounding elements. The commentor's support for unspecified lower pole standards will be considered in the deliberations on the development standards proposed in the Specific Plan.

Response to Comment 28-6:

The commentor has provided numerous articles that address roadway lighting, types of lighting fixtures, health effects of light, security and outdoor lighting, sports field lighting, and goals of the International Dark-Sky Association (see Appendix A). The City appreciates this information and will retain it in staff files for future use and reference.

Response to Comment 28-7:

The "Ahwahnee Principles" is a document compiled in 1991 by the Local Government Commission, a California-based nonprofit organization committed to addressing local solutions to land use issues, including urban sprawl. The Ahwahnee Principles consists of three elements: community principles, regional principles, and implementation principles. While no formal attempt to integrate these principals into the General Plan has been undertaken, upon brief analysis the Woodland General Plan does appear to capture the spirit of this document.

Response to Comment 28-8:

The use of traffic circles or roundabouts may be appropriate traffic controls at selected intersections. Their use instead of traffic signals can be evaluated as part of the traffic studies that will be prepared for each development within the Specific Plan area (i.e., at Tentative Map approval) as specified in Mitigation Measure 4.6-8, which requires consideration of traffic calming measures.

Response to Comment 28-9:

The DEIR does include an alternative and mitigation recommending a greater range of densities for the proposed project (see Mitigation Measure 4.11-4 (a) and Alternative 3 in Chapter 5).

Response to Comment 28-10:

The City shares the commentor's desire for good urban planning. Specific measures addressing this issue are compiled in the City's Community Design Guidelines and General Plan policies (see pages 4.9-5 through 4.9-10 of the DEIR.

Response to Comment 28-11:

The issue of local school funding was removed from local control whether California voters approved Proposition 1A in November 1998. A discussion of the provisions of Senate Bill 50 (Proposition 1A) legislation and how it affects local government is presented on pages 4.14-21 through 4.14-23 in the DEIR.

T. ROBERT SANDBERG
4030 LOS ARABIS ROAD
LAFAYETTE CALIFORNIA 94549

August 30, 1999

SEP 2 1999

CITY OF WOODLAND
COMMUNITY DEVELOPMENT
DEPARTMENT
HEIDI TSCHUDIN, Contract Planner
300 FIRST STREET
WOODLAND CA 95695

Re: Draft Environmental Impact Report (DEIR) For the Turn of Century Specific Plan (TOC SP)

Dear Ms. Tschudin:

I am the owner of Assessor Parcel No. 42-03-02 (approximately 155 acres) located on the South East Corner of County Road 25A and County Road 101. I have reviewed the Draft Environmental Impact Report and per your Notice of Availability dated July 19, 1999, I have the following comments or questions:

1. I am concerned that there are no requirements relating to the maintenance of water availability and quality in the area. **29-1**

2. I am concerned that the project may cause additional restraints in surrounding land used for agricultural purposes. **29-2**

3. I am concerned that the Environmental Draft does not sufficiently address the possibility of air contamination which would effect crops grown on agricultural property in the area. **29-3**

4. I am concerned that Willow Slough remain a source of agricultural irrigation water. **29-4**

I would appreciate receiving your comments concerning these matters.

Very truly yours,

T. R. SANDBERG

COMMENT LETTER 29: T. Robert Sandberg

Response to Comment 29-1:

A comprehensive discussion of water availability and relevant City policies and standards is presented on pages 4.13-33 through 4.13-40 in Section 4.13, Public Services and Facilities, in the DEIR. Additional information regarding municipal water quality is provided on pages 4.4-14 through 4.4-15 in Section 4.4, Hydrology, Drainage, and Water Quality, in the DEIR.

Response to Comment 29-2:

Please see Response to Comment 1-3.

Response to Comment 29-3:

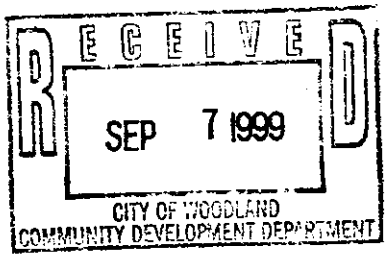
Ambient air quality conditions in the project vicinity are described on pages 4.7-5 through 4.7-8 in Section 4.7, Air Quality, in the DEIR. The major air quality problems in the project vicinity are ozone and PM_{10}. As noted on page 4.7-8, local air quality is also influenced by agricultural lands that generate pollutants through equipment and vehicle exhausts, tilling, burning, unpaved road travel, and pesticide application. Project-related effects on air quality are discussed in Impacts 4.7-1 through 4.7-3 on pages 4.7-19 through 4.7-26 in the DEIR. Cumulative effects are addressed in Impact 4.7-6 on page 4.7-28 in the DEIR. As indicated in those impact discussions, the proposed project would generate emissions that exceed the standards for ROG and NO_x and would contribute to regional levels of these pollutants. The proposed project would implement mitigation to reduce criteria air pollutants to the extent practical, but the impact would remain significant and unavoidable.

ROG and NO_x are precursors of ozone. Research funded by the California Air Resources Board has shown that, on a regional level, ozone levels can affect certain crops. Studies have shown that tomato, wheat, rice, and corn, the predominant crops in Yolo County, are ozone-tolerant. Other crops are more ozone-sensitive. To date, however, there are no standards to evaluate potential effects on crop loss as they relate to air pollutant concentrations.[2] In the absence of more conclusive information and established standards, it would be speculative to analyze the effect of project-related air pollution on crops grown on agricultural property in the area. Please see also Response to Comment 1-3.

Response to Comment 29-4:

The proposed project would not involve any changes in the use of Willow Slough to convey agricultural irrigation water. Please see also Response to Comment 6-4.

Shawn Smallwood, Ph.D.
109 Luz Place
Davis, CA 95616



By US Mail and by Facsimile at 530-661-5844

Heidi Tschudin, Contract Planner
Woodland Community Development Department
300 First Street
Woodland, CA 95695

September 6, 1999

Dear Ms. Tschudin,

The following are my comments on the Turn of the Century Specific Plan Draft Environmental Impact Report (TOC draft EIR).

The draft EIR relies on the Yolo County HCP

The TOC draft EIR relies heavily on the Yolo County Habitat Conservation Plan (HCP), even though the baseline environmental setting used for the HCP differed from that used in the TOC draft EIR. The draft EIR relied on the habitat types used in the HCP, as well as the 29 target species and the mitigation strategy. However, the habitat types, the species, and the mitigation strategy were all based on conditions observed in 1989 air photos, whereas the TOC draft EIR purports to use existing conditions in 1999 as the baseline environmental setting. This disparity in baseline conditions between the two planning documents has created a considerable amount of confusion in the TOC draft EIR, as well as many inconsistencies. If the applicant is attempting to tier the draft EIR from the HCP, then the baseline conditions need to be compared and their differences addressed somehow. 30-1

However, the latest public release of the Yolo County HCP was deeply flawed, and its mitigation strategy did not resemble the one prepared by Smallwood et al. (1998b), contrary to the claim made in the HCP (EIP Associates 1996). With Smallwood et al.'s (1998b) scientifically founded mitigation strategy removed from the HCP, its scientific merits were viewed poorly by the dozen or so UC Davis scientists who reviewed it (Shilling 1987). It misused the term *habitat types* and *umbrella species* in ways that seemingly justified inadequate mitigation for all of the 29 species proposed for inclusion on the Incidental Take Permit (ITP). 30-2

The TOC draft EIR continues to claim that various affected species will somehow be conserved by deed restrictions on agricultural land where Swainson's Hawks forage. Scientists have repeatedly pointed out that this approach is scientifically unfounded and will not accomplish the objectives of mitigation nor conservation (e.g., Shilling 1997, b et al. 1998, 1999). 30-3 The TOC draft EIR also continues the misuse of the term *habitat types* (e.g., page 4.5-1), which is significant because it misrepresents the ways in which the species use the environment of the project site by pigeon-holing species into unrealistically narrow portions of the environment. Proper uses of the terms *habitat* and *habitat types* can be found in Hall et al. (1997) and Morrison et al. (1998). 30-4

Misuse of "Habitat Types"

A species' habitat is defined by its use of the environment, thus a species' habitat is unique because each species uses the environment differently (Hall et al. 1997, Morrison et al. 1998). The Yolo County HCP and this draft EIR improperly used the term *habitat type*, which should have been termed vegetation assemblage or something like that. Worse than misusing a scientific term is the unrealistic assignment of each legally rare species to one *habitat type*, when it is well known that multiple so-called *habitat types* are actually used by each of these species. 30-4

For example, the draft EIR concludes that the giant garter snake does not occur on the project site because the snake is said to be found only in areas of rice cultivation and rice is not grown on the project site (draft EIR Appendix G-4). However, the Biological Resources Technical Report for the HCP (EIP Associates 1995) has the giant garter snake associated with stream courses, marshes, ponds, lakes and open water. Smallwood and Morrison (1997) summarized the habitat of the giant garter snake and pointed out the need for the coincidence of wetland and upland conditions where the species can find refugia in the burrows constructed by ground squirrels and pocket gophers. Smallwood and Morrison (1997), Morrison and Smallwood (1999), and Wylie (1999) refuted the myth that rice is good giant garter snake habitat, and these authors identified rice fields as a statistically avoided part of the landscape, which likely serves as an ecological sink (more individuals perish there than are reproduced). According to EIP Associates (1995), Leidy (199), Smallwood and Morrison (1997), and Wylie (1999), the project site appears to be suitable for giant garter snakes. 30-5

In another example, the draft EIR concludes that western spadefoot toads do not occur on the project site because vernal pools are not present. In reality, these toads do not require vernal pools. These toads are found in multiple types of wetland conditions so long as upland areas are available nearby where they, like giant garter snakes, can find refugia in animal burrows. I found western spadefoot toads along the railroad berm and irrigation canal just south of Willow Slough and in line with Road 101. These toads were using the ground squirrel burrows during the day and hunting along the canal at night. No vernal pools were present in the area. According to EIP Associates (1995), this species occurs in vernal pools, ponds, lakes, open water, wooded savannas, and in grasslands. Based on EIP Associates (1995) and the scientific evidence, western spadefoot toads may very well occur on the proposed project site. 30-6

The draft EIR concludes the California tiger salamander does not occur on the project site because it, too, depends on vernal pools, which are said to be absent on the site. However, according to EIP Associates (1995), the California tiger salamander is found in stream courses, vernal pools, ponds, lakes, open water, oak woodlands, and grassland. Based on EIP Associates (1995) and the scientific evidence, California tiger salamanders may very well occur on the proposed project site. 30-7

The draft EIR concludes that the project site lacks vernal pool fairy shrimp, conservancy fairy shrimp, longhorn fairy shrimp, mid-valley fairy shrimp, and vernal pool tadpole shrimp, because these species are said to require vernal pools, which are said to be absent on the project site. According to EIP Associates (1995), these species also occur in temporary ponded waters without fish (page 5-3), which appears similar to conditions described for the project site. 30-8

In each of these examples, readily available data appear to have been ignored in preparation of this draft EIR. In each of these examples, this draft EIR presented much narrower habitat descriptions for the species than appeared in a supporting document of the HCP (EIP Associates 1995), even though both documents were prepared by EIP Associates. Much of the narrowing of habitat descriptions involved legally rare species associated with vernal pools. The draft EIR portrays these species as obligates of vernal pools, which are said to not occur on the project site. EIP Associates (1995) contradicted these portrayals, and presented evidence that all of these species are possible residents of the project site. 30-9

Misstatements about Vernal Pools on the Project Site

Furthermore, I question the conclusion in the draft EIR that vernal pools do not occur on the project site. EIP Associates mapped two large vernal pools on the project site during 1995, and had these maps digitized for storage and use in the Geographic Information System maintained by the County of Yolo. This data base, which was developed cooperatively by Yolo County and EIP Associates, is readily available, and my UC Davis colleagues and I make frequent use of it. In this draft EIR, EIP Associates classified these wetland areas as "elliptical surface features that remain inundated during the rainy season" (e.g., page 4.5-4), which is a classification that neither myself nor any other scientist I have spoken to about it have ever encountered. The term "elliptical surface feature" is undefined, vague, ambiguous, and of little if any scientific use. I assume that "elliptical surface features" were observed and classified during field surveys by staff of EIP Associates who also reported observing "white-tailed rabbits" (page 4.5-5). "White-tailed rabbits" are unknown to science, so I assume EIP Associates actually observed cottontails (*Sylvilagus auduboni*). EIP Associates also misspelled Killdeer as kildeer, American Goldfinch as American gold finch, and Loggerhead Shrike as logger-headed shrike (page 4.5-5). They made reference to tree frogs, which have been termed chorus frogs for the past several years. These mistakes cause me to question the scientific validity of the conclusions reached throughout the draft EIR, including the capability of EIP Associates to identify vernal pools in the field. 30-10

A qualified wetlands ecologist needs to visit these wetland features to determine whether they really are vernal pools. A wetlands ecologist is needed to determine, once and for all, whether the Yolo County HCP or the draft EIR presents the correct conclusion regarding the existence of vernal pools on the project site. Regardless of whether these wetland areas are vernal pools, this draft EIR should have fully disclosed their recent map representation by EIP Associates. 30-11

Analysis of Significant Impacts was Incomplete

Focusing on the target species of the Yolo County HCP was somewhat justified by the legal status of these species, but also incomplete. Many legally rare species in Yolo county were not included on the target species list for the HCP, including the Ferruginous Hawk (*Buteo regalis*) and Mountain Plover (*Charadrius montanus*), which are known to occur on lands nearby the project site and which are both California Species of Special Concern and federal Candidate 2 species. On the project site, I have seen the White-tailed Kite (*Elanus leucurus*, California Fully Protected), Long-billed Curlew (*Numenius americanus*, California Species of Special Concern and federal Candidate 3 species), and California Gull (*Larus californicus*, California Species of Special Concern). These observations were made during a multiple year survey effort that lead to the publications of Erichsen et al. (1996) and Smallwood et al. (1996). There are many other legally rare species that can be considered, but which are not considered in the Yolo County HCP nor this draft EIR. Also, it would be appropriate for the draft EIR to consider the impacts on all species of wildlife, not just legally rare species. 30-12

Some species were excluded from the analysis of impacts due to erroneous habitat descriptions, and others were dismissed as significantly affected for the same reason. For example, Burrowing Owls were said to be unlikely to occur on the project site due to the presence of a dense tall cover of ruderal weeds and annual grasses (page 4.5-13). Annual grasslands provide excellent habitat for the burrowing owl, a fact that is supported by EIP Associates' (1995) own documents. The draft EIR excluded White-faced Ibis from the analysis of impacts because it was said to nest and forage in shallow fresh emergent wetland, which is said to not occur on the project site. EIP Associates (1995) includes marshes and alfalfa and pastures as habitat of the White-faced Ibis, and these conditions have occurred on the project site at various times in the past. Swainson's Hawks are said to nest in large trees in riparian corridors, and only in trees that are at least 30 feet tall (page 4.5-3). In fact, Swainon's Hawks nest in trees outside the 30-13

riparian corridor and in many trees that are shorter than 30 feet tall. The draft EIR also claims that Swainson's Hawks find annual field crops as less suitable for foraging (page 4.5-11), which contradicts the evidence (Smallwood 1995), as well as the mitigation strategy of the Yolo County HCP and this draft EIR. 30-13 Cont

I wonder whether EIP Associates conducted surveys according to the US Fish and Wildlife Survey and CDFG protocols for Swainson's Hawk, giant garter snake and VELB. The draft EIR says surveys were conducted during the winter months (page 4.5-10) and during June and July (page 4.5-11), but I saw no mention of survey protocols. In fact, the draft EIR did not explain how these surveys were conducted at all. The CDFG specifically requested surveys for Swainson's Hawk and giant garter snake during periods of the year when these species would be readily observed, if present (Larry Eng's response to NOP, draft EIR Vol. II). Of course, winter-time surveys for VELB were not likely to be productive (page 4.5-10) and certainly not for the Swainon's Hawk or giant garter snake. June and July were better, but EIP Associates needed to have followed agency protocols. 30-14

According to the draft EIR (page 4.5-7), permits will not be required for the take of most species considered. However, the draft EIR failed to inform the City of Woodland that if the HCP is approved and the ITP issued by the US Fish and Wildlife Service, then all the species on the ITP will be regarded as *endangered* under the Endangered Species Act (USDA and USDC 1996). While the HCP is being prepared and proposed by the ITP applicant, all these species should be considered as potentially endangered, and in need of a federal permit for their take. It really does not matter that the California Attorney General's office has some ephemeral opinion of take that excludes habitat modification (page 4.5-15). It does not matter to the Endangered Species Act nor to CEQA. 30-15

The Mitigation Strategy is Flawed

In proposing the Yolo County HCP as an alternative mitigation measure, the draft EIR effectively defers the formulation of the mitigation measure to some future time, because the HCP has not yet been approved or the ITP issued. The latest draft of the HCP was released to the public in 1996 (EIP Associates 1996), but later withdrawn for revision. At this time, the public has no way of knowing what mitigation measures will appear in a later draft of the Yolo County HCP. Proposing the Yolo County HCP as a mitigation measure is therefore unacceptable for this draft EIR at this time. However, the mitigation measures in the Yolo County HCP might not change substantially from the 1996 draft, so I will rely on the 1996 draft of the HCP for commenting on the mitigation proposed in this draft EIR. 30-16

The Yolo County HCP assumes that Swainson's Hawk foraging habitat can serve as the *umbrella* under which all other 28 target species benefit (a claim refuted by Smallwood et al. 1998b, 1999), and then proposes to conserve Swainson's Hawk foraging habitat in equal acreage as that taken by land conversions in the County (this is also the mitigation strategy proposed in the draft EIR should the City of Woodland decide not to rely on the HCP, see page 4.5-4). The HCP regards nearly all the existing rural lands on the Valley floor of Yolo County to be Swainson's Hawk foraging habitat, so considering both the land taken and the land "conserved," the mitigation plan results in a net loss of 50% of Swainson's Hawk habitat because the land to be "conserved" is already used by Swainson's Hawks (so long as it is land outside the Yolo Flood Basin). No habitat is being added under this mitigation plan; it is only being taken. In fact, the project site is exceptionally important foraging habitat for Swainson's Hawks because the reach of Willow Slough near the project site hosts the densest population of Swainson's Hawks in California (page 4.5-28). It cannot be replaced and no other land in the County can provide the same level of foraging opportunities for Swainson's Hawk as the land around that reach of Willow Slough near the project site. The draft EIR claims that "measures shall be incorporated to ensure no net loss of the species" (page 3-15), but no such measures are described in the draft EIR. 30-17

The draft EIR concludes that Valley Elderberry Longhorn Beetle (VELB) will be taken, but also concludes that its take will be mitigated to a less than significant impact by either (1) section 7 consultation or using section 10(a) of the Endangered Species Act; or (2) participation with the HCP (note that section 10(a) and the HCP are the same process) (page 4.5-2). As I explained earlier, the HCP calls for conserving foraging habitat of Swainson's Hawks, which according to the HCP, can include a tomato field or some other annual field crop regarded as Swainson's Hawk foraging habitat, but where elderberry shrubs are not likely to occur. The Yolo County HCP and the alternative mitigation measure on page 4.5-4 will not mitigate for the take of VELB. 30-18

Similarly, the draft EIR concludes that special status plant species inhabiting the alkali sinks will be given the opportunity of being salvaged by the California Department of Fish and Game (CDFG) (page 4.5-1). As Yolo County has no other matching soil and plant community conditions, to where is CDFG supposed to salvage these plants? Are they going to be salvaged as museum pieces? Translocations of plants and animals do not work in general (Smallwood et al. 1999), but these particular plants simply cannot be moved without destroying their existence in the wild. Even if they were translocated successfully to another location, the translocation would genetically contaminate the plants occurring at the receiving site. The take of these plants will be irreversible and will constitute a significant impact, as would their salvage to a new location. 30-19

Overall, I found the mitigation for the take of biological resources to be nonexistent. Limited operations around nest trees during Swainson's Hawk nest season (page 4.5-3) should not be regarded as mitigation, because these trees are used inter-annually. The next year, the Swainson's Hawks in such a tree will either not have their tree available or they will have it available but will not be able to forage due to the prevalence of houses in the area (see England et al. 1995). Also, the Yolo County HCP would fail to mitigate for the take of habitat and individuals because the land upon which deed restrictions would be obtained already exits, thereby forcing a 50% net loss of habitat and species using the proposed mitigation ratio applied to both the land taken and the land set aside. Similarly, agricultural land will experience a 50% net loss, contrary to the claim made in the draft EIR (page 4.2-1). 30-20

Deed disclosure (page 4.1-1) of the surrounding land uses also will not mitigate for their impacts on the new residents on the project site, nor will deed disclosure mitigate for the impact of the project on the surrounding land uses. 30-21 It is also not mitigation for political bodies to arbitrarily decide that the proposed project is substantially consistent with the General Plan policies, or with LAFCO policies (pages 4.1-5 and 4.1-10). 30-22 Siting and design of structures will not entirely mitigate for building within a new FEMA 100-year flood zone map (page 4.4-7), and due to land subsidence that will likely be caused by the extra weight of houses atop soils that are being depleted of groundwater (page 4.13-13), the potential for flooding on the project site will be exacerbated (also see the responses to NOP in draft EIR Vol. II). No details were provided in the draft EIR for how siting and design of structures would mitigate for building in a flood zone. 30-23

The draft EIR lacked foundation when it concluded that the conversion of agricultural land to urban uses will have a less than significant impact on ground water recharge (page 4.4-6), and there is no mitigation for the loss of Farmland of Statewide Importance and Unique Farmland. 30-24 The draft EIR did not attempt to assess the hazards to the new residents due to nitrates and pesticide residues in the groundwater, nor did it adequately address below ground or above ground movement of hazardous substances emanating from the adjacent, abandoned Woodland landfill (page 4.1-2). 30-25 The design and history of the abandoned Woodland landfill needs to be disclosed. To properly mitigate for constructing houses next to the abandoned landfill, an assessment needs to be made of the likelihood and magnitude of the impacts of burrowing animals in transporting buried waste products to the ground surface. Smallwood et al. (1998a) provides the methodology for making the appropriate assessment. 30-26

The draft EIR also wrongly concluded that Black Gnats will be controlled during construction activities so as to protect the workers. Entomologists at the University of California, Davis, should be consulted. They will likely inform the project applicant that there is nothing that can be done to control Black Gnats. 30-27

Alternatives Analysis

The TOC draft EIR did not disclose the ecological indicators approach developed at EIP Associates for the Yolo County HCP (Smallwood et al. 1998b). This approach could have provided the best alternatives analysis for siting the project within the undeveloped portions of the Woodland Planning Area. The ecological indicators approach makes use of a quantitative, comparative analysis designed to foster informed decision-making and public participation. It also established the factors and quantitative scales upon which thresholds of significance were established. Finally, this approach was reviewed by independent scientists, published (Smallwood et al. 1998b), and readily available to the project applicant. If this approach had been used, multiple sites would have been identified where the proposed project would substantially lessen the significant biological effects. Also, if the City of Woodland decides to keep the project at its proposed site regardless of the increased negative impacts, then the ecological indicators approach could have been used to identify areas where the mitigation would morel likely be roughly proportional to the impacts. 30-28

I used data that had been purchased from Yolo County to conduct an alternatives analysis among 25 square-mile grid cells within the undeveloped portions of the Woodland Planning Area. Based on my analysis (for the approach, see Smallwood et al. 1998b), the proposed project site is one of the worst in the Woodland Planning Area. Ecological Integrity among the 4 grid cells overlapping the project site averaged 58% (49 to 65%) of the highest value in the County, whereas the remaining grid cells averaged 37% (2 to 81%). Table 1 summarizes the relevant indicators, factor ratings, and index ratings used in Smallwood et al. (1998b). Table 1 clearly shows that there were superior sites to locate the project based on every indicator, factor and index examined. This disparity in severity of impacts was especially evident for the scarcity of vegetation complexes (scarcity index), the size of the contiguous natural vegetation patches (area index) and the time it would take to restore the vegetation complexes once destroyed (restoration index). 30-29

Table 1. The average, minimum, and maximum of the indicator values, factor ratings, and index scores, all expressed as a percentage of the maximum possible in the County, and all ranging from 0 as the worst grid cell to 100 as the best. 30-30

Indicator, Factor, or Index	Project site impacts	Off project site impacts
Ecological Integrity	58 (49-65)	37 (2-81)
Habitat quality	30 (18-37)	29 (4-70)
Regional habitat relationships	58 (53-62)	31 (0-62)
Scarcity index	88 (75-100)	36 (0-100)
Vegetation use index	44 (29-55)	31 (0-52)
Vegetation occurrence index	43 (30-54)	41 (15-99)
Area index	63 (50-75)	39 (0-100)
Restoration index	85	55 (0-85)
Conservation Opportunity	44 (36-48)	37 (12-58)

I also conducted an alternatives analysis using pesticide usage data available at several State and Federal agencies. Figure 1 shows the relative usage of all pesticides in the Yolo County HCP study area. The pesticides used during the years 1990 through 1996 summed to nearly 27,000 pounds in the grid cell that most overlaps the proposed project site, and averaged 15,000 (315-43,300) pounds on the remainder of the grid cells in the undeveloped portions of the Woodland Planning Area. Lesser amounts of pesticides were used on 18 of the remaining 21 square-mile grid cells. Clearly, the proposed project site poses an increased hazard of exposure to pesticide residues in the soil and in the ground water. Many other locations in the Woodland Planning Area would pose less risk to people. 30-31

Additional Comments

According to the map on page 2-24, Road 102 will remain unchanged, but I have difficulty believing this road will be able to handle the increased traffic volume without being widened. A comprehensive traffic study by qualified experts would be insightful. 30-32

I also do not feel that it would be fair to include only 100 senior apartment units and 100 affordable housing units in a plan that calls for building 2,612 units. With an increasing senior population, I suppose not very many of them would be allowed to live in southeast Woodland. This plan would violate City of Woodland Guiding Principles 2 and 6. 30-33

Based on my reading of the draft EIR, this proposed project would be inconsistent with the City of Woodland Guiding Principles 1 -- retain and enhance Woodland's quality of life and separate identity and small town characteristics; 4 -- preserve and protect prime agricultural land; and 12 -- protect and improve the quality of the natural environment. It would also be inconsistent with key LAFCO guidelines (draft EIR Vol. II). 30-34

It would violate the Endangered Species Act by having not made use of the best available scientific data when making a decision to take individuals of habitat of the giant garter snake, VELB, and the species of fairy shrimp and tadpole shrimp (see Smallwood et al. 1999). 30-35

The project's negative impacts on the availability of Swainson's Hawk foraging habitat will degrade the highest density population of Swainson's Hawks in California (Estep 1989), which occur in the vicinity of the project site along Willow Slough. This degradation will remove a significant obstacle to human population growth, as the Swainson's Hawk population there serves to discourage land conversions between Davis and Woodland, due to its legal status. With fewer Swainson's Hawks along Willow Slough, and an expanded Road 102 to handle the increased traffic volume, maintaining a separation between Davis and Woodland will be difficult. Therefore, this project will be inconsistent with the City of Woodland's Guiding Principle 1; this project will be growth inducing. Several Swainson's Hawk experts should be given the chance to study the impact on the Willow Slough population due to the loss of foraging habitat on the proposed project site. 30-36

Conclusions

The TOC draft EIR failed to fully disclose the existence of many data, maps, the known existence of vernal pools, and an important methodology for conducting alternatives analysis. By ignoring all this information, the TOC draft EIR made erroneous conclusions regarding the habitat conditions and likelihood of occurrence of multiple legally rare species. These conclusions were often inconsistent with those in the Yolo County HCP. The TOC draft EIR heavily relies on the Yolo County HCP, which has a mitigation strategy that is unknown to the public because it has not been approved and the last draft of it was released to the public nearly 4 years ago. The Yolo County HCP was, at that time, found to be deeply flawed by multiple scientists who reviewed it. The TOC draft EIR also made use of inadequate 30-37

field reconnaissance, and the report of wildlife observations indicated a carelessness that compromises the entire draft EIR. Table 2 summarizes some of the key defects of the draft EIR. 30-37 Con.

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Table 2. Major defects of the draft EIR.

Defect of TOC draft EIR	Evidence	Consequence	
Omits readily available, relevant data	Map of vernal pools; Original mitigation strategy (Smallwood et al. 1998); Grassland and pond habitat types used by various target species	Significant project impacts appear less substantial than they should; Alternatives analysis is incomplete; draft EIR and HCP are inconsistent in many conclusions; draft EIR appears biased	30-38
Draws improper conclusions	Various species do not occur or are unlikely to occur on project site (e.g., giant garter snake, western spadefoot toad, Burrowing Owl, fairy shrimp);	Significant project impacts appear less substantial than they should; draft EIR appears biased	30-39
Draws improper conclusions	Vernal pools are termed elliptical surface features	A wetlands would be taken without adhering to federal wetlands regulations; draft EIR appears biased	30-40
The project location is one of the worst alternatives available	Relative to the other areas available in the Woodland Planning Area, the proposed project site rates highly in ecological integrity and the regional significance of its natural resources, and it received a larger amount of pesticides over the past decade	The impact to the environment is not fully disclosed, nor is the risk of exposure to pesticide residues	30-41
Formulation of mitigation measures are deferred until some future time	The draft EIR relies heavily on the Yolo County HCP for mitigation measures, but the HCP is not yet approved and the ITP is not issued	If the Yolo County HCP is approved, its mitigation measures could be flawed and ineffective for the impacts of this project	30-42
Formulation of mitigation measures are deferred until some future time	CDFG will be given the opportunity to salvage the rare plants	If CDFG cannot find a way to salvage the plants, then these plants will be lost forever. If they do salvage the plants by moving them elsewhere, then they will genetically contaminate the plants in the other location.	30-43

Shawn Smallwood

Shawn Smallwood, Ph.D.

Attachments: Figure 1; Curriculum Vitae; Morrison and Smallwood (1999), Shilling (1997), Smallwood and Morrison (1997), Smallwood et al. (1998b, 1999)

COMMENT LETTER 30: Shawn Smallwood, Ph.D.

Response to Comment 30-1:

The Turn of the Century Specific Plan EIR is not tiered from the Yolo County Draft Habitat Conservation Plan (HCP). As stated on page 4.5-1 of the DEIR, the habitat classification system developed for the HCP is used in the biological resource evaluation in order to be consistent with that plan if and when it is adopted. However, the analysis of impacts on biological resources is not based simply on the HCP. As stated on page 4.5-24, under **Method of Analysis**, the DEIR analysis of biological impacts is based on the known status and distribution of habitat and species recorded in the available literature and additional data collected during field reconnaissance of the project site, including the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) Electronic Inventory, U.S.G.S. 7.5 minute quadrangle maps for Grays Bend, Sacramento West, Merrit, Woodland, Taylor Monument, and Knights Landing, color aerials and 7.5 minute USGS quadrangle map for Grays Bend. As stated on page 4.5-24, field reconnaissance of the project site was conducted by qualified biologists to establish existing conditions. The reconnaissance was conducted on June 17, 1998, September 3, 1998, and on March 5, 1999. Investigation of the project site was conducted by foot within the project site and by observation from adjacent roadsides. Observation points were located along Highway 113, Road 102, Gibson Road, Road 101, and Road 25A.

Response to Comment 30-2:

The City respectfully disagrees with the commentor. The City of Woodland has approved the HCP. However, it should be noted that the process of regional approval is still underway. The HCP is a regional program designed to provide a conservation strategy to mitigate for impacts from planned development within the spheres of influence of the incorporated cities in Yolo County. The plan is a collaborative process among the cities of Davis, West Sacramento, Winters and Woodland; the County of Yolo; the California Department of Fish and Game; the U.S. Fish and Wildlife Service; representatives of the development and business communities, environmental interest groups, and the Yolo County Farm Bureau, who collectively make up the Steering Committee. In 1996, a Draft HCP was published and circulated for review among the cities and the county. Four of the five jurisdictions (including Woodland) adopted the plan at that time while the City of Davis did not take formal action. Since that time, revisions have been made to the document to respond to comments received during the public review process. Most recently, the Steering Committee has been evaluating further revisions to the document to make it consistent with newly published HCP guidelines of the U.S. Fish and Wildlife Service. The Steering Committee is also currently working on a new schedule for releasing the revised document for another round of public review. It is anticipated that the schedule and anticipated changes to the document will be proposed for consideration by the cities and county in early 2000.

Response to Comment 30-3:

Mitigation Measure 4.5-1 is consistent with the mitigation approach advocated in the City General Plan, the HCP, the CDFG Guidelines for Swainson hawk, and practice in the region. As stated on page 4.5-31, Mitigation Measure 4.5-4 would reduce the severity of the loss of foraging habitat, but the impact would remain significant. Please also see Response to Comment 30-17.

Response to Comment 30-4:

The comment regarding the use of "habitat type" represents a disagreement among biological resource professionals. However, the term is commonly used in biologist resource evaluations. No change to the DEIR is warranted. With respect to the impact on Swainson's hawk foraging habitat, the DEIR recognizes that the mitigation requiring preservation of an equivalent amount of foraging habitat or participation in an HCP will not reduce the impact to a less-than-significant level (see page 4.5-31).

Response to Comment 30-5:

Please refer to Appendix G-4 in the DEIR for a complete description of the rationale behind the absence of habitat on the project site. The giant garter snake discussion on page G-4, paragraph 2, acknowledges that the HCP represents the project area as suitable habitat by virtue of the presence of seasonal irrigation ditches. However, the lack of permanent water during the irrigation season was the basis for which the absence of the snake was assumed. Because giant garter snakes are aquatic animals, the lack of water in the canals for extended periods during the active season would preclude their use of the site. In addition, regular upland discing, the removal of in-ditch vegetation, and all other agricultural maintenance practices in the uplands were cited as reasons that giant garter snake was not assumed to utilize the area.

Response to Comment 30-6:

The CNDDB database was searched and reviewed for records of western spadefoot. The occurrence referenced in the comment was not recorded in the database (see page G-3, paragraph 3, in Appendix G in the DEIR). Based on the available information regarding local occurrences of spadefoot, the evaluation in the EIR is accurate. Historically, the project site was part of a large alkali sink wetland area. This bottomland habitat is not historically considered habitat for spadefoot. In addition, the remnant alkali sink wetlands and surrounding uplands are regularly disced and the irrigation channel banks are subject to disturbance that would preclude the estivation (dormancy during periods of hot and dry conditions) of spadefoot.

Response to Comment 30-7:

A detailed explanation for the presumed absence of the California tiger salamander is provided on page G-2 in Appendix G in the DEIR. In summary, the absence of suitable estivation habitat precludes the occurrence of this species. Historically, the project site was part of a large alkali sink wetland area. This bottomland is not historically considered habitat for tiger salamander. The remnant alkali sink wetlands and surrounding uplands are regularly disced, and the irrigation channel banks are subject to disturbance that would preclude the estivation of California tiger salamander.

Response to Comment 30-8:

The alkali sink wetland habitat located on the project site is not considered habitat for any California vernal pool branchiopod (with the exception of *Branchinecta lindahli*) since this habitat is believed to have moderate to high alkalinity (based on the presence of halophytic species of plants). Branchinectz lindahli, which is not federally-listed or otherwise considered to be a special-status species, occurs in a variety of alkalinity conditions in California (ranging up to 763 parts per million, or ppm), while other *Branchinecta* sp. that inhabit grassland vernal pools typically occur in pools with low to moderate alkalinity (i.e., few to 300 ppm).[3] In addition, *Branchinecta lindahli* has been recorded in southern Yolo County.[4] Therefore, this species may occur in the alkali wetland features located on the project site. However, since this species is widely distributed and not considered a special-status species no mitigation is proposed.

Response to Comment 30-9:

The habitat types described in the DEIR represent habitat types that are present on the project site, based on literature review and field observations (see Response to Comment 30-1). The HCP includes a broader range of habitat descriptions because it covers all of Yolo County.

Response to Comment 30-10:

The maps prepared by Yolo County in 1995 were baseline maps from which initial evaluation for planning was to be based. The maps were not intended as the final determination of any specific habitat in Yolo County. In the original efforts to map the various habitats in Yolo County, black-and-white aerial photographs were reviewed. In many cases, ground-truthing to confirm the exact designated habitat type was not possible (or intended). Errors in this initial effort may have occurred. The GIS database referred to in the comment may have errors due to this process. The alkali sink wetlands appear to have been incorrectly identified as vernal pools during the preliminary mapping activity. The alkali sink habitat was correctly identified during a field reconnaissance of the project site.

Vernal pools are distinguished by a predominance of native annual plant species, which the alkali sink wetlands do not exhibit, as described on pages 4.5-2 and 4.5-4 in the DEIR. As stated in the Draft HCP (page 2-29), "vernal pools are characterized by the presence of a diverse herbaceous flora of native Californian species," which the alkali sink wetland do not exhibit. The description of the alkali sink wetland in the DEIR does not conflict with the description of vernal pool habitat provided in the HCP because the features observed during field reconnaissance on June 17, 1998, did not exhibit the floristic features of a vernal pool. Only three plant species were observed within the wetland areas, including the halophytic plant, San Joaquin saltbush. The two other plant species observed were non-native species. Additionally, the soil type that the alkali sink wetlands occur upon consists of the Pescadero silty clay, saline-alkaline series, as described on page 4.5-4 in the DEIR, which is consistent with the alkali sink habitat characterization provided in the EIR. Soil maps from the Soil Survey of Yolo County, California, 1968, show that soils in the project area are consistent with the alkali sink basin that drains the lands to the west of Road 102. It can be concluded that prior to the construction of Road 102 drainage from the project site flowed toward the alkali sink located to the east of the road. The shape of these remnant alkali sink wetlands was described in the text to provide the reader with further information about the site. Because farming

activity has occurred on the site and is now disced periodically, the shape of these features have been smoothed and rounded.

The comment provides minor edits to DEIR text. The second and third paragraphs under **Wildlife** on page 4.5-5 of the DEIR are revised as shown:

> Bird species commonly observed foraging in include flocks of red-winged blackbirds, starlings, meadowlarks, American crow, magpie, pheasant, ~~peasant~~ and Killdeer ~~kildeer~~. The mammals that may be expected to be observed on site are California~~meadow~~ vole, house mouse, black-tailed hare and possibly cottontail ~~white-tailed rabbit~~. While the agricultural ditches are filled and drained during the growing season they may support waterfowl species such as mallard, cinnamon teal, American coot and pied-billed grebe for short periods. The amphibians on site are likely limited to bullfrogs and tree frogs and the reptiles consist of species such as the western fence lizard, gopher snake, and California king snake.
>
> The ruderal edges along the filed crop habitat supports many common bird species including white-crowned sparrow, golden-crowned sparrow, American goldfinch ~~gold-finch~~, house finch, savanna sparrow, and red-winged blackbird. Special-status species such as strike may be supported by ruderal habitat ~~such as loggerhead logger-headed shrike~~.

Response to Comment 30-11:

The field reconnaissance was conducted by two biologists, one of whom is a certified wetlands biologist. Please also see Response to Comment 30-10.

Response to Comment 30-12:

The CNDDB database did not reflect the occurrence of ferruginous hawk or long-bill curlew species onsite (note that the USFWS' system for designating listed candidate species and species of special concern has changed, as discussed in notes on Table 4.5-1). Although not named specifically, white-tailed kites would be protected under Mitigation Measure 4.5-3, and State laws protect all nesting raptors. Please see page 4.5-28 in the DEIR for reference to the protection afforded to birds-of-prey. As specified in the "Standards of Significance" on page 4.5-24 in the DEIR, an impact is considered significant if it would create a substantial adverse impact. The loss of foraging habitat for ferruginous hawk, long-billed curlew, mountain plover, and California gull would not result in a substantial adverse effect on the continued survival of these particular species. These four species may find seasonal foraging habitat onsite. However, nesting habitat (the primary issue of concern) for these species does not exist on the project site, which is outside of the known nesting range of these species. Regardless of current use of the project site by these species, Mitigation Measure 4.5-4 would provide preservation of foraging habitat that could be used by all these species. General cumulative habitat losses that could affect all other wildlife species are addressed in Impact 4.5-9.

Response to Comment 30-13:

As described on page 4.5-13 in the DEIR, burrowing owls may not find the tall, dense vegetation found on the project site suitable for habitat. Although the preferred habitat for burrowing owls was not observed on the project site, the DEIR recognizes the possibility of occurrence in paragraph 2 on page 4.5-13 and in Impact 4.5-3. Please also refer to Mitigation Measure 4.5-3(a), which requires ground surveys for burrowing owls.

White-faced ibis was not considered a potential nesting bird on the site due to lack of nesting habitat, as described on page G-5 in Appendix G in the DEIR. Only nesting habitat, not individual members of this species, is protected by either the California or Federal Endangered Species Act. Therefore, its potential occurrence onsite as a foraging bird was not considered significant.

A description of Swainson's hawk habitat is provided on page 4.5-11 in the DEIR, including the various habitats in which Swainson's hawks are known to nest. The DEIR acknowledges both riparian and agricultural nesting occurrences. Mitigation Measure 4.5-3(a) requires survey prior to any construction or tree pruning in the vicinity of trees tall enough to support nests. The DEIR description (page 4.5-11) reflects the HCP description (page 2-16) and does not contradict the habitat description or mitigation strategy of the HCP. The loss of Swainson's hawk foraging habitat is considered a significant and unavoidable impact in the DEIR, even with mitigation (see page 4.5-31).

Response to Comment 30-14:

Information was obtained from aerial photographs and existing documentation to determine what habitat could occur within the project site. As stated on page 4.5-24 in the DEIR, reconnaissance surveys were conducted where access had been obtained to verify baseline conditions at the project site. Some focused surveys for special-status species could be eliminated from the evaluation based on the lack of suitable habitat types. For example, as discussed in Response to Comment 30-5, giant garter snake surveys were not conducted because suitable habitat does not exist onsite. Potential habitat, including nesting sites, was identified for Swainson's hawks, but surveys are appropriately conducted prior to the construction season as required by Mitigation Measure 4.5-3 (see also Response to Comment 30-13). Protocol surveys for VELB will be conducted as potential habitat (drainages and areas with shrubs) are developed (prior to tentative maps) as required by Mitigation Measure 4.5-2 (see Response to Comment 37-3).

In summary, the following surveys will be conducted as the project proceeds (parcel numbers refer to revised Figure 4.1-2 in Chapter 2 of this document). No additional biological surveys would be required:

- a wetland delineation for parcel 9 (TOC LLC property);
- survey for special status plant species on parcels 11 and 12 (Yuba Community College and Yolo County properties);
- a raptor nesting survey for all areas to be disturbed within ½ mile of trees;
- surveys for ground-nesting raptors for fallow fields with redural vegetation;
- a VELB survey for all properties containing drainages or shrubbery; and
- surveys of any offsite infrastructure outside of the areas already surveyed (as indicated in Figure 4-1; see Response to Comment 37-1).

Protocol-level surveys would occur prior to future development for those species for which suitable habitat for nesting was identified. For species where suitable habitat types were identified, protocol-level surveys are specified in the mitigation measures for each associated impact. Because development of the Specific Plan will occur over a number of years, the project-by-project approach, with surveys and mitigation being implemented as individual projects are proposed, is appropriate for most impacts.

Response to Comment 30-15:

The HCP strategy to mitigation will apply to the project only after the HCP is adopted. No federal permits, except possibly fill of wetlands, would be required of the project if it is approved and mitigated prior to adoption of the HCP.

Response to Comment 30-16:

Mitigation Measures 4.5-2, 4.5-4, and 4.5-6 provide participation in the HCP as an alternative to a stand-alone mitigation. Assuming future approval of the HCP, the mitigation measures in the TOC EIR provide the applicant with the option of implementing either measure as a means of addressing potential impacts to the target species. Although measures developed in the HCP have not been finalized, the HCP process is intended to specifically address conservation of target species. The process is also subject to public review and therefore provides an opportunity for further public review and comment. However, without an approved HCP, measures to specifically address each of the target species are proposed for the DEIR.

Response to Comment 30-17:

The mitigation approach relies primarily on the CDFG Guidelines for Swainson hawk which requires different mitigation ratios based on proximity to nesting sites (see Appendix D). Please see also Response to Comment 30-3. The commentor is correct mathematically. Any 1:1 mitigation strategy still results in 50 percent loss of the resource. However, the value of protecting existing habitat in this region has been generally recognized as mitigation.

Response to Comment 30-18:

Mitigation Measure 4.5-2(a) on page 4.5-27 would provide for protocol-level surveys and, if necessary, mitigation as accepted and recommended by the USFWS for valley elderberry longhorn beetle. Because the HCP does not address mitigation for VELB habitat specifically, Mitigation Measure 4.5-2(b) on page 4.5-27 of the DEIR is deleted as shown:

> ~~*If adopted, the project applicant shall participate in the Yolo County Habitat Conservation Plan (HCP).*~~

Response to Comment 30-19:

No reference to alkali sink was found on page 4.5-1 in the DEIR. Nonetheless, Mitigation Measure 4.5-1 does specify the legally accepted procedures for the recovery of alkali sink plant species and complies with the CDFG rare plant preservation protocols. Similar habitat is known to exist in the project vicinity, including the City's Palmate bird's beak preserve, which is located east of Road 102. Therefore, these are areas where translocation could occur without substantially risking genetic contamination.

Response to Comment 30-20:

The City respectfully disagrees with the commentor's overall conclusion. Mitigation Measure 4.5-3 would mitigate direct project-related impacts to Swainson's hawks by significantly reducing the possibility of the take of Swainson's hawk individuals as a result of construction activities. Mitigation Measure 4.5-3 is imperative in that it will result in the documentation of the locations of Swainson's hawk nests and other protected bird species within the area affected by the proposed activities. Without Mitigation Measure 4.5-3, construction activities could occur during the raptor breeding season, resulting in the possible destruction of raptor nests, eggs, or juveniles. The DEIR does recognize the loss of Swainson's hawk foraging habitat associated with project development as a significant and unavoidable impact. Therefore, the authors agree with the commentor regarding the density dependent impacts that could eventually occur to Swainson's hawks and other resident raptor species in and in the vicinity of the project site. The DEIR discusses these potential impacts on page 4.5-31. However, the loss of Swainson's hawk nesting trees during the non-breeding season and the loss of Swainson's hawk foraging habitat is not considered take. The comment regarding the Yolo County HCP is noted. Please also see Response to Comment 30-19.

Response to Comment 30-21:

Please see Response to Comment 12-2.

Response to Comment 30-22:

Policy consistency and General Plan compliance are legislative (discretionary) determinations lodged firmly with local government decision makers. If, as specified in mitigation for potential plan and policy inconsistencies, the City Council makes a determination of substantial compliance, there would be no impact and mitigation would be moot.

Response to Comment 30-23:

Please see Response to Comment 16-9 regarding groundwater withdrawal and subsidence. Additional discussion on the geotechnical aspects of subsidence is provided in Impact 4.3-5 on pages 4.3-14 through 4.3-15 in the DEIR.

As stated on page 4.4-5 in the DEIR, there are currently no areas within the project site that are within the 100-year floodplain. However, should the revised FEMA maps be adopted, development within the floodplain would be subject to certain requirements. Details regarding how siting and design of structures would mitigate for building in a flood zone are discussed in Impact 4.4-7 on

pages 4.4-37 and 4.4-38 in the DEIR. In addition to describing measures required to protect the structures themselves, the assessment also recognizes that placement of structures within a floodplain could impede or redirect flows, which could cause additional flooding elsewhere. Consequently, the DEIR identified additional mitigation to reduce such effects, should the FEMA maps be adopted and structures placed within the floodplain. Mitigation Measure 4.4-7 specifically directs that additional engineering studies be undertaken to identify the specific effects and to develop options for mitigating the effects.

Please see also Response to Comment 18-1.

Response to Comment 30-24:

See Response to Comment 16-9 regarding project-specific effects on groundwater recharge. See Mitigation Measure 4.2-1 regarding mitigation for loss of farmland.

Response to Comment 30-25:

Characteristics of local groundwater quality are described on pages 4.4-14 through 4.4-15 in the DEIR. As stated on page 4.4-14, groundwater quality meets all State and federal requirements, but there are local concerns regarding dissolved salts, boron, hardness, and nitrate. As noted on page 4.4-15, nitrate concentrations in groundwater obtained from wells at Woodland Community College and Yolo County facilities, which are within the Specific Plan area, were 7 milligrams per liter and 10 milligrams per liter, respectively. These levels are well below the State standard of 45 milligrams per liter. As stated on page 4.4-15, synthetic organic chemicals (e.g., pesticides) have not been detected in City wells. Because there is no evidence that groundwater at the project site contains nitrate or pesticides that exceed established standards, it is reasonably concluded that there would be no adverse risk to new residents using groundwater from project wells. Consequently, an assessment of such hazards is not necessary in the DEIR. Further, as stated on page 4.4-14 in the DEIR, the City routinely tests groundwater at City-operated wells. The project wells would be operated by the City, so they would be added to the monitoring system. If nitrate or pesticide concentrations were determined to present a potential health risk, the City would be required by State law to take appropriate steps to correct the problem.

Response to Comment 30-26:

Information regarding the former landfill is disclosed on page 4.12-3 in the DEIR. As noted in that discussion, no groundwater contamination related to past activities has been detected in that area. As illustrated in Figure 4.4-1 on page 4.1-2 in the DEIR, the former landfill site (#11 on map) is located outside the Specific Plan boundary, east of Road 102. Restoration of the former landfill as a regional park is unrelated to the proposed project. Measures to minimize the above-ground on-site or off-site transport of hazardous substances or buried waste products by burrowing animals are being addressed as part of the landfill restoration project and do not require further assessment or analysis in this DEIR. As shown in Figures 2-3 and 2-5, no housing would be constructed east of Road 102 or "next to the abandoned landfill." Because there is no evidence that the former City landfill would present a hazard to project occupants, no additional mitigation is necessary.

Response to Comment 30-27:

The DEIR (Impact 4.12-4 on pages 4.12-13 and 4.12-14 in the DEIR) addresses issues concerning black gnats. The DEIR specifically states (page 4.12-13) there are no feasible means to completely eliminate the gnat populations. Because it is an issue of local concern and was determined to be a significant impact, Mitigation Measure 4.12-4 was recommended to provide a mechanism through which appropriate control measures, if any, could be identified. However, as clearly stated on page 4.12-14, it is unlikely that the nuisance could be substantially reduced, so the impact remains significant and unavoidable. Although entomologists at UC Davis could provide helpful information, it would be more appropriate to contact the Sacramento-Yolo Mosquito and Vector Control District for guidance and to arrange for control measures, as indicated in Mitigation Measure 4.12-4, because the site is within their jurisdiction.

Response to Comment 30-28:

The 1996 General Plan concluded that the area south of the City, including the project site, was the appropriate location for new development. Therefore, as stated on page 5-5 of the DEIR, an offsite alternative was not considered. The DEIR did not need to disclose the ecological indicators used in the HCP, because that document is not the subject of this EIR. Furthermore, it has been circulated for public review and is being revised (see Response to Comment 30-2). The approach the comment refers to appears to the "Ratings for Biological and Collateral Opportunity Zones" used in preparation of the HCP. This approach was intended to generally identify areas that would be best suited for preservation, not to preclude development in any particular area. The project site did receive a relatively high rating, as did much of the County. It should be noted that the ratings were based on aerial photographs and information other than field surveys, so it is general by nature. Nonetheless, this rating information was available to the City in 1995, when the General Plan Update was being developed. Biological value was one of many factors considered in the City's decision to direct growth to the Specific Plan area.

Response to Comment 30-29:

Comment noted. Please see Response to Comment 30-28.

Response to Comment 30-30:

Comment noted. Please see Response to Comment 30-28.

Response to Comment 30-31:

Impact 4.12-1 evaluates the potential risks of exposure to hazardous materials due to past practices on the project site. Mitigation Measure 4.12-1 requires that hazardous materials site assessments be conducted, and that if any contamination is found, remediation to acceptable levels be completed before the affected site is developed. This mitigation, which is based on detailed site histories, and, if warranted, actual testing of soil and water for pesticide residue, will ensure that the risk of exposure to hazardous materials is reduced to a less-than-significant level.

Response to Comment 30-32:

The proposed project does not include any widening of Road 102. However, the City of Woodland has identified the need to widen Road 102 to four lanes under cumulative conditions, which would be sufficient to accommodate project traffic. This improvement is identified in the City of Woodland General Plan and Street Master Plan as being required by 2020.

Response to Comment 30-33:

Comment noted. Please see responses to Letter 25. In addition, it should be noted that the proposed project does designate 100 units specifically for senior apartments; however, it does not preclude seniors from living in any of the remaining housing to be developed in the Specific Plan area.

Response to Comment 30-34:

Comment noted. The commentors conclusions are noted for the record.

Response to Comment 30-35:

The City respectfully disagrees that the EIR violates the State or Federal Endangered Species Act. Please see Responses to Comments 30-1, 30-2, 30-5, 30-6, 30-7, 30-8, 30-10, 30-12, 30-13, and 30-14.

Response to Comment 30-36:

There is no evidence that development of project site would degrade Swainson's hawk habitat to the extent that the nesting populations along Willow Slough would be lost. Even if this were the case, and the EIR authors do not concur that it is, the result would not necessarily be growth inducing, as the presence of the Willow Slough nesting sites is not the primary inhibitor of growth. In fact, the General Plan includes several policies and measures that would restrict growth, including the identification of the Specific Plan and Master Plan areas as the primary location for growth occurring through 2020, the establishment of an Urban Limit Line, and policies limiting the Cities population. Please see Chapter 5 for more detail on the growth-inducing implications of the project. It should be noted that conceivably the Willow Slough segments to which the commentor refers, could be purchased and/or permanently protected as part of the mitigation under Mitigation Measure 4.5-4.

Response to Comment 30-37:

Please see prior responses to this letter.

Response to Comment 30-38:

See Responses to Comments 30-1, 30-2, 30-5, 30-6, 30-7, 30-8, 30-10, 30-12, 30-13, 30-14 and 30-35.

Response to Comment 30-39:

See Responses to Comments 30-5, 30-6, 30-7, 30-8, 30-12, and 30-13.

Response to Comment 30-40:

See Response to Comment 30-10 and Impact and Mitigation Measure 4.5-6 in the DEIR.

Response to Comment 30-41:

Please see Response to Comment 30-28.

Response to Comment 30-42:

Please see Responses to Comments 30-1 and 30-16.

Response to Comment 30-43:

Please see Response to Comment 30-19.

LETTER 31

THE JOHN STEWART COMPANY
An EDISON CAPITAL HOUSING INVESTMENTS Company

SAN FRANCISCO SACRAMENTO SANTA CRUZ LOS ANGELES

August 23, 1999

RECEIVED
AUG 27 1999
CITY OF WOODLAND
DEPT. OF PUBLIC WORKS

Mr. Greg Moutiho
Department Services Engineer
City of Woodland
300 First Street
Woodland, California 95776

Subject: Leisureville Mobile Home Park
1313 East Gibson Road
Woodland, California 95776

Dear Mr. Moutiho,

Your name was given to me by Bob Grande of the Public Works Department. I am seeking information regarding the feasibility of installing a sound wall on the North side of E. Gibson Road in front of Leisureville Mobile Home Park. This inquiry is motivated by the concern of anticipated traffic growth which will be generated by the proposed General Plan known as the "Turn of the Century" expansion. I refer to the 940 acres of new residential and commercial development encompassing E. Gibson Road to Road 102, south to College and a new overpass crossing at 24C to Matmor.

Leisureville Mobile Home Park is a resident owned retirement community, consisting of 150 mobile home owners at 1313 E. Gibson Road. The membership is concerned about the increased traffic and vehicle noise levels which will be generated by the proposed development expansion. East Gibson Road will be the main thoroughfare, creating not only traffic difficulty for the homeowners, but street noise which will disturb the peace and quite of their residency, and possibly lower resale values of their homes. 31-1

The single family subdivision directly across (south side of E. Gibson) from Leisureville was the beneficiary of a sound wall. The Association would like to know the feasibility of a sound wall being erected on the north side of E. Gibson. This sound wall would need to be either financed by the various developers of the expansion and/or through the City.

Your assistance on providing background information on sound walls, and the method by which the Association could formally request the City to study the feasibility of erecting a sound wall is greatly appreciated.

906 G STREET, #730, SACRAMENTO, CA 95814 (916) 448-1172 FAX (916) 448-9607

As the property management agent on behalf of the Homeowners Association, should you have questions or need further clarification of my inquiry, I can be reached at the below number.

Sincerely,
The John Stewart Company

Gail Madsen
Vice President

cc: Board of Directors, Leisureville Community Association
Bob Grande, City of Woodland

COMMENT LETTER 31: Gail Madsen, Vice President, The John Stewart Company

Response to Comment 31-1:

According to the traffic analysis that was prepared for this project, the proposed project will result in an increase in traffic noise levels on the major project vicinity roadways used by project traffic. However, the increase in noise levels associated with the project would not be significant (see Section 4.8, Noise in the DEIR). The DEIR did recognize that traffic noise levels already exceed the City of Woodland exterior noise level standards applicable to residential uses along several City roadways, even without development of the proposed project (see Tables 4.8-4 and 4.8-5 on pages 4.8-15 and 4.8-16 of the DEIR).

A noise barrier could be constructed along the frontage of the Leisureville Mobile Home Park to reduce traffic noise levels within that community. The effectiveness of the barrier would be diminished at those locations where a direct line of sight from the residences to the traffic would result from the opening in the barrier for the driveway. The responsibility for the construction of such a barrier would need to be established by the City, as incremental development in the region prior to the project development has resulted in a corresponding incremental increase in traffic noise levels on a regional basis. As discussed above, the proposed project would not substantially increase noise levels at this location.

Turn of the Century
a Delaware Limited Liability Company
609 Court Street
Woodland, CA 95695
TEL (530) 668-4056 FAX (530) 668-4046

RECEIVED
SEP 2 1999
COMMUNITY DEVELOPMENT

September 2, 1999

Heidi Tschudin
Contract Planner
Community Development Department
300 First Street
Woodland, CA 95695

RE: Comments related to Turn of the Century Specific Plan Draft Environmental Impact Report.

Dear Heidi:

The following comments related to the TOC Specific Plan Draft EIR are submitted for your review:

1. Page 2-15: Wastewater Improvements: The EIR should address the proposed alternate wastewater concept of the use of a pump station, force mains, and plastic pipe. 32-1
   Storm Drainage: The EIR should address alternate storm drainage designs that would use a greater detention/retention basin than the 40 acres (up to 200 acres) and use of the pond on the regional park. Refer to comment 16 below for additional information. 32-2

2. Page 4.1-24: Existing Permits/Leases: It should be noted that there are existing agreements between the City of Woodland and Woodland Community College and the City of Woodland and the County of Yolo for urban services for the properties along East Gibson Road. 32-3

3. Page 4.1-36: Second Paragraph, concerning wrecking business and area east of County Road 102: It should be noted that these properties also on County Road 102 are composed of poor soils, have not been farmed for an extended time, are shown as urban reserve in the 1996 General Plan, and are broken up by a variety of land uses such as wrecking yards, golf course and towers. As a result, the potential for future farming activities is reduced and the impact on proposed adjacent residential uses is less than significant. 32-4

4. Page 4.1-40: Section 4.1-3: It should be noted that the least impactful to existing land uses is to progressively develop from the east to west, since the non-farmed/poor soils are to the far east and is also the only area without existing land uses or homes. 32-5

5. Page 4.1-48: Regarding range of densities: It should be noted that policy 1.C.1 states that the City shall promote new residential development in a range of residential densities that reflects the positive qualities of Woodland's existing residential neighborhoods. The policy does not require an absolute range of densities from 0-25 units/acre. In addition, existing residential neighborhoods do not reflect such a range of densities throughout the City. In fact, Woodland is currently composed mostly of single family homes in a typical density and apartments. 32-6

6. Page 4.1-48: First paragraph: The additional school is not required because the student generation rate calculation is incorrect. (Refer to comment 50 below for additional information.) 32-7

7. Page 4.1-52: Last sentence: Under Plan B, the town center would be build between 2015-2020. 32-8

8. Page 4.1-58: Mitigation measures: It should be noted that variations from the zoning code and certain land uses, such as the mini-storage, would be resolved through the use of Planned-Development zoning. Planned Development zoning would be better suited to all the uses in the Specific Plan to allow for innovation, attached housing concepts, etc. The mitigation measures should be modified to allow this option. 32-9

9. Pages 4.1-60-64: It should be noted that:

a) The City of Woodland could not protest the Williamson Act contracts in the Specific Plan area since they were outside of the 1-mile protest boundary at the time the contracts were put in place. 32-10

b) Yolo County has approved a cancellation of Williamson Act contract twice in the past, once near Winters, and once near Esparto. 32-11

c) Policy IV.D. The LAFCO policy is a policy not a law. LAFCO can make a determination that Williamson Act land can be annexed. State Law does not prohibit the annexation of Williamson Act contract lands. 32-12

It should be noted that there is an internal conflict in the adopted local LAFCO policies concerning the Russell property Williamson Act contract. On the one hand, the policy says not to annex Williamson Act land. On the other hand, the policy IV.E. states that less prime agricultural land generally should be annexed and developed before prime ag land is considered for boundary changes. Under this policy, the Russell property, which is non-prime, non-productive soil, which has not been actively farmed for the past 46 years, clearly fits this goal. (*See attached letters from the farmer, Joe Heidrick Jr.*) In addition, the adopted policies of the County and City encourage the development of non-prime soils before prime ag land. Lastly, the LAFCO report for the annexation of the Sycamore Ranch project justifies annexation of the entire 469 acres of prime ag land as a means of getting the City closer to the poor soils areas to the east. (*Refer to attached Reorganization Report, LAFCO Proceeding No. 845, July 27, 1992.*) 32-13

d) It should be noted that the City of Woodland City Council has previously voted to annex the 160 acre regional park site, the 300 acre Wastewater Treatment Plant site, and the 890 acre adjacent industrial wastewater treatment site. The City has not yet filed the application to LAFCO. 32-14

e) It should be noted that the Woodland City Council in September 1998 voted to support the rescission of the Williamson Act contract for the Russell Property. 32-15

f) The mitigation measures should be written to allow the City Council to recommend annexation of the entire 1,069-acre Specific Plan boundary including all of the Williamson Act contract land based on appropriate findings. 32-16

10. Page 4.2-1: Yolo County Ag Conversion: It should be noted that Yolo County has experienced a net increase in farmland over the last 10 years according to the Census of Agriculture. In Yolo County, farmland has increased will over 50,000 acres. (*See attachment: "Facts and Figures" Sacramento Area of Governments, March 1996, and excerpt from 1997 Census of Agriculture, USDA National Agricultural Statistics Service.*) The Specific Plan area of 1,096 acres represents about less than 4% of this net increase. In addition, statewide farmland has increased 780,000 32-17

acres since 1992 alone. (*See attached article: "Trends in California Farmland Use"* Rural California Report, *Spring 1999.*) 32-17 Cont'd.

11. Page 4.2.2: Third paragraph: The 162-acre rescission parcel has not been actively farmed for the last 46 years. 32-18

12. Figure 4.2-1 Soils: The portion of the soils map depicting 162 acre Russell property should reflect the more accurate soil determination of the House Agricultural Consultant Report of July 1998, which indicates the entire 162-acre parcel as non-prime, similar to the Pb (pescadero) classification. It could be done with a note on the map. 32-19

13. Page 4.2-12; Mitigation Measure 4.2-1 A/B:

a) The measure should state "Each landowner/developer shall". The project applicant, Turn of the Century, is not responsible for the obligations of other landowners. 32-20

b) The measure should include the option of a fee to be paid to the City for mitigation of agricultural land. A fee is appropriate since the developer may not be able to find replacement mitigation land. The City should determine the amount of the fee. 32-21

14. Page 4.2-15-16: Mitigation Measure 4.2-4: It should be noted that high value crops are currently grown up to 5-10 feet from the fence line of single family homes around Woodland. The effect of the 500-foot spray zone has not impeded agriculture in reality as seen in this case. It should also be noted that certain farming operations are not affected by this buffer and don't feel it is necessary for their operations. (*Also refer to 5/19/98 letter from Joe Heidrick Jr.*) 32-22

It is suggested that an alternate mitigation measure be provided that allows the 500-foot buffer to be reduced to 50 feet when the adjacent farmer agrees. 32-23

15. Page 4.4-16: FEMA 100-year floodplain: It should be noted that Turn of the Century also filed an appeal of the proposed FEMA map relating to the potential flood designation in the Specific Plan. This appeal was packaged with the City of Woodland appeal. 32-24

16. Page 4.4-25 Storm Drainage System Features: Additional potential drainage components have been identified and should be reviewed in the EIR. These include additional alternate detention pond site concepts, as listed here. The off-site Detention/Retention Pond Locations are at northwest corner of the Regional Park (note this is where softball fields are being designed—see DEIR Figure 4.1.8); at southwest corner of the Regional Park; and/or on Yuba College property along Road 102. Additional components such as drainage channels and/or pipes, pumps and discharge channels would be associated at each location. (*A copy of Figure 2-12 of the DEIR is attached, with the additional locations marked for your reference.*) 32-25

On-Site Detention should be studied at the park at parkway Drive and Road 102 and/or incorporated into open space corridors. 32-26

The evaluation of an ultimate discharge point at Willow Slough, following detention, should be included. 32-27

17. Page 4.4-35: Mitigation 4.4-5 (a): This mitigation should be directed to the well appropriate to each development area of the Specific Plan. Turn of the Century should not be responsible for all wells in the Specific Plan. Each landowner/developer should carry the responsibility. 32-28

18. Page 4.4-38: Mitigation Measures 4.4-7:

Additional Comments as to Mitigation Measures will be forthcoming under a separate response.

19. Page 4.5-26-29: Mitigation Measures:

a) There should be a mitigation measure that allows payment of the interim HCP fee for mitigation of species, as is the current situation. 32-29

b) For Swainson's Hawk mitigation, if mitigation land is acquired adjacent to nesting site which therefore has exceptional mitigation value, additional mitigation credits should be provided as compared to typical foraging habitat. 32-30

20. Page 4.5-30: Mitigation Measure 4.5-4: Again, each project applicant must be responsible for its own mitigation obligations. 32-31

21. Figure 4.6-5: The circulation system map is incorrect. Pioneer Ave. is 4 lanes (Gibson Road to Parkway Drive, and Parkway Drive is 4 lanes west of Pioneer Ave. 32-32

22. Page 4.6-21: Transit System: The Specific Plan per Section 11.11 identifies the general location of the bus stops. 32-33

23. Page 4.6-21: Proposed Bicycle/Pedestrian System: It should be noted that the Specific Plan proposed an extensive bike and pedestrian system. The arterial and collector streets have on-street bike lanes and off-street paths (for pedestrians and bikes). These paths were reduced in size to reduce pavement in keeping with "small town characteristics". The drainage parkway paths are also for bikes and pedestrians. 32-34

24. Page 4.6-29: Travel Demand Forecasts: A comparison of the model assumptions for this Specific plan and the Sycamore Ranch Specific Plan should be provided as general information. 32-35

25. Response to Traffic and Circulation: Additional comments regarding Traffic and Circulation will be forthcoming under a separate letter. 32-36

26. Travel Demand Forecasts: Is a 4 lane Parkway Drive required between County Road 102 and Pioneer Avenue based on projected volumes or General Plan Policy? 32-37

27. Page 4.6-56: Second Paragraph on estate street widths and Road 25A: It should be noted that the City policy allows consideration of different street sections. The 28-foot wide estate street is consistent with General Plan policy 1.A.1 to preserve Woodland's traditional small-town qualities, as well as energy conservation policies to reduce heat island effects, and traffic calming measures? 32-38

It should be noted that County Road 25A is not indicated in the General Plan between County Road 102 and County Road 101. The concept of County Road 25 A is to keep a small town/rural flavor to the streetscape as a transition from urban development to the agriculture to the south. 32-39

28. Page 4.6-60: Specific Plan B Transit: The Specific Plan B does indicate transit facilities per Section 11.1 and per Figure 13.13.2 Bus Shelter Designs. 32-40

29. Page 4.6-61; Specific Plan A (reasons for inconsistency): The Road 101 Class I bike path is intended to be built within the time frame of the General Plan (2020), not after. Grade separated crossings for Class I bicycle paths may not be necessary, and may be adequately dealt with by stop signs and appropriate signals. The Street Section Diagrams (Figure 11.3B) appear to indicate Class II bike lanes on collector and arterial streets. Bike lockers, storage, showers are indicated in the Specific Plan per various sections (See Section 6.2.P, 7.2.S) 32-41

30. Page 4.6-72; Mitigation Measures (c) and (e): The collection of fees does not typically occur prior to approval of a tentative map. The measure should be revised to state that bees are to be collected a building permit. 32-42

31. Page 4.7-20; Mitigation Measure (f): This mitigation measure would be difficult to implement. It may be better to grade the sites less often allowing more acreage graded each time. 32-43

32. Page 4.7-26:

a) Item A.: Solar water heaters should be voluntary. Requiring 50% of the homes to have them is an arbitrary number. 32-44

b) Item E.: Requiring cordless electric lawnmowers is arbitrary, and again should be voluntary. Some homeowners may not have grass to mow, or may elect to have their mowing done by an outside lawn care service. 32-45

c) Item F.: Requiring light colored roofs are also arbitrary. The State Building Code regulates energy conservation measures. Requiring certain colors may also affect neighborhood design and attractiveness. 32-46

33. Page 4.8-24; Mitigation Measure 4.8-4: The mitigation measure should include the fact that the overflights are unauthorized and outside of the approved flight zone. 32-47

34. Page 4.8-25; Mitigation Measure 4.8-5: Perhaps another mitigation measure is to consider all take-off and landing to be from the west to avoid proposed developed areas as long as possible. 32-48

35. Page 4.8-31; Mitigation Measure 4.8-8: The requirement for a 6-foot high wall appears excessive, costly, and perhaps unsightly. Perhaps a disclosure to area homebuyers of the potential noise is an alternative. 32-49

36. Pages 4.9-16&17; Mitigation Measure 4.9-1: The guidelines relating to garages foot sidewalks, and 20 foot front setbacks should be interpreted as guidelines, allowing for interpretation and variation at the time of subdivision review. A rigid interpretation of the guidelines allows for no flexibility and innovation. (*See attached copy of Page 2 of the City of Woodland Design Guidelines.*) 32-50

37. Page 4.11-14, Mitigation Measure 4.11-2 (b): Again, each landowner/development should submit an affordable special needs housing plan. 32-51

Also, the affordable housing analysis should indicate how many affordable units have been actually produced in the Sycamore Ranch Specific Plan Area. 32-52

38. Page 4.11-16; Specific Plans A & B/Consistency with General Plan Policies: The discussion suggests provisions of a "full" range of densities. But the General Plan, per policy 1.C.1 states "the City shall promote new residential development in a range of densities that reflect the 32-53

positive qualities of Woodland's existing residential neighborhoods. The positive qualities of Woodland's neighborhoods are lower density single family homes.

Also, the General Plan also assumes that the housing product will be produced, and therefore economically viable. Requiring an absolute range of densities may force large blocks of land to remain undeveloped due to a lack of interest or economic viability. For example, according to the Competitive Housing Market Report for the Sacramento Market Area July 1999 prepared by The Meyers Group, of 182 development projects in construction in the entire Sacramento region, 178 projects were single family detached and only 4 were single family attached. 32-53 Cont'd.

39. Page 4.11-16: Last paragraph on multi-family: The General Plan policy1.B.7 encourages dispersal "but especially near transportation corridors". The location of the multi-family can be read to be consistent due to the location on the transportation corridors of Highway 113, Gibson Road, and Pioneer Avenue. The mitigation measures should be changed to reflect this potential consistency. 32-54

40. Page 4.11-17: Mitigation Measure (c): This mitigation measure would impair the construction of apartments since projects need to be 100 units or greater to economically support the management of the complex. In addition, what is the definition of "no more than 100 multi-family units be located in any one area." How is an area defined? 32-55

41. Page 4.11-18: Last paragraph: The assumption that the Master Plan could develop before 2015 and that the city population could exceed 60,000 by 2015 appear incorrect. General Plan Policy 1.A.7 requires the City to manage growth so not to exceed 60,000 by 2015. Additionally, General Plan policy 1.C.4 requires the City to prepare and adopt one specific plan at a time. Therefore, there is little likelihood of the master plan area being developed or the population cap being exceeded unless General Plan amendments are adopted to remove this language. 32-56

42. Page 4.12-14: Mitigation measure 4.12-4: The measure should state that "each landowner or developer shall consult" 32-57

43. Page 4.12-16: bottom of the third paragraph: Again, could this approach ratio be mitigated by altering the take-off and landing patterns so that they occur from the west end of the landing strip. 32-58

44. Pages 4.13-8-10: Fire: The following issues should be responded to:
    a) Could the four-minute response time standard be evaluated as an "average" response time as typically done in most communities? 32-59
    b) The effect of the City's special sprinkler ordinance for residential land uses appears not to be documented. It may be 99% efficient for fire suppression. This ordinance requires a standard much higher than almost all other communities. If our understanding that the installation of sprinklers would significantly reduce the response time standard as the fires would be suppressed before the responding fire units arrive. The Sycamore Ranch and Turn of the Century Specific plan areas would be affected by this ordinance which should reduce the need for fire service. 32-60
    c) The Fire Station Location Study appears to indicate a significant overlap of coverage areas for the four-minute response time. The location study appears not to address the option of relocating existing stations to more efficiently cover the community. 32-61

d) The mitigation measures should be adjusted to permit the decision for the fourth station be evaluated based on the factors of the sprinkler ordinance in new homes, using an average four minute response time, and potential relocation of exiting fires stations. 32-62

45. Page 4.13-18: Police mitigation measure (b): It is not well documented why a police sub-station facility would be justified particularly in light of the fact that officers are generally on patrol much of the time. 32-63

46. Table 4.14-1: Park Elements: Plan B Table should be corrected to show 27.3 acres for neighborhood park, and 5.1 acres for mini-parks. 32-64

47. Page 4.14-10:Second paragraph on parkland: The Specific Plan should be viewed as consistent with the General Plan policies because:

a) Mini-parks are allowed acreage and can be adequately maintained by an assessment district on the homebuyers; 32-65

b) The community park would be provided in the Master Plan area, and the Specific Plan share of costs would be by fee;

c) The regional park share would also be satisfied by a park fee, as the park acreage exists. 32-66

d) The location and size of the parks are consistent with the adopted City Parks Master Plan. *(See attached diagram from the Parks Master Plan.)* 32-67

48. Page 4.14-11: Mitigation Measures: The General Plan does not prohibit mini-parks as a concept. Mini-parks also provide the option of providing focal points in neighborhoods, which is a General Plan policy. Elimination of the mini-parks is not warranted. 32-68

49. Page 4.14-16: Cumulative Impacts: It should be noted that the nexus between parks needs within the current City limits and the proposed project must be on the existing approved development. 32-69

50. Page 4.14 25-28: Project Impacts and Mitigation Measures: The student generation rate and yield factor tables are incorrect. The student generation rates for apartments are set forth in the Specific Plan document, refer to Section 10-3. These yield rates are as follows: K-6, .123; 7-9, .049; and 10-12, .089. Also Table 4.14-10 incorrectly calculates the K-6 yield to be 1,843 and 1,906 students based on a .509 student generation rate factor. The incorrect assumption is that all of the Specific Plan units (3,620) including apartments yield students on the .509 single family rate. The mitigation measure should therefore be removed as the specific plan has the correct number of schools. 32-70

51. Page 4.14-29 First Paragraph: It is incorrect to state that the high school and middle school are in Phase II of the Specific Plan. Per Phasing Policies 13.12 E of the Specific Plan, the high school and middle school would be allowed to be in Phase I if the School District is able to secure the necessary approvals, funding and infrastructure. 32-71

Thank you very much for your help with this.

Sincerely,

Thomas J. Lambrazo

Encl.

COMMENT LETTER 32: Thomas J. Lumbrazo, Turn of the Century

Response to Comment 32-1:

The DEIR analyzes the wastewater infrastructure that was proposed in the Specific Plans (see page 2-15 and Figures 2-8 and 2-9 of the DEIR). The Specific Plans propose a collection and conveyance system of 8-to 30-inch pipelines and a lift station. The type of pipe (e.g., plastic) is not specified. The comment does not provide enough information on which to base an "alternate" wastewater concept using a pump station, force mains and plastic pipe. If the applicant proposes to use this concept, the City would determine the appropriate level of CEQA review, if any is needed, at the time that the proposal is submitted.

Response to Comment 32-2:

Although the Draft Specific Plan included several options for offsite detention ponds (see page 12-6 of Draft Specific Plan A), the applicant subsequently requested that the EIR analysis focus on only Option 1 (a 22 acre parcel south of Road 25A at Road 102) and added an additional option (the 40 acre site east of Road 102, near Willow Slough). Two of the sites now proposed by the applicant are within the Specific Plan boundaries, and would be subject to the mitigation measures recommended in the DEIR. According to Sherri Martin and Bruce Pollard, project managers for the landfill site and regional park, respectively, the pond at the landfill/regional park can not be used at this time as a controlled detention facility. A separate environmental assessment would be necessary in order to consider this option. A site characterization analysis is required for the landfill property to identify waste locations and testing as required by the County Environmental Health Department, the Water Quality Control Board, and the State Integrated Waste Management Board. This is necessary for proper closure of the landfill.

Response to Comment 32-3:

The commentor is correct that the City has in-force agreements with the Woodland Community College and County of Yolo related to the provision of frontage improvements along Gibson Road, sewer, and water. These agreements were signed in conjunction with the Sycamore Ranch Development. The following text is hereby amended immediately following **Existing Permits and Leases** on page 4.1-24 of the DEIR:

> Both the County and the College are presently connected to the City sewer system and would connect to water upon annexation. The County is required to fund their portion of frontage improvements along Gibson Road when the City undertakes widening of the road which is commencing at this time.

Response to Comment 32-4:

The comment raises relevant issues related to the properties east of Road 102 and north of Road 25. The urban reserve designation does anticipate development at some time in the future, but not the immediate future. Urban reserve areas could remain in the current uses for 30 years or longer. Consequently, the land designated urban reserve between the golf course and auto dismantlers could remain agricultural for years after the Specific Plan is developed. This contrasts with agricultural

operations within the Specific Plan and Master Plan Remainder areas, which are expected to be converted to urban uses over the next 20 years. Recognizing that the agricultural land east of Road 102 is constrained and designated urban reserve, the second full paragraph on page 4.1-36 of the DEIR is revised as shown:

> The auto wrecking business is located off Road 102 on Road 25 approximately 1/4 to 1/2 mile from the project site, so its activities should not be visible or audible to residents and should not result in a land use incompatibility. The agricultural land east of Road 102 is not actively farmed at present, and consists predominantly of Pescadero sitly clay, saline-alkali and willows clay, alkali (see Figure 4.2-1 on page 4.2-3 in the DEIR). These alkali soils are not well-suited to intensive agriculture. This area is designated Urban Reserve in the City General Plan. While not occurring at present, agricultural activities could occur immediately east of Road 102, so there would could be potential incompatibilities associated with dust, noise and odor between proposed residential uses on the project site and agricultural land to the east. Road 102 would provide an approximately 90-foot wide buffer; ~~however, due to the proximity of residential uses to an area that could be used for future agricultural activities~~, the impact between adjacent residential and agricultural uses is considered *potentially significant.*

Response to Comment 32-5:

Comment noted. City staff is considering the issue of phasing as it relates to all aspects of the project, including the conversion of agricultural uses. Nonetheless, the potential incompatibilities between existing onsite agricultural uses and future project development could occur so long as the existing uses are in operation.

Please see also Response to Comment 1-2.

Response to Comment 32-6:

The comment is correct that Policy 1.C.1 does not *require* a set range of densities. However if the General Plan goal was to repeat a particular existing density of housing, it is likely the policy would not have been included or would have been worded differently. The interpreted intent of the policy is to achieve a mix of densities that will result in the positive qualities found in Woodland's neighborhoods, including a pedestrian orientation, and a mix of housing types and sizes.

Response to Comment 32-7:

Please see Response to Letter 11.

Response to Comment 32-8:

The last sentence of page 4.1-52 of the DEIR is revised to read:

> Under Plan B, the town center is located in the Master Plan Remainder Area and not planned to be developed until some time between 2015 and 2020 ~~after 2020~~.

Response to Comment 32-9:

The comment is correct that Planned Development zoning could and may be applied. However, the underlying zoning would still need to be identified for purposes of making later consistency determinations, and planned differences in development regulations still need to be articulated.

Response to Comment 32-10:

Comment noted. The EIR restates LAFCO policy, which does not reference a 1-mile protest boundary. Nonetheless, the EIR analysis would not be affected by this information.

Response to Comment 32-11:

Comment noted.

Response to Comment 32-12:

The comment is correct regarding State law. However, LAFCO does have ultimate authority to approve or deny annexation of the project site. As stated on page 4.1-62, it is LAFCO policy to preclude annexation of land that would be in conflict with a Williamson Act contract. As indicated by Mitigation Measure 4.1-10(c), LAFCO may make a determination that the annexation of the project site does substantially conform with this policy, so that annexation could occur.

Response to Comment 32-13:

Comment noted. Please see Response to Comment 32-12. This information is noted for the record and will be considered by the decision-makers.

Response to Comment 32-14:

Comment noted.

Response to Comment 32-15:

Comment noted. As discussed on page 4.2-2 of the DEIR, the recision is being considered by the County.

Response to Comment 32-16:

Mitigation Measure 4.1-10(c), would allow for annexation of the entire project site. The following text is added to Mitigation Measure 4.1-10(c) on page 4.1-64 of the DEIR:

> *...with LAFCO Policy IV.D <u>which would allow for annexation of the entire site</u>.*

Response to Comment 32-17:

This information, which was not verified by the EIR preparers, is noted, and will be considered by

the City Council in their deliberations. See also page 4.2-11 of the DEIR, which notes that the agricultural uses on the project site represent a small percentage of similar crops produced in the county.

Response to Comment 32-18:

According to the letter from Heidrick Farms (dated May 5, 1999, and attached to Letter 31), Heidrick Farms did attempt to farm the 162 acres, but had difficulty due to the poor soils. The letter states that for "many years" it was left fallow. The DEIR does note that this land has not been farmed for the last six years because of its poor soils.

Response to Comment 32-19:

Figure 4.2-1 shows the soil types in the project area from the Soil Survey of Yolo County, as delineated by the United States Department of Agriculture, Soil Conservation Service. The map legends included in Figures 4.2-3 and 4.2-4 located on pages 4.2-6 and 4.2-7 of the DEIR (and revised and clarified herein), respectively, indicate that the 162-acre parcel is limited in its agricultural productivity by extremely high pH, excessive sodium and boron, and high salt content based on an independent agronomic study.

Response to Comment 32-20:

The purpose of the Specific Plan is to coordinate development of the entire project site, which also allows the City to consider the full impacts and appropriate mitigation for the project as a whole. Depending on the nature of the impact and mitigation, the responsibility for implementation may fall to the Specific Plan applicant and/or to individual developers of separate properties within the Specific Plan area. It may or may not be desirous or appropriate to allow certain mitigation measures to be deferred to individual landowners. Mitigation Measure 4.2-1 requires that an equal amount of contiguous, active agricultural acreage be set aside elsewhere in Yolo County in an irreversible conservation or agricultural easement. The staff believes the trigger for this mitigation measure is dependent on the internal phasing for the Specific Plan. The phasing as proposed arguably adversely affects more adjoining agricultural land earlier, thus triggering the full 1:1 requirement up front. An alternate phasing plan could be structured to affect less agricultural land early on, thereby supporting an owner-by-owner (project-by-project) based implementation of the measure. The City Council will make the ultimate determination of the most feasible wetland for implementing this measure.

Please also see Responses to Comment 5-2, 12-4, and 16-6.

Response to Comment 32-21:

CEQA does provide for the payment of fees toward certain types of programs as mitigation. A fee paid for mitigation should be tied to a program that will in fact mitigate the impact (CEQA Guidelines Section 15370). For example, fees paid for capitol improvement funds must be expended on infrastructure necessary to serve new development. The comment does not indicate how a fee paid to the City would mitigate the loss of farmland. The City does not have a farmland replacement program. If the developer is unable to find replacement mitigation land, the City may not be able to do so either. If this were the case, the fee would not contribute toward a program that would result in mitigation of the impact. In other words, payment of a fee might be an option, but it would not guarantee the mitigation or timing for implementation.

Response to Comment 32-22:

While certain agricultural crops and practices may be appropriate in close proximity to single family homes, the 500-foot buffer required by Mitigation Measure 4.2-4 would ensure that new urban development mitigate for the full effect of urban encroachment on adjacent existing agricultural land. (It should be noted that the May 19, 1999, letter from Joe Heidrick Jr. does not address the issue of buffers.)

Response to Comment 32-23:

The comment suggests that only 50 feet of buffer would be needed if acceptable to adjacent farmer. Under this scenario, all landowners south of Road 25A for the length of the project site would need to agree to a 50-foot buffer, and to recognize that the type of spraying they could do along Road 25A would be limited to the conditions imposed by the County for areas that are approximately 150 feet (roadway width plus buffer) from residential uses. Further, this recognition would need to be part of the recorded deed, so that it was in effect for subsequent owners of the land south of Road 25A. Even if these conditions were met, there could be some loss of agricultural productivity, as certain types of spraying would be disallowed for approximately 350 feet of Road 25A frontage.

Response to Comment 32-24:

Comment noted. Please see Response to Comment 18-1.

Response to Comment 32-25:

Please see Response to Comment 32-2.

Response to Comment 32-26:

Please see Response to Comment 32-2.

Response to Comment 32-27:

Please see Response to Comment 32-2. The comment does not provide enough information to analyze a discharge point.

Response to Comment 32-28:

As noted in Response to Comment 32-20, the purpose of a specific plan is to allow for areawide planning and mitigation. Whether it is appropriate or desirable to implement mitigation for the project as a whole or in increments depends on the nature of the impact and mitigation. In the case of water supply, an areawide understanding of groundwater is necessary prior to any development to ensure that the ultimate water system can be designed to serve the entire specific plan. While the first developer under the Specific Plan will bear the cost for this mitigation measure, the developer will be eligible for reimbursement as subsequent development occurs in the Specific Plan area.

Response to Comment 32-29:

An interim fee has been used by several signatory jurisdictions; however, its status and the use of the fees is uncertain. Without this certainty, the ability to rely upon this fee for mitigation purposes is arguably speculative. Additionally, it is questionable whether the interim fee is sufficient for the purposes discussed herein, e.g., purchase in fee or easement.

Response to Comment 32-30:

Mitigation Measure 4.5-4 requires that a plan be developed to set aside an "equivalent" amount of foraging habitat. The City and the Department of Fish and Game could provide "credit" for land adjacent to a nesting site.

Response to Comment 32-31:

Please see Response to Comment 32-20.

Response to Comment 32-32:

Figure 4.6-5 is intended to reflect "existing conditions plus the Specific Plan" <u>only</u>, as opposed to "existing-conditions plus the entire Master Plan area," which is what is reflected in the Plan submittal. In other words, the plan submittal failed to define proposed improvements with and without development of the Master Plan Remainder area, it only shows the full Master Plan build out condition. In response to prior inquiry by the EIR preparers, Turn of the Century, acting as the applicant, instructed that the analysis of the "existing conditions plus the Specific Plan" scenario should make the assumptions reflected in Figure 4.6-5.

Response to Comment 32-33:

Comment noted. The first sentence under **Proposed Transit System** on page 4.6-21 of the DEIR is revised as shown:

Roadways within the project site are proposed to be designed to accommodate bus turnouts at major intersection locations along the arterial streets system, along East Gibson Road, and the focal center, and County Road 25A and State Highway 113.

Response to Comment 32-34:

Comment noted. Impact 4.6-5 discusses concerns related to the proposed bicycle facilities. Following Mitigation Measure 4.6-5, on page 4.6-63, the EIR traffic consultant has recommended a 10-foot path for off-street multi-use facilities.

Response to Comment 32-35:

The travel demand model assumptions for the Sycamore Ranch Specific Plan and the Turn of the Century Specific Plan are not directly comparable because two different models were used. The Turn of the Century Specific Plan DEIR transportation analysis relied on the latest City of Woodland Travel Demand Forecasting Model as required by the City of Woodland.

Response to Comment 32-36:

Comment noted. Please see Letter 33.

Response to Comment 32-37:

The DEIR does not contain a requirement for Parkway Drive to be four lanes between Road 102 and Pioneer Avenue. Impact 4.6-7 identifies a policy inconsistency for Plan B because it does not show Parkway Drive as a two-lane principal arterial from Road 102 to Pioneer Avenue.

Response to Comment 32-38:

The proposed street widths are inconsistent with the minimum standard of 35 feet for residential streets, which was adopted as a result of the City of Woodland Residential Street Standard Report, March 1998.

Response to Comment 32-39:

The General Plan Policy 1.C.5(l) states the specific plans should make provisions to minimize potential conflicts between new development and agricultural uses along roadways such as Road 25A. Mitigation Measure 4.6-2(b) requires a 64-foot section for Road 25A consistent with the General Plan designation as an arterial roadway.

Response to Comment 32-40:

Please see Response to Comment 32-33.

Response to Comment 32-41:

The information provided by the commentor/applicant is useful but potentially inconsistent with the

Specific Plan text submittal. The only references to the timing of construction for the Road 101 Class I Bike Path are on pages 9-3, 11-3, and 11-4 where it says "eventually". It should also be noted that the infrastructure cost estimate in Table 12.7.B of the Specific Plan does not include costs for the proposed Class I bikeway or other support facilities. Sections 6.2.P and 7.2.S of the Specific Plan encourage bicycle support facilities, but do not identify the specific facilities or their locations. Therefore, the EIR appropriately assumed that timing would be after 2020.

According to the Highway Design Manual, Chapter 1000, California Department of Transportation, July 1, 1995, the definition of a Class I, Class II, and Class III Bikeways are:

(1) Class I Bikeway (Bike Path). Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.
(2) Class II Bikeway (Bike Lane). Provides a striped lane for one-way bike travel on a street or highway.
(3) Class III Bikeway (Bike Route). Provides for shared use with pedestrian or motor vehicle traffic.

The intent of developing Class I Bike Paths is to provide a separate facility for bicyclists and pedestrians that minimizes intersections with roadways. Interrupting bike paths with roadway crossings regardless of the traffic control is not consistent with the definition stated above or the intent behind developing these types of facilities.

Response to Comment 32-42:

Mitigation Measure 4.6-8(c) is intended to ensure that the program for assessing and collecting fees is established before the first tentative map is approved, not that all fees must be collected at that time. The collection of fees may occur at the time of acceptance of the final map. In cases where there is no subdivision, fees would be collected at the time that the building permit is issued. The second sentence of Mitigation Measure 4.6-8(c) on page 4.6-72 of the DEIR is hereby clarified to read:

> *These mechanisms shall be put in to place ~~and the collection of fees shall commence~~ prior to approval of the first tentative map in the area. Fees shall be collected with final maps or building permits, whichever occurs first.*

Response to Comment 32-43:

Because the standard for PM_{10} is based on daily emissions, the only way to achieve the standard is to limit grading on a daily basis. Total emissions of PM_{10} will essentially be the same whether the site is graded in a single day, or over many days. The City Council will ultimately determine whether it is feasible to limit the amount of acreage to be graded on a daily basis.

Response to Comment 32-44:

The source of these mitigation measures is City's General Plan policies 7.E.10 and 7.E.11 and professional practices in air districts throughout California. The City Council will ultimately determine whether these measures are feasible. As noted on page 4.7-26, even with the mitigation

measures identified in the comment, air emissions from the project would result in a significant and unavoidable impact. The commentor's suggestion for making these measures less stringent will be considered during the City Council deliberations.

Response to Comment 32-45:

Please see Response to Comment 32-44.

Response to Comment 32-46:

Please see Response to Comment 32-44.

Response to Comment 32-47:

Airport flight paths are typically represented by a single line, rather than by a band in which airplanes are expected to fly. The flight paths provided for the Sacramento International Airport are represented by a series of straight and curved lines. However, plots of a typical day of arrivals and departures for the Airport indicate that flights are fanned out over wide bands. Although relatively few aircraft overflights occurred over the project site during the days for which flight path plots were provided, it is not clear that these flights were, in fact, unauthorized or located outside of approved flight paths.

Response to Comment 32-48:

As stated on page 4.8-5 in the DEIR, the private airstrip is used infrequently and the 60 dB noise contour is contained within the airstrip owner's property. Therefore, people would not be exposed to elevated noise levels that would be considered significant, so mitigation to reduce noise levels is not required. However, as noted on page 4.8-24, some individuals living or working near the airstrip may consider the noise an annoyance. Mitigation Measure 4.8-5 was designed to inform future occupants of the potential for small aircraft noise. Although the City noise standard would not be exceeded outside the airstrip property line, the commentor has suggested that additional mitigation restricting approaches and departures to the west end of the runway (i.e., taking-off and landing to the east) should be considered to reduce noise effects at locations to the east (assuming development proceeds from east to west).

The safety of aircraft pilots and passengers and individuals on the ground in the vicinity of the airstrip is the primary concern associated with airstrip operations. Mitigation Measure 4.12-6 imposes height and siting criteria on adjoining development to address the issue of safety.

Because the airstrip does not currently have any federal, State, or local restrictions regarding approach/departure paths and mitigation is not required to reduce noise levels to established standards, the additional mitigation suggested by the commentor would have to be voluntary on the part of the airstrip owner and guests. If such mitigation were adopted in conjunction with the EIR, the City would need to establish a mechanism to monitor aircraft operations at the private airstrip. Wind direction and inclement weather may prevent pilots from safely adhering to a single approach/departure path at all times.

Response to Comment 32-49:

Conflicts between residential and school uses are common in cases where outdoor play areas are located in close proximity to residential uses. A 6-foot wall between a residential use and adjoining play area is a common method of ensuring acceptable noise levels, safety and privacy. Because site-specific noise analysis of proposed school play areas and neighborhood parks is needed to determine that noise barriers would not be required, it is prudent to leave this condition intact.

Response to Comment 32-50:

As an adopted document of the City, it is appropriate for the EIR to look at consistency with the Design Guidelines. The City Council will make the final determination of whether the inconsistencies are acceptable given the overall framework and direction provided by the Design Guidelines.

Response to Comment 32-51:

The purpose of the Specific Plan is to allow for areawide planning and mitigation programs. Certain aspects of the plan must be considered as a whole in order for the plan to work, while other aspects can be designed and implemented incrementally, as individual projects within the Specific Plan area are developed. For example, the Specific Plan identifies "backbone" or major infrastructure needed to serve the entire plan area, including primary roads, and water and sewer systems. Internal minor streets and water and sewer lines will be identified as individual subdivisions are designed. With respect to affordable housing, an areawide housing plan is imperative because this is the only new growth area in the City within which the City's affordable housing goals and requirements can be achieved. The City needs to understand and consider how these goals will be achieved throughout the Specific Plan area, so that they can be fully implemented. Mitigation Measure 4.11-2(b) requires the development of an Affordable Housing Plan for the Specific Plan prior to the first tentative map in order to ensure consistency with City requirements. The cost of this plan would be eligible for reimbursements from subsequent developers. Please see also Response to Comment 25-5.

Response to Comment 32-52:

The affordable housing goals in the Sycamore Ranch development included 185 affordable units for moderate-income households, 180 affordable units for low-income households, and 72 affordable units for very-low-income households. The development is not completed, and it is unknown at this time if the final buildout will include the projected number of affordable housing. Regardless of the number of affordable housing units currently under construction in the City of Woodland, the proposed project would be required to comply with City Ordinance Number 1256. This ordinance applies to the creation of affordable housing in new development (see page 4.11-7 of the DEIR).

Response to Comment 32-53:

Please see Response to Comment 32-6.

The analysis on page 4.11-16 refers to General Plan Goal 1.B, not policy 1.C.1 (which is discussed in on page 4.1-6 of the DEIR). As discussed on page 4.11-16, the Specific Plans provide for a fairly

limited range of densities (3 to 5 units per acre and 18 and 20 units per acre), which could be inconsistent with the General Plan goal 1.B to ensure that there is an adequate range of residential densities to accommodate the housing needs of all income groups. The DEIR does not state that an absolute, definite range of densities needs to be provided by the Specific Plan. It should be noted that the General Plan's examples of "positive qualities of Woodland's existing residential neighborhoods" in Policy 1.C.1 are "street trees, pedestrian-orientation, and mix of housing types and size", not "lower density single family homes" as implied in the comment.

The comment regarding economic viability of different types of housing is noted. There are many possible methods for meeting the City's multifamily and affordable housing requirements. There is some discussion in this regard in both the General Plan and the Ordinance. Additionally, there are many successful projects throughout the region to examine for ideas and examples that go beyond large blocks of apartments.

Response to Comment 32-54:

Comment noted. Mitigation Measure 4.11-4(b) already provides the option of finding that the proposed project is in substantial conformance with the General Plan, so no revision is necessary.

Response to Comment 32-55:

As stated on page 4.11-17 of the DEIR, Mitigation Measure 4.11-4 is a recommendation, so it is not required to reduce the impact to a less-than-significant level. The purpose of this recommended measure is to encourage smaller multifamily complexes that can be integrated into the community. The definition of "area" would be made on a case-by-case basis, taking into consideration the nature of the proposed complex and surrounding development.

The comment does not provide evidence to support the contention that apartment projects must be larger than 100 units to be successful or that complexes less than 100 units would not be successful. There are many existing apartment complexes of fewer than 100 units throughout the region.

Response to Comment 32-56:

The comment is correct that General Plan policy sets a limit on population growth of 60,000 by 2015. Consistent with the General Plan policy, the DEIR provides mitigation to ensure that cumulative development, particularly of the Master Plan Remainder area, is timed so that the population limit is not exceeded unless the policy is changed.

Response to Comment 32-57:

Comment noted. The staff agrees that this is an appropriate clarification. As discussed in Response to Comment 32-51, certain measures are best implemented on a project-by-project basis, instead of planwide. Because construction activities will be undertaken by individual project developers, Mitigation Measure 4.12-4 (A/B) on page 4.12-14 of the DEIR is revised as shown:

> *Prior to each construction season, ~~the applicant~~, each landowner or developer with a project under construction, shall consult with the Sacramento-Yolo Mosquito Vector Control*

District to identify safe, effective, and feasible means to reduce onsite Valley black gnat populations during construction activities that take place during the active season. Such methods could include physical controls, such as watering, or the use of chemical insecticides. The applicant's contractor shall use only those methods for site insect control that it has developed through consultation with the District.

Response to Comment 32-58:

Please see Response to Comment 32-48.

Response to Comment 32-59:

As shown on page 4.13-4, the General Plan policy 4.I.2 states that the City's response time standard is for the first response to be *within* [emphasis added] 4 minutes. Using an average response time of 4 minutes may not be consistent with the policy, because in order to achieve an average of 4 minutes, some response times would exceed 4 minutes. Ultimately, such a determination falls within the purview of the City Council.

Response to Comment 32-60:

The comment is correct that sprinklers will be required in new buildings under Municipal Code Ordinance No. 1276 (see page 4.13-5 of the DEIR). This ordinance did not revoke the General Plan's response time standard, so the DEIR evaluation does consider the potential for response time to exceed 4 minutes to be a significant impact. However, Mitigation Measures 4.13-1 and 4.13-2 do provide for construction of new development in the Specific Plan area before the response times can be met, if disclosure notices are provided (Mitigation Measure 4.13-1(c)) and a new fire station or other acceptable mechanisms is constructed or implemented (Mitigation Measure 4.13-2(b)). Please see also Response to Comment 12-20.

Response to Comment 32-61:

Comment noted. Evaluation of the Fire Station Location Study falls outside the scope of this EIR.

Response to Comment 32-62:

While it does not appear appropriate to modify this mitigation measure based on the information in Letter 32, the measure could be amended as suggested by the commentor if relevant evidence was provided to support such an action by the City Council.

Please also see Response to Comment 32-60.

Response to Comment 32-63:

Please see Letter 8 and Response to Comment 8-3.

Response to Comment 32-64:

The comment is correct. Table 4.14-1 on page 4.14-6 of the DEIR is revised as shown:

TABLE 4.14-1

SPECIFIC PLANS PROJECT ELEMENTS – PARKS AND RECREATIONAL ELEMENTS

Project Element	Specific Plan A	Specific Plan B
Sports Park	33.0 acres	33.0 acres
Neighborhood Park	27.0 acres	27.3 ~~32.4~~ acres
Minipark	5.1 acres	5.1 ~~0.0~~ acres
Parkways	9.2 acres	8.6 acres
Drainage Parkway	13.3 acres	13.3 acres
Urban Forest Edge	5.6 acres	5.5 acres
Public Utility Easement	4.7 acres	4.9 acres
Schools	119.3 acres	119.2 acres
Source: Turn of the Century Specific Plan A and B, 1999.		

In addition, Mitigation Measure 4.14-1 on page 4.14-11 of the DEIR is revised as shown:

(A/B)
(d) *Implement Mitigation Measure 4.1-5 requiring consolidation and expansion of mini parks into two additional neighborhood parks.*

Response to Comment 32-65:

The 1998 Parks, Recreation and Community Services Master Plan states "This Master Plan discourages mini-parks in that they are costly to maintain and provide limited recreational value unless they are a part of a comprehensive greenway, streetscape, or open space plan." The miniparks in the Specific Plans do not meet these criteria.

Response to Comment 32-66:

The DEIR recognizes that some parkland, including the community park and regional park, would be provided outside of the Specific Plan area, and that Specific Plan development can meet its parkland requirements for these types of parks with in lieu fees (see pages 4.14-9 and 10 and Mitigation Measure 4.14-1(b)).

Response to Comment 32-67:

The diagram attached to the comment provides a schematic representation of parks, which, as stated on the figure, is subject to the specific plan process for the new neighborhood area. The location of the sports park shown in the figure is consistent with the sports park site provided in both Specific Plans. However, the location of the neighborhood park differs from the Specific Plans. The diagram does not address the size of parks.

The DEIR analysis of park demand and parkland provided in the Specific Plans is based on the

criteria for provision of parkland in the General Plan and the City's Parks Master Plan.

Response to Comment 32-68:

Please see Response to Comment 32-65.

Response to Comment 32-69:

The comment is not clear, but it is true that there must be a nexus between a project and any adopted mitigation measures for all areas of impacts.

Response to Comment 32-70:

The student generation rates provided in the Turn of the Century Specific Plans A and B were discussed with the Woodland Joint Unified School District personnel but were not verified. Instead, updated generation rates were obtained from the School District's Facilities Master Plan 1999-2018. In addition, the conclusion in the Specific Plans that only two elementary schools would be required was based on the assumption that a typical elementary school can handle about 660 students. However, as discussed in the EIR and verified by school district personnel, the traditional initial capacity for elementary schools is 500 to 550. School capacity could increase to approximately 840 on a year-round track, but the EIR discussion was based on the initial capacity of a traditional elementary school.

Please see Response to Comment 11-1. The School District does not use the factors provided in the Specific Plan.

Response to Comment 32-71:

The Specific Plans identify the schools in Phase 2 (see Phasing Diagrams). The eighth sentence of the first paragraph on page 4.14-29 of the DEIR does state that if the Woodland Joint Unified School District has the necessary approvals and funding for school construction and infrastructure, the construction of the high school and middle school could occur in Phase I.

Turn of the Century
a Delaware Limited Liability Company
609 Court Street
Woodland, CA 95695
TEL (530) 668-4056 FAX (530) 668-4046

RECEIVED
SEP 7 1999

September 7, 1999

Heidi Tschudin
Contract Planner
Community Development Department
300 First Street
Woodland, CA 95695

RE: Comments related to Turn of the Century Specific Plan Draft Environmental Impact Report.

Dear Heidi:

The following additional comments related to the TOC Specific Plan Draft EIR are submitted for your review:

1. Frequently, the DEIR makes reference to the "project applicant", especially when discussing potential mitigation measures. The "project applicant" should be changed to "each landowner/developer", to reflect the fact that there are multiple landowners in the Specific Plan area, and each will be responsible for its own mitigation. Where the phrase, "project applicant" specifically means Turn of the Century alone, "project applicant" could continue to be used. 33-1

2. Page 4.1-22 and 4.1-23; Land Use Tables: It should be noted that Turn of the Century has committed to a 5-acre donation of land to the Yolo County Office of Education for use as a future office site. It is currently anticipated that this site would be either near Parkway/Road 102, or at the southwest corner of the 81-acre parcel controlled by Turn of the Century. The land use tables 4.1-2 and 4.1-3 should reflect this donated land use. 33-2

3. Page 4.2-12; Agricultural Easements: It should be noted that acreage between Woodland and Davis shall be targeted to the extent feasible, reflecting that in order to acquire easements, willing sellers of easements must be found. It may not be feasible to secure conservation easements in advance of development of all land. 33-3

4. Page 4.4-35&36; Mitigation Measure 4.4-5: A third mitigation option should be considered and presented, as follows: "That existing groundwater studies have documented an insignificant impact relative to agricultural wells, and any other effects will be mitigated through the City of Woodland Water Master Plan." The number and location of project wells has been determined as set forth in the Draft Infrastructure Study prepared by Laugenour and Meikle for this Specific Plan. Additionally, ag wells are typically shallower than the proposed municipal wells, which are anticipated to be at approximately 600 feet. Therefore, ag wells and the proposed municipal wells would be drawing from different sources. 33-4

5. Page 4.6-1-74; Traffic and Circulation: For all traffic improvements, the timing of the improvements should be established and approved through subsequent traffic studies and later as programmed in the City of Woodland's Capital Improvement Program. Proposed improvements in the DEIR appear to be staged prematurely. Also, see the attached 2 page document, "Transportation Comments", which addresses additional specific traffic and circulation related issues. 33-5

6. Page 4.6-54; Mitigation Measure (c): The mitigation measure to install geometric design features to prohibit left turn movements at the Gibson Road/Road 101 intersection should be timed to coincide with development that impacts this intersection. 33-6

7. Page 4.4-29; Mitigation Measure 4.4-1 (a): It should be noted that the City's Storm Drainage Facility Master Plan design is inconsistent with the suggested mitigation parameter that "...the system will not increase runoff over current conditions." Also "no net increase" in this case typically refers to the rate of run-off, as it is not possible to have a "no net increase" in volume of run-off; the language should be clarified here to reflect this. An alternate mitigation measure should be evaluated and presented, which would set a performance standard requiring that runoff from the project not adversely impact downstream properties. 33-7

8. Page 4.4-29; Mitigation Measure 4.4-1 (b): It should be noted that an implementation plan for the City's Storm Drainage Facilities Master Plan "SDFMP" has not been developed, and that the feasibility of implementation is not yet established. Mitigation measures should allow for alternate storm drainage system designs which do not preclude future installation of components of the SDFMP, but which may be inconsistent with the SDFMP. For example, as discussed in the DEIR text, current drainage designs include the use of detention ponds, which are allowed in the General Plan, but which are not included in the SDFMP. 33-8

9. Please note that item 30 of the September 3, 1999 list of comments should read: 30. Page 4.6-72; Mitigation Measures (c) and (e): The collection of fees does not typically occur prior to approval of a tentative map. The measure should be revised to state that fees are to be collected at building permit. 33-9

Thank you very much for your help with this.

Sincerely,

Tom Lumbrazo

Thomas J. Lumbrazo
Encl.

Turn of the Century Specific Plan
Draft Environmental Impact Report

Transportation Comments

1. **Travel Demand Forecasts (4.6 –29)** - Reference is made that the traffic volume forecasts were generated from the City of Woodland General Plan Travel Demand Forecasting (TDF)model. Other than the mode choice modifications disclosed to the trip generation component of the traffic model, were there any other trip generation assumption changes made for this traffic analysis since the TDF model was originally developed and calibrated? Additionally, how consistent is the resulting vehicle trip generation rates being used for this analysis with those projected from the SACMET TDF model that is maintained by the Sacramento Area Council of Governments (SACOG)? 33-10

2. **Travel Demand Forecasts (4.6 – 35)** – In June,1998, our transportation consultant, OMNI-MEANS received with permission from the City of Woodland, the latest version of the General Plan TDF model from the City's transportation consultant, Fehr & Peers. Within the TDF model provided, the trip generation module was "security protected" and could not be modified. Using virtually identical land use inputs, the resulting vehicle trip generation estimates used for this EIR traffic analysis were substantially higher, in the order of 20 to 25 percent over the output from the TDF model provided to our consultant. Was there a change in trip generation assumptions, other than the mode choice modification between the TDF model provided in June 1998 and the one used for the results of this EIR traffic analysis? If there were changes, why? At the time, the resulting vehicle trip generation rates were explained by the City's consultant to be consistent with the SACMET TDF model. With changes, are the resulting vehicle trip generation rates still consistent the SACMET TDF model? Lastly, with lower resulting vehicle trip generation, would not the resulting traffic impacts from both Plan A and Plan B be less? Additionally, would not the required mitigation measures recommended to mitigate the projected impacts be reduced as well? 33-11

3. **Cumulative Impacts and Mitigation Measures (4.6 – 64)** – Regarding (B) (f,g), the mitigation discussion states, "Other alternative interchange configurations could also provide acceptable peak hour traffic operations; however, Caltrans comments on the NOP indicated that the partial cloverleaf configuration is the ultimate interchange type planned for this location." Recognizing that Caltrans maintains their own conceptual approval process through the preparation and approval of Project Study Reports (PSR), to maintain flexibility the proposed mitigation is suggested to be changed. The following is the recommended change to the first sentence of the proposed mitigation measure; *"The project applicant shall contribute its fair share to the modification of the Road 25A/SR 113 interchange. The design modification to the interchange shall be based on the outcome of the Caltrans Project Study Report (PSR) conceptual approval process."* 33-12

   Additionally, since the proposed mitigation is a cumulative plus project (Plan B) requirement, this mitigation measure should not be the sole responsibility of the project applicant. Therefore, their obligation should only by a fair share of the total responsibility and not the entire obligation. 33-13

   Lastly, in regard to this mitigation measure that is exclusively required by Plan B, should for other reasons the SR 113 overcrossing at Parkway Drive be constructed, modification to this 33-14

interchange, similar to Plan A might be limited only to signalization and channelization of ramp intersections. It is therefore suggested that the following should further be added to this mitigation measure; *"Should the Parkway Drive overcrossing be constructed, further traffic study is required to determine if additional improvements to the Road 25A/SR 113 interchange are needed."* 33-14 Cont'

4. **Cumulative Impacts and Mitigation Measures (4.6-65)** – For the following mitigation measures, (B)(e), (A)(f), (A)(g), (B)(f,g), (A)(h), (A)(I),and (B)(k), they are all proposed to be mitigation that would be the sole responsibility of the project applicant. Such sole responsibility would be inappropriate since this obligation was determined as a part of the cumulative impact analysis where substantial other development within the City was projected to occur. For these mitigation measures, it is suggested that the text should be revised to obligate the project applicant to only their fair share. 33-15

(C165COM.001/25-7327-01)

COMMENT LETTER 33: Thomas J. Lumbrazo, Turn of the Century

Response to Comment 33-1:

The benefit of a specific plan is to allow for areawide planning and mitigation programs. It may or may not be appropriate to allow certain mitigation measures to be deferred or implemented later in the process on subdivision basis. Chapter 2, Revisions to the Draft EIR, of this document identifies several measures where the recommended change was determined to be appropriate.

Response to Comment 33-2:

The applicant's donation is noted but requires no modification to the DEIR analysis. Such a use could likely be located in any area designated for office or public uses. There would be no separate land use designation for such a use, so there is no need to modify the land use tables.

Response to Comment 33-3:

Please see Responses to Comments 5-2, 12-4, 16-6, and 32-20. The location would be subject to approval by the City and may be further specified as part of the public process identified in the Mitigation Monitoring Program for Mitigation Measure 4.2-1.

Response to Comment 33-4:

There are no known (i.e., "existing") studies that address this potential impact for the Specific Plan area. The Water Master Plan does not contain any specific mitigation strategy that would address this potential for impact in the Specific Plan area. This is an issue to be addressed on a plan-wide basis prior to development. Regarding the depth of agricultural wells, this may occasionally be true but not in every case and not necessarily in most cases. No studies have yet been done to examine individual wells within the project vicinity. Please see also Response to Comment 32-28.

Response to Comment 33-5:

The traffic mitigation measures do recognize the need for project-specific traffic studies to address the phasing and fair-share funding of traffic improvements. The Specific Plan Financing Plan and the Capitol Improvement Plan will identify the improvements and the approach to programming and funding the improvements triggered by project development. Please also see Response to Comment 33-1 and the Mitigation Monitoring Program.

Response to Comment 33-6:

The specific timing and implementation of Mitigation Measures 4.6-1(c) would be determined by subsequent traffic studies submitted with each development (i.e., at tentative map approval) as required by this mitigation measure and Mitigation Measure 4.6-8. Also refer to Response to Comment 3-4.

Response to Comment 33-7:

Comment noted. The purpose of Mitigation Measure 4.4-1 is to ensure that increased runoff from the project site will not increase downstream water surface elevations over existing conditions, thus minimizing the potential for causing flooding at locations not previously subject to flooding or exacerbating existing flooding problems (e.g., along Road 102, south of Gibson Road). To clarify this, Mitigation Measure 4.4-1(a) is revised as follows:

> *Prior to the first tentative map approval, the Specific Plan storm drainage plan shall be completed. The drainage plan shall ~~demonstrate that~~ ~~the system~~ identify specific storm drainage design features to control increased runoff from the project site. ~~will not~~ ~~increase runoff over current conditions. No net increase~~ This may be achieved through one or more of the following: onsite conveyance and detention facilities, offsite detention or retention facilities, ~~and/or~~ channel modification, or equally effective measures to control the rate and volume of runoff. To demonstrate the effectiveness of the proposed system to ~~achieve no net increase~~ prevent additional flooding at offsite (downstream) locations, all necessary hydrologic and hydraulic calculations and assumptions and design details shall be submitted to the City Public Works Department for review and approval. The design of all features proposed by the project applicant shall be consistent with the most recent version of the City's Storm Drainage Guidelines and Criteria, and standard design and construction specifications and details.*

The first narrative sentence at the top of page 4.4-30 is also amended to be consistent with the revised mitigation measure, as follows:

> The measures would ensure that ~~project flows are detained so that the amount of storm water runoff would not exceed existing conditions.~~ stormwater runoff from the project site is effectively managed so that the capacity of downstream conveyance facilities is not exceeded and water surface elevations are not adversely increased as a result of increased rate or volume of runoff generated by new impervious surfaces. Therefore, project flows would not ~~increase~~ adversely affect downstream flooding as compared to existing conditions.

Response to Comment 33-8:

The SDFMP and its accompanying technical documents present the City's conceptual approach to managing stormwater runoff in the City. The SDFMP includes storm drainage system criteria ("Storm Drainage Guidelines and Criteria") that provide the basis for formulating and completing designs for storm drain facilities in the City. These criteria must be used in the design of any storm drain system feature installed in the planning area, regardless of whether the feature is identified in the SDFMP or not. A formal SDFMP "implementation plan" would not be necessary. As stated on page 4.4-10 in the DEIR, onsite drainage facilities, such as those that would be installed for the proposed project, consist of specific drainage features that are not specifically identified or required in the SDFMP, but are evaluated and designed in conjunction with specific development projects.

As stated on page 4.4-28 in the DEIR, a detention basin southeast of the project site is not specifically identified in the SDFMP, but General Plan Policy 4.E.7 encourages the use of such facilities. The use of a detention or retention basin or equally effective measure to control runoff is not precluded by the SDFMP. Alternate drainage system designs will be considered by the City provided: the selected drainage features are designed in accordance with the SDFMP Storm

Drainage Guidelines and Criteria; it can be demonstrated that such features would not preclude the larger onsite facilities (e.g., major trunk lines) envisioned in the SDFMP; and the City Public Works Department approves the design. As long as these requirements are satisfied, it is assumed that the onsite drainage system would not conflict with the SDFMP. Mitigation Measures 4.4-1(a) and (b) provide added assurances that drainage facilities constructed as part of the proposed project would satisfy these requirements. Any storm drainage improvements that were inconsistent with the SDFMP would require amendment of the SDFMP or a finding of substantial compliance with the SDFMP before the improvement could be approved.

Response to Comment 33-9:

Please see Response to Comment 32-42.

Response to Comment 33-10:

The trip generation component of the City of Woodland TDF model was not modified for use in conducting the DEIR transportation impact analysis. The resulting vehicle trip generation rates used in the City's model are similar to those from the SACMET TDF model. However, the trip rates in the City's TDF model have been calibrated specifically for Woodland while the SACMET rates reflect the entire SACOG region.

Response to Comment 33-11:

As stated in Response to Comment 32-10, the trip generation component of the model was not modified. However, the DEIR analysis used more conservative estimates of students and modified mode choice factors to accurately reflect the land use patterns of both plans. The combination of these modifications affected the resulting vehicle trip generation of the proposed project. The DEIR travel demand forecasts are considered to be reasonable and accurate and no change is recommended. However, it should be noted that traffic impact studies will be prepared for each tentative map as required by Mitigation Measure 4.6-8. These studies will provide the most accurate assessment of potential impacts based on specific land uses and trip generation estimates.

Response to Comment 33-12:

The first sentence of Mitigation Measure 4.6-6 (B) (f,g) on page 4.6-68 of the DEIR is revised to read:

> *Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share to the modification of the Road 25A/SR 113 interchange. The design modification to the interchange shall be based on the outcome of the Caltrans Project Study Report (PSR) conceptual approval process.* ~~*The project applicant shall reconstruct the Road 25A/SR 113 interchange to a partial cloverleaf (Caltrans type L-9) configuration with a four-lane overcrossing and single-lane ramps.*~~

Response to Comment 33-13:

Refer to Response to Comment 33-12.

Response to Comment 33-14:

The following text is added to the end of Mitigation Measure 4.6-6(B)(f,g) on page 4.6-68 of the DEIR:

> *Should the Parkway Drive overcrossing be constructed, further traffic study shall determine the extent of additional needed improvement, if any, to the Road 25A/SR113 interchange if needed.*

Response to Comment 33-15:

The revisions were made to Mitigation Measures 4.6-6 and 4.6-8 (A/B) (e), and can be found in Chapter 2, Revisions to the Draft EIR.

WADE ASSOCIATES
Urban Planning & Design • Environmental Planning

SEP 7 1999

September 2, 1999

Heidi Tschudin, Contract Planner
Woodland Community Development Department
300 First Street
Woodland, California 95695

Subject: Comments on Turn of the Century Draft Environmental Impact Report

Ms. Tschudin:

The DEIR is generally very thorough. Most of these comments seek a clarification on one point or another. One fundamental concern is the treatment of the college campus and the county facilities in the DEIR. These properties are included in the specific plan boundary, and are briefly described in the DEIR. However, they are addressed only in a very cursory manner, as though they were adjacent land uses rather than part of the plan. These uses are not static, indeed, the college campus is now the subject of a master plan effort. Such a significant use should not have been ignored in the EIR analysis. Either they should be properly addressed in the EIR, or they should not be included in the specific plan boundary. **34-1**

p.2-1 para.1 Project Location. Highway 113 is described as the west boundary. A small portion of the specific plan area extends west of 113. This is significant because this portion is included in Phase 1, but is not served by the proposed Phase 1 sewer, drainage or circulation improvements. This point is not identified in the DEIR. **34-2**

p.2-4 para.1 The Woodland Community College Master Plan is scheduled for completion by November, 1999. Although this is mentioned in the Project Setting there is no further discussion of the physical relationship, potential joint use of public services, circulation connection, or any other factors that may relate to development of the specific plan area. Not withstanding that the campus master plan is not complete as of the completion of the DEIR, the master plan is scheduled to be complete prior to adoption of the specific plan. At a minimum the EIR should provide a brief description of the conceptual master plan and identify any potential circulation connections, the relationship of proposed uses on campus to the adjacent uses in the specific plan, the potential for joint use and/or development of infrastructure, and the planned time frame for development of the campus. Similarly, the potential expansion of the county facilities should be described. **34-3**

p.2-10 para. 4 Project Phasing. The DEIR states the applicant's assertion that, "...because of the cost of provision of infrastructure, Phase 1 development is proposed to begin along County Road 102...". Despite this assertion, the applicant includes lands west of Highway 113 in Phase 1 even though they are further west and are not served by the initial improvements proposed by the applicant. The EIR should include a statement that the Phase 1 plan is the proposal of the applicant and may be modified as the City evaluates the project. Further, the EIR should discuss whether the applicant's proposed phasing is consistent with General Plan policies regarding phasing. **34-4**

p.4.1-3 Table 4.1-1. The in the table identifying individual property ownership do not match the corresponding number in Figure 4.1-2. It would be helpful if the reader could match ownership and acreage in the table with the parcels shown on the map. **34-5**

777 Campus Commons Road, Suite 200, Sacramento, California 95825 • (916) 565-7629 • fax (916) 939-2346

p. 4.1-3 para. 1. Current Land Use Designation and Zoning. The County zoning classification "Agricultural – Preserve(A-P) has created confusion among readers because the nomenclature is the same as that used for Williamson Act properties. Figure 4.1-3 has been misinterpreted as depicting land under Williamson Act contract. A brief description of the County A-P zone classification in the text and an explicit note on on Figure 4.1-3 should avoid further confusion. **34-6**

p. 4.1-35 para.2. The bike/pedestrian bridge shown on Figure 4.1-6 and 4.1-7 is not discussed further in the DEIR. The bike/pedestrian bridge shown in several of the plan graphics over Highway 113 is not mentioned at all. The crossing over Gibson is a significant safety hazard that will require fencing or sound walls in front of the school and the commercial property on the north side of Gibson to prevent cyclists and pedestrians from crossing at grade, rather than using the bridge. The crossing will also require significant space for ramping up to the bridge. This space is not adequately shown on any figure in the DEIR, nor is it discussed. **34-7**

p.4.2-13 para 2. The discussion of Williamson Act contracts should explain the effect of non-renewal and clearly state that once the cancellation process is complete the contract has no further effect on the use of the land. In addition, the EIR should discuss the timing of the cancelled contracts relative to the potential for development of the property. This is significant relative to the phasing of infrastructure, particularly if rescission of the Russell contract is not completed. **34-8**

p.4.2-13 para 3. The sentence, "These basins could remove an additional 62 acres removed from Williamson Act contract."..., is particularly confusing and should be redrafted to be more clear. **34-9**

p. 4.2-17 para 2. The sentence, "Both Plans include a phasing plan which provide for the development of areas contiguous to the City to be developed initially because of infrastructure needs.", is incorrect. The phasing plan would initially facilitate construction of lands separated from the existing city boundary by the college and county facilities. Land that is directly contiguous to the city boundary along Gibson Road is relegated to Phase 2. The statement that the phasing is organized such "..because of infrastructure needs", reflects only the applicant's interpretation of the infrastructure needs to serve properties far removed from the existing city boundary. The DEIR does not include any analysis of the validity of these statements. The EIR should include more discussion of the phasing relative to the actual needs and should be clear that the properties are not contiguous to the city adjacent to the existing urban area. **34-10**

p.4.4-4 para. 3 The discussion on reduction in groundwater recharge due to conversion from agriculture to urban uses should also provide information on the relative amounts of water used by agriculture versus urban uses. The urban water use is likely to be less per acre than the existing agriculture, thus the amount drawn from groundwater and the amount replenished through recharge may be more in balance than suggested in the DEIR discussion. **34-11**

p. 4.5-4 para. 1 The discussion on special-status plant species states, "... However, since this site is not to be further developed under the proposed project, these plants would not be threatened if they are present on site." This is in reference to Figure 4.5-1. The basis for this statement is not clear. If the habitat is present within the specific plan area, then it is subject to development. The proposed uses on the college site and the county facilities site are not described in any detail in the DEIR, but it is known that a master plan for the college site is underway and due soon. The statement regarding development in this area appears to be incorrect. At a minimum the actual location of the special-status species relative to the proposed land use should be clarified. The land use in the college master plan and the county facilities should be included in the analysis or these uses should not be included in the specific plan. **34-12**

p.4.6-21 <u>Proposed Bicycle/Pedestrian System</u> The Traffic and Circulation Section of the DEIR only briefly describes the bike system proposed in the specific plan. It does not include the specific plan **34-13**

policies relevant to bikes and transit systems until p. 4.7-15 in the Air Quality Section. These policies should have been included in the Regulatory Setting section of the Traffic and Circulation Section so that the analysis of the bike and transit system considered the policies in the specific plan. 34-13 Cont'd.

p.4.11-16 para.5. Concentrating the multi-family housing in the northwest portion of the specific plan in contradiction of General Plan Policy 1.B.7 also has an impact on traffic patterns and the feasibility of that portion of the specific plan. If the high density housing type is feasible, such uses should be distributed throughout the plan where they can be served by the high capacity streets. If they are not feasible, the concentration of such use in a single location will make it difficult, if not impossible, to achieve the full development of the specific plan. 34-14

Thank you for the opportunity to comment on the Draft EIR.

Sincerely,

David Wade, AICP

COMMENT LETTER 34: David Wade, Wade Associates

Response to Comment 34-1:

It is unclear what additional treatment the commentor seeks. The two uses are within the Specific Plan boundaries and are described as such. As stated on page 4.1-6 of the DEIR, and as the commentor reiterates, the College is currently preparing a Master Plan. The DEIR includes a description of the existing uses on the college site, as well as planned expansions; however, site plans are not available at this time. Similarly, the existing uses on the county site are described (also on page 4.1-6). Although an expansion of the detention facility is planned in the future, because the County has no formal plans for the facility, any evaluation of future expansions would be speculative.

Response to Comment 34-2:

The identified text is intended to be a general description of the project location. Figures 2-1 and 2-2, noted in the identified paragraph, accurately depict the project site and show the project site extending west of State Route 113. The portion of the plan to the west of State Route 113 is accurately described and analyzed throughout the document.

Response to Comment 34-3:

The anticipated completion date for the College Master Plan was taken from a request for proposal issued by the College. The consultant for the College has subsequently indicated that this schedule has been substantially modified.[5] There is no draft plan or substantially completed analysis at this time. Please also see Response to Comment 34-1.

Response to Comment 34-4:

The proposed statement is not a necessary addition to the document, as it is true for any element of the proposed project. It is not clear to which General Plan policy the comment refers regarding phasing; however, a discussion of consistency with General Plan policies is included in each section of the DEIR.

Response to Comment 34-5:

Comment noted. The Figure on page 4.1-4 is revised as shown in chapter 2, Summary of Changes, to correspond to Table 4.1-1 and page 4.1-3 of the DEIR.

Response to Comment 34-6:

Figure 4.1-3 (as revised) reflects zoning. Figure 4.2-2 reflects Williamson Act contracts. In response to the comment that the County's description of Agricultural Preserve is confusing, the following text is added to the end of the second paragraph on page 4.1-3 of the DEIR:

> Agricultural Preserve (A-P) is a land use designation used by Yolo County to preserve land suited for agricultural use from encroachment of nonagricultural uses. Figure 4.1-3 on page 4.1-5 illustrates those areas designated A-P on the project site.

Response to Comment 34-7:

There are two bicycle/pedestrian overcrossings shown on the proposed Specific Plan. One is over State Route 113 at Road 24A. Though proposed by the applicant, it is only referenced in the Specific Plan; no additional phasing, funding, or design information is provided. The second is over Gibson Road. This facility is planned by the City and identified in the City Major Projects Financing Plan MPFP. The Sycamore Ranch Specific Plan is responsible for 50 percent of the funding for the Gibson Road Overcrossing, and Turn of the Century is responsible for the remainder.

Response to Comment 34-8:

There are no Williamson Act contracts on the project site that are proposed for cancellation. As stated on page 4.2-2, there are currently three parcels remaining under Williamson Act contract on the project site: two have filed for non-renewal and the third is pursuing a rescission of the contract. Williamson Act contracts limit the use of the land to agricultural and compatible uses and if a contract is allowed to expire or is rescinded, the subject property is no longer subject to restrictions on the use of that property. The potential effects of project phasing on certain LAFCO policies are discussed in Impact 4.1-10.

Response to Comment 34-9:

The commentor refers to a sentence as confusing, which in context reads:

> "In addition, as discussed in Impact 4.2-1, the proposed project could include offsite detention and retention basins. These basins could remove an additional 62 acres removed from Williamson Act contract. The City of Woodland General Plan EIR assumed conversion of lands within its Sphere of Influence, but offsite improvements were not assumed in that document. This could result in additional conversion of land under Williamson Act contract."

Although it is not stated, this paragraph is intended to indicate that construction of off-site basins, due to their location on Williamson Act land, could result in the removal of said land from Williamson Act contract. This land would be in addition to the land removed from Williamson Act contract on-site.

Response to Comment 34-10:

The comment is correct that the stated relationship between the proposed phasing and infrastructure needs is as phrased by the applicant. As proposed, portions of Phase 1 would be contiguous to the existing urban area and portions would not. The phasing plan is discussed on page 2-10 of the DEIR and will be further examined by staff and the City Council.

Response to Comment 34-11:

Issues pertaining to groundwater supply and demand are discussed in Section 4.13, Public Services and Facilities, in the DEIR. As noted on page 4.13-34, the current rate of City groundwater was estimated to be 13,900 afy for City production. Approximately 5,600 afy is used for agricultural purposes within the Urban Limit Line. At General Plan buildout, total pumping in the Urban Limit Line was estimated to be 23,200 afy, resulting in a net groundwater deficit of 3,800 afy. The future condition assumes the use of existing and planned wells, and agricultural pumping within the Urban Limit Line would be replaced by City pumping (DEIR, page 4.13-35). As discussed on page 4.13-34 in the DEIR, existing groundwater use at the project site is estimated to be approximately 1,895 afy. This quantity assumes actively farmed areas (approximately 700 acres) are irrigated primarily with groundwater, using an annual applied water factor of 3.25 afy of cropland. Existing demand from private wells used for domestic purposes is assumed to represent a minor contribution to demand and are not included in the estimate. As discussed in Impact 4.13-13 on pages 4.13-41 through 4.13-43 of DEIR, implementation of the proposed project would result in a project water demand of approximately 3,200 afy. Although water use at the site would increase, the project would not result in any significant recharge effects (please see Impact 4.4-6 on page 4.4-36 in the DEIR).

The commentor has suggested that urban development would use less groundwater than agriculture. However, as illustrated by the site-specific and City data, urban water demand appears to be greater on a per-acre basis than agricultural use rather than less. Recent technical studies (e.g., the November 1997 Groundwater Impact Analysis Under the 1996 General Plan Water Use Conditions) and information compiled for the Woodland General Plan Background Report, which were referenced in numerous places in Section 4.4 in the DEIR, were used to characterize recharge issues. The reader is referred to these documents for additional discussion regarding the balance between water use and recharge.

Response to Comment 34-12:

Potential impacts to federal- or State-listed plant species are addressed in Impact 4.5-1 on page 4.5-25 of the DEIR. As stated in Response to Comment 34-1, the College is currently preparing a master plan; however, the plan is not complete at this time. In addition, the college and County property are within the Specific Plan area and will be annexed to the City. As discussed in Impact 4.5-1, future development by the College or the County could threaten those species. Therefore, the last sentence in the first paragraph on page 4.5-4 of the DEIR is deleted as shown.

> It is highly likely that this area supports special-status plant species due to the soil type, presence of associated vegetation, and presence of special-status plants directly to the east of County Road 102. ~~However, since this site is not to be further developed under the proposed project, these plants would not be threatened if they are present onsite.~~

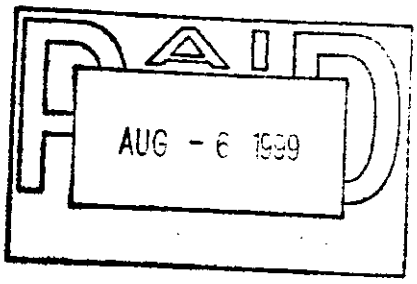
Response to Comment 34-13:

The proposed project's bicycle and pedestrian system is described on pages 4.6-21 and 4.6-26 of Section 4.6, Traffic and Circulation of the DEIR, and evaluated in Impact 4.6-5. The policies are provided in Section 4.7, Air Quality, because they are related to efforts to reduce vehicle emissions by encouraging non-automotive transportation.

Response to Comment 34-14:

The comment is noted. Impact 4.11-4 on page 4.11-16 of the DEIR which found that the proposed project would be inconsistent with General Plan Policy 1.B.7, which encourages the dispersal of multi-family housing throughout the community.

Tekla White
1008 Guerrero Lane
Woodland, CA 95776



August 4, 1999

Heidi Tschudin
Contract Planner
Woodland Community Development Department
300 First Street
Woodland, CA 95695

Dear Ms. Tschudin:

The development plans A and B for the Turn of the Century Specific Plan should, in my opinion, not be approved. The new community in east Woodland has many problems that need to be addressed before more construction should be considered. The additional houses and population will add to the problems. There are too many unresolved issues listed in your letter that will add to these problems. More construction is environmentally irresponsible. 35-1

To begin with, this area is now in a flood zone. This issue has not been resolved. I am very unhappy about the situation because I specifically asked Morrison Homes about the possibility of flooding and all other problems and I was told there was none. Now I will be forced to pay for flood insurance. Were new home owners in this area informed that they were now in the flood area? Morrison keeps building and selling homes. 35-2

Water, both the quality and quantity are a problem. The letter mentions taking water from the ground. There is already a sinking problem in Woodland, and the present houses are placing a strain on the system. When the underground water source is used, land sinks. More water out of the underground system would cause more problems and could damage the houses built on the proposed development land and present ones. The quality of the water is so bad, it kills my house plants. I have to buy bottled water for these plants. The animal water bowls are unusable after a short period of time when I use tap water. What about washers, hot water heaters, and dishwashers. Even the water department said they would have to be replaced much sooner because of the hard quality of the water. The taste is unacceptable. We were told a system of several different water sources was needed. Is that system in place? It should be before more houses are built. Is the developer going to pay for a new water system for these houses? What will happen in future drought years? Just because we have water now, does not mean it will continue to rain heavily every year. 35-3

The air quality here is terrible. While some of the stench from the sugar beets and other industry has improved, there are some mornings and evenings when I can't open my house to air it. Because of the flat area, the smell of barbecue lighter fluids and fireplaces make it impossible to breathe clean air. What has been done to educate people about the 35-4

gas mowers, barbecues, and fireplaces making the air quality unacceptable? If there are more people in this area, then we should be restricted from causing more air pollution. More traffic will mean more bad air days. 35-4 Cont'd.

Loss of agricultural land? Many residents in Woodland depend on jobs in those fields including one of my neighbors. We all depend on the food raised there. It is rich, important agricultural land. Don't destroy it. 35-5

We've already lost the hawks and rabbits in this section of Woodland. People and all animals are dependent on each other. Each animal that is forced out of its habitat, eliminates many others. What have developers done to see that there is habitat for wild animals? Nothing that I can see. They don't even respond to letters of concern. 35-6

Gnats? They often make the evenings unpleasant and their bite is painful. I would not like to see any more gnats in the area. They could become a health hazard. 35-7

Noise is a problem in all heavily populated areas. Behavior and hearing are changed when people are subjected to excessive noise. Your letter indicates that there would be a significant increase in noise. Does that translate into children losing their hearing? 35-8

More traffic at intersections and on the streets as well as greater risk to pedestrians and people on bicycles is not worth the gains in taxes paid to the county. Almost every point in the letter admits that the quality of life in this area would be worse than it is now. 35-9

I don't know what the Williamson Act is, but I would like to be informed. Please send me a copy. 35-10

I oppose any development in this area until, water issues, overcrowding, and the farm and environmental impacts are addressed. There isn't even any curbside recycling of cardboard or materials other than cans, glass, and some plastics, and newsprint. This is irresponsible and behind the times. Most other communities do a better job. 35-11

For every acre of housing development, there should be five acres, minimum, set aside for farming and wildlife habitat. 35-12

I am opposed to both plans A and B. When schools, parks, and community lands are included in the plan, it takes years and years to have these in place even though houses go up quickly. What will be the cost in taxes to other people in the county when these developments are approved? How will police protection, fire department, and other services be adequately provided, and where will the money for these services be obtained? 35-13

I hope the planning commission and other government divisions, like air, land, and water, will be responsible and turn down development plans until all these issues are resolved. 35-14

Sincerely,

Tekla White

COMMENT LETTER 35: Telka White

Response to Comment 35-1:

The issue of whether and where future growth would occur in the city was deliberated several years ago as a part of updating the General Plan. The proposed Specific Plan area was designated for future development. The subject EIR addresses the environmental issues raised by the commentor.

Response to Comment 35-2:

As stated on page 4.4-5 in the DEIR, there are currently no areas within the project site that are within the 100-year floodplain. The revised FEMA maps have not been adopted. The commentor's concern regarding flood insurance is noted for the record. There are no new homes within the TOC Specific Plan area. Please refer to Response to Comment 18-1.

Response to Comment 35-3:

See Response to Comment 30-25 regarding water quality and Responses to Comments 16-9 and 34-11 regarding groundwater resources. The comments about the quality of the commentor's domestic water are noted for the record and will be considered by the City Council in their deliberations.

Response to Comment 35-4:

The commentor may wish to contact the Yolo-Solano Air Quality Management District regarding air quality concerns and programs to educate the public on air quality issues. Please refer to Section 4.7, Air Quality, for the discussion of project-related air quality impacts. Also see Mitigation Measure 4.7-3 for project-specific measures designed to reduce project-related air quality impacts.

Response to Comment 35-5:

Impacts resulting from the conversion of agricultural land to urban uses are discussed in Section 4.2, Agricultural Resources, in the DEIR. The comment's concerns about the loss of agricultural jobs and food production are noted.

Response to Comment 35-6:

For a discussion regarding impacts on wildlife and wildlife habitat, see Section 4.5, Biological Resources, in the DEIR. Section 4.5 identifies mitigation measures to be implemented by the developer for special-status species that would be affected by project development.

Response to Comment 35-7:

Information concerning black gnats is presented on page 4.12-4 in the DEIR. The DEIR (Impact 4.12-4 on pages 4.12-13 and 4.12-14 in the DEIR) recognizes that black gnat populations would likely increase during project construction, but that some measures could be implemented to help control nuisance effects. See also Response to Comment 30-27.

Response to Comment 35-8:

The commentor is correct that behavior changes when people are exposed to excessive noise, as has been proven by several attitudinal surveys. However, for permanent hearing loss to occur, the Occupational Safety and Health Administration (OSHA) has determined that prolonged exposure to very high noise levels is required. Specifically, an 8-hour exposure of 90 dB is required to receive a 100% dose of noise, which is considered by OSHA to represent the onset of hearing loss. Such exposures are more typical of factory floor workers than exposures received in suburban communities. Ambient noise levels predicted within the project vicinity are well below those considered harmful to hearing by OSHA. As shown in Tables 4.8-4 and 4.8-5, noise levels attributable to project traffic would not approach this decibel level. Nor would project construction produce such noise levels (see Impact 4.8-3).

Response to Comment 35-9:

Section 4.6, Traffic and Circulation, in the DEIR addresses the operation of intersections, which also considers intersection safety. The service level standards used in the DEIR take into consideration roadway safety.

Response to Comment 35-10:

The Williamson Act is described on page 4.2-2 of the DEIR, and the proposed project's impact on the Williamson Act contracts are discussed under Impact 4.2-2 on page 4.2-13 of the DEIR. The purpose of the Williamson Act is to promote the preservation of land used for agricultural purposes. For text of the Williamson Act (or the California Land Conservation Act of 1965), refer to Government Code Section 51200 through 51295.

Response to Comment 35-11:

Comment noted. Water issues are addressed in Sections 4.4 and 4.13 of the DEIR; population is addressed in Section 4.11, farmland is addressed in Section 4.2, and solid waste and recycling are addressed in Section 4.13.

Response to Comment 35-12:

Comment noted. The commentor's proposal to require 5:1 agricultural and habitat mitigation is noted for the record.

Response to Comment 35-13:

As stated in Response to Comment 16-11, prior to approval of the Specific Plan by the Woodland City Council, the applicant would be required to demonstrate that the development of the Specific Plan area as a whole would feasibly be able to finance all necessary improvements to public services. Fiscal and financial plans for the operation, maintenance, and capital funds for the project are being prepared and will be presented to the City of Woodland Planning Commission and City Council as part of their deliberations on the project.

Response to Comment 35-14:

Comment noted.

August 30, 1999

RECEIVED
SEP 7 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

City of Woodland Planning Department
Attention: Ms. Heidi Tschudin
300 First Street
Woodland CA 95695

RE: Turn of the Century Development,. Draft EIR

Dear Sir/Madam:

The Woodland/Davis Aeromodelers, Inc. ("WDA"/"the Club") is responding to the Draft EIR presently in front of the Planning Commission for the Turn of the Century Development located directly West of the Mavis Henson Flying Field along County Road 102 and Road 25.

The Woodland/Davis Aeromodelers, Inc. was founded in November of 1970 as the Davis Aeromodelers by Bob and Mavis Henson and several other individuals from the Davis area. The Davis Club secured a lease from the City of Davis for approximately 1.2 acres in the Northwest corner of the old Davis land fill. Over the next several years, with the help of Tom Basinger of the Davis Nursery, Club members built a flying site for Radio Controlled Aircraft.

In 1983, the Club recognized the possibility of losing the Davis flying site due to expansion of the on site Solar Power Plant. A new site was investigated at the Old Woodland City Landfill, located 2 miles east of Woodland, on Co. Rd. 102. This undeveloped site was designated as the "Woodland Regional Park" with provisions for model aircraft flying. This location was found to be an area ideal for a new multi-use model aircraft and boat facility, including a 20 acre lake for seaplanes and model boats. With the assistance of the Woodland City Parks & Recreation Department, the Club secured a lease from the City of Woodland, and provided the City with a long range plan of improvement. The new flying field was dedicated as the "Mavis Henson Field" in the spring of 1986, in recognition of the efforts made by the late Mavis Henson and her husband, Bob, who organized the Club, promoted the hobby, and helped establish the new flying site 36-1

The Club incorporated and changed its name to the Woodland/Davis Aeromodelers, Inc. (WDA). A new flying field was prepared in accordance with the long range plan. Donations by community businesses prepared the site by grading and leveling the runways, parking lot, entrance road, and pit area. The remaining work was accomplished by the WDA members. All of the site development and maintenance is overseen by the Field Committee, and accomplished by the efforts of WDA members. Over the years the WDA has had many good friends in the general community who have helped WDA with their efforts.

WDA members strongly feel that efforts should be made to assist young modelers. Since 1970, single goal programs have been organized and offered in the Woodland community and schools by WDA members. In 1997 several "no fee programs" were run to help interested youth. These programs required considerable organizing effort, with attention to the youth resources. The programs included glider building, control line airplane building and flying, and introductory R/C building and flying. Though not required, parental participation was always encouraged.

WDA is a club-organized, volunteer organization dedicated to promoting the sport and hobby of Model Aviation, in and around the Woodland-Davis area. All members of WDA are also members of a national modeling organization, the Academy of Model Aeronautics. The annual programs of WDA include.

Yolo County Fair Mall Show

WDA members participate in a mall show each year. Models of all types, videos and demonstrations are shown at this event. 150-300 gliders are built with the youngsters who attend the show. There is no charge for these gliders.

Flight Instruction and Pilot Orientation

The instruction and orientation program is offered as a free service to club members and prospective pilots. This program helps newcomers learn the skills needed to build and safely operate model aircraft. This program also assures that skilled pilots are familiar with the rules at the flying site.

Grade School Glider Building Classes

These classes have been conducted for schools and Parks & Recreation programs since 1976. WDA instructors teach young students how to build and fly high-performance, hand-launched, balsa gliders. Students are also taught basic aerodynamics. Year after year teachers request that this program be continued.

Model Aircraft Contests

36-1 Cont'd.

WDA hosts several contests each year which bring some excellent models to the community. Several of the club members are active in competition at a national level and are recognized as the top in their respective field of Aeromodeling. These pilots often help other non-competitive modelers. All funds from contests and food sales are used to underwrite the costs of the flying site maintenance and improvements. These events are held on weekends beginning in Spring and continuing to October. The events are well attended by the public and are typically the best in the area.

WDA as always been proud of the contributions and prominence its members have achieved, this was recognized in 1998 when The Academy of Model Aeronautics awarded WDA status as a "Gold Leader Club" for its instructional contributions to the community in Sport Aeromodeling. WDA recently learned that one of its members was inducted into the Society of Antique Modelers Hall of Fame, (SAM) an international organization dedicated to the early days of Aeromodeling. The Academy of Model Aeronautics has also recognized another of our members for his life long contribution by inducting him into the National AMA Hall of Fame.

The club recently completed an extensive upgrade to the runway and 80' U-control flying circle. This renovation is part of our long-term improvement plan and was the focus of WDA's General Plan for some time. The development of the new runway and flying circle is the key to drawing new membership and expanding the Club to meet the changing needs of the Aeromodeling Sport.

With the expansion of the new runway, extending its length to 600', and the laser leveled contoured surface, Mavis Henson Field has been converted into the premier flying field North of Los Angeles and ranks in the top five on the West coast No other site exists with the combination

of a float flying lake, premium runway and flying circles. This improvement has attracted new memberships due mainly to the class of runway and the orientation of the field.

Since WDA's move to the site in 1984, we have remained hopeful that this site would become a permanent location for the Club that would allow the opportunity to expand our Club's diverse internal groups. WDA's success to date can be observed by the range of internal groups at the Club, i.e. Float Flying, Quickie 500 Class, Scale, Antique, Competition Pattern, Gliders, U-control, Ducted Fans, Electric and General Sport Flying. The models vary in engine size from thimble size .020 c.i. up to scale multi-cylinder engines of 140cc displacement and model costs from under $100.00 upward to $10,000.00 for turbine powered jets. **36-1 Cont'd.**

New developments adjacent to flying club sites have been a common concern throughout the Aeromodeling sport due to the typical noise signatures that are inherent to the sport. WDA's governing Board is concerned that the development will have an impact on its membership and preceding mentioned programs. This proposed project has the potential to limit our membership growth, type of flying we presently enjoy, as well as our anticipated event expansion. **36-2**

In response to the Turn of the Century Proposal, the WDA Board of Directors respectfully submit the following concerns and comments:

1. The potential of limiting our present operating style and scheduled events will cause certain hardship on our operating revenue, as well as membership renewal concerns. **36-3**
2. The penalty of a 5db noise reduction from 65dba is not warranted and should be removed form the draft, the draft noise study was extremely limited. Samples taken by WDA members showed road traffic from Agricultural vehicles to be louder than the models. **36-4**
3. The lease term we hold with the City of Woodland Parks and Recreation is incorrectly listed as expiring in 2002. The amended lease of 1995 will not expire until June 2007 with one five year option we intend to utilize. **36-5**
4. The intended project will terminate the water source from the Yolo County Flood Control and Water District through the Farmers Central Canal. This provides water to Community Park Lake. How will we be provided water purchased from Yolo County Flood Control during the AG growing season, and gather storm water run off during the rain season? Note: Due to the leaching potential of the buried waste water is not allowed to leave the site. **36-6**
5. The possibility exists of the project limiting or terminating, by noise restriction, any return on the investment of the runway expansion. These limitations will be a deterrence in attracting new events and expansions, will limit or cancel current events, cause loss of membership and event revenue. Runway renovation was not attempted until a longer term lease was negotiated. **36-7**
6. Noise abatement should list the requirement that the developer include large growth trees to disrupt noise patterns from all sources and that this requirement be included in the development covenants. Plan the layout of the development to provide a non residential buffer zone adjacent to the flying field, ie greenbelt areas, walking paths etc. This method of noise abatement should be deemed essential for all noise sources. **36-8**

7. The golf course specified in the General Plan but omitted from TOC proposal would mitigate any noise concern from Henson Field as "less than significant" This is a requirement under CEQA and should be required by the commissioners. **36-9**
8. A development adjacent to a known noise source is not grounds for placing restrictions on that entity if the noise is a component of the normal process of the activity or business. **36-10**
9. If noise restrictions are imposed and intended growth of the WDA membership and facility is impeded, the TOC group should be responsible to make adequate payment for the Club to be moved to an area where it can continue to grow and operate to serve the needs of its membership and the community. This may involve the purchase of private property. Based on the number of units proposed, a charge per unit built would be insignificant on the normal selling price of a home. **36-11**
10. The WDA has opened its facilities to the surrounding communities providing instructional demonstrations to Scouting groups interested in flying radio control models or aeronautics. The demonstrations fill the requirement for several of the merit badge goals. WDA supports the U.C.Davis Aeronautical Heavy Lift R/C Aircraft Development Program by allowing its members to use the facility for National competition practice under a non-fee agreement. WDA members also travel to local schools to conduct educational sessions about flying and hold flight demonstrations. **36-12**
11. Traffic control will be required at the intersection of Road 102 and the proposed development road directly West of the entrance road to the Mavis Henson/Los Corporales entrance road. Traffic for the equestrian events is very heavy on Sunday afternoons and there is a concern with safety at this proposed intersection. There are no turn lanes, control lights etc. proposed. **36-13**
12. With all the concerns that surround the modeling sport regarding noise issues WDA requests that a committee be formed to study the issue more thoroughly and determine the exact impact operation of model aircraft will have on future residents of this proposed development. WDA will participate by offering members to sit on this committee and will participate in any research required to determine noise signatures of the different type models flown at Mavis Henson Field. **36-14**

For correspondences please contact Mike O'Kane, Secretary of the Board of Directors, at the following address and phone numbers. Evenings 530-796-4377, work number, 916-929-5656. Mailing address 25085 Highway 16 Capay CA 95607.

Respectively,

WOODLAND/DAVIS AEROMODELERS, INC.
BOARD OF DIRECTORS

Michael D. O'Kane
Secretary

COMMENT LETTER 36: Michael D. O'Kane, Woodland/Davis Aeromodelers, Inc.

Response to Comment 36-1:

The description of the activities of the Aeromodelers is noted for the record. There is no doubt about the success of the program. Please see Response to Comment 36-5 regarding the terms of the lease.

Response to Comment 36-2:

Comment noted. As reflected in the terms of the lease agreement, the Aeromodelers activity has always been viewed by the City as an interim use. The development of the subject project, and the development of the regional park, could either or both result in incompatibilities with the aeromodelers use. The Specific Plan area is of critical importance to the City because it is the identified new growth area.

Response to Comment 36-3:

Comment noted. See Response to Comment 36-2.

Response to Comment 36-4:

With respect to the buzzing noise of the model airplanes, the methodology in the DEIR was not to reduce the sound output of the airplanes by 5 dB, but to reduce the residential noise standards by 5 dB to more accurately predict public reaction to the model airplane noise. Mitigation Measure 4.8-7 provides several options for addressing noise from the Regional Park.

With respect to agricultural noise, it is true that some farm-related activities will generate noise levels in excess of those generated by the model airplanes, and discussions of the effects of such agricultural-related noise and appropriate mitigation measures is provided in Section 4.8, Noise, in the DEIR.

Response to Comment 36-5:

Comment noted. The second sentence of the second paragraph on page 4.1-25 of the DEIR is revised to read:

> The Aeromodelers ~~have~~ amended ~~a~~ their ~~seven year~~ lease with the City of Woodland in 1995. The lease will expire in June 2007, with one five year option.~~on October 25, 2002~~. The lease contains a 60-day release clause that can be executed by either party.

Response to Comment 36-6:

As discussed on page 4.4-12 in the DEIR, the area served by the B Street Trunk (see Figure 4.4-4 on page 4.4-11 in the DEIR) would be converted from agricultural to mixed-development uses. As a result, the Farmers Central Canal would no longer be required as an irrigation facility. However, discontinuing the use of the canal is an element of the City's Storm Drainage Facilities Master Plan. The SDFMP states that the "City should acquire the right-of-way from the Yolo County Flood

Control & Water Conservation District" (Storm Drainage Facilities Master Plan, May 1999, page 20). Although development of the proposed project would need to accommodate the B Street Trunk in the drainage system design, eliminating the Farmers Central Canal is not a component of the proposed project, but of the SDFMP.

Regarding the commentor's concern regarding the availability of water to the Community Park Lake the City Council required that the City SDFMP provide a source of storm water to the lake. A study to determine cost and feasibility to maintain water delivery to the pond will be required as part of the preliminary engineering of the storm drainage design at the time the infrastructure is designed for the proposed project.

Response to Comment 36-7:

Comment noted. However, the City identified the Specific Plan area for new growth as part of its 1996 General Plan update. Furthermore, a process is underway to examine development of the Regional Park site as a regional park. The concerns of the commentor reflect the business risk of an interim use at that site. The assumption of this risk is reflected in the Aeromodeler lease with the City. It appears to be appropriately disclosed.

Response to Comment 36-8:

Trees and other vegetation are often thought to provide significant noise attenuation. However, approximately a band width of 100 feet of dense foliage (so that no visual path extends through the foliage) is required to achieve a 5 dB attenuation of noise. Thus the use of vegetation as a noise barrier should not be considered a practical method of noise control for this project, particularly given that the Aeromodelers use is interim (lease-based) and the Specific Plan development will be permanent.

Response to Comment 36-9:

The General Plan does not require that a golf course be developed in the Specific Plan area. Please see Response to Comment H-28.

Response to Comment 36-10:

As the lessor, the City can negotiate the terms of the lease with the Aeromodelers in order to achieve Mitigation Measure 4.8-7(b). Mitigation Measure 4.8-7 requires deed disclosure, as well as restrictions on the air model operations if noise proves to be a problem. Because the City owns and controls the regional park site, the Aeromodelers are a recognized interim use, and the Specific Plan area is the City's designated new growth area for 20-plus years, this mitigation appears appropriate.

Response to Comment 36-11:

Please see Response to Comment 36-10. There is no nexus under CEQA to require the applicant to perform as described.

Response to Comment 36-12:

Comment noted. The contribution of the facility and members are greatly appreciated.

Response to Comment 36-13:

The DEIR did not identify a significant impact at the intersection of Road 102 and Mavix Henson/Los Caporales entrance road. However, Mitigation Measure 4.6-8 requires that detailed traffic impact studies be prepared for each development within the plan area. For development adjacent to this intersection, these studies would include a more detailed review of site specific traffic operations and event conditions as determined necessary by the City of Woodland Traffic Engineer.

Response to Comment 36-14:

Comment noted. The club may wish to provide this information on its own if the data are available.

SEP 8 1999

Yolo Audubon Society
Post Office Box 886 • Davis, CA 95617

September 6, 1999

Heidi Tschudin, Contract Planner
Woodland Community Development Department
300 First Street
Woodland, CA 95695

Dear Ms. Tschudin:

The Yolo Audubon Society would like to submit the following comments on the Draft EIR for the Turn of the Century Specific Plan.

1. **Figure 4.5-1** – The proposed project includes options for two Retention/Detention Basins and new storm drainage pipes/channels. This figure and the discussion of biological resources does not identify the habitats and other resources on these sites. Although the basins are options, the resources on the sites of the retention basins should be identified and the general routes of the channels and pipelines could be checked. Are their any special status plant or animal species or important habitat types on these sites or along these routes? 37-1

2. **San Joaquin Saltbush** – The text on page 4.5-9 indicates that this plant is found "northwest of the intersection of County Road 102 and County Road 25A, as shown in Figure 4.5-1." Examination of Figure 4.5-1 indicates that this location is agricultural lands. The map should be revised to indicate the location of this resource. Without this information it is not possible for the reader to determine whether or not the impact analysis is adequate. 37-2

3. **Valley Elderberry Longhorn Beetle (Page 4.5-10)** – The following statement is made on page 4.5-10, "*It is possible that other elderberry plants occur in the project site, and were not identifiable during winter-time surveys. When dormant, elderberry plants are difficult to identify and can be overlooked.*" 37-3

This Draft EIR was published in mid-July 1999. Elderberry plants leaf out in mid- to late March. The City and consultant had 3 or 4 months prior to publication of the Draft EIR to do an adequate survey of the area at a time of year when the plants had leaves. The City and consultant still have time in 1999 to do an adequate survey after receiving these comments before the elderberry shrubs loose their leave this year. The level of effort put into identifying the resource that may be affected is inadequate given relatively small size of the area and the opportunity to do an adequate survey. Also see comment one in this letter regarding potential storm drainage solutions. 37-3 Cont'd.

It is not appropriate to do subsequent analysis as individual tentative maps within the Specific Plan Area are filed and approved. This approach would not consider the cumulative impacts. The time to identify the resource and address the cumulative impact of the overall project.

4. **Yolo County HCP** – The description of the HCP and associated planning process on page 4.5-16 is misleading. Statements like, "The Yolo county Habitat Conservation Plan is a multispecies Habitat Conservation Plan..." and "The HCP provides a conservation strategy to mitigate for..." (emphasis added), give the HCP too much standing for a document that doesn't exist in a final form, hasn't been approved by any of the participating agencies, and is opposed by some Yolo County interest groups. The rest of the section indicates that the document is still being prepared, but fails to give illustrate the considerable work that remains before a document might be adopted. 37-4

Work on the HCP has been underway for over five years. The discussion on page 4.5-16 indicates that the document will be adopted in winter of 2000, only a few months away. It is our understanding that recent court rulings indicate that an EIR might be needed to approve such a regional HCP and that the standards have changed for regional HCPs that rely heavily on off-site mitigation. Thus, this schedule may be overly optimistic and misleading as presented. 37-5

5. **Impact 4.5-1 and Mitigation Measure 4.5-1**

As stated on page 4.5-25, "*Potential take of listed special-status plant species in the Specific project site is considered a significant impact.*" It is not clear whether this determination applies to either: (a) the entire specific plan area, or (b) just the lands near the Yolo County Detention Facility. 37-6

If (a), then the determination of significance has already been made and Mitigation Measures 4.5-1(c) and (d) are inappropriate except to the extent that future surveys may be needed to determine whether additional rare plants are present in different rainfall years. The mitigation measure should be revised to state the specific actions that would be taken to ensure "no net loss of the species." These types of measures are currently lacking from the mitigation 37-7

measure, should be developed now for the cumulative impacts to the entire project site, and should not be deferred.

If (b), the document fails to identify the level of significance of the impact to the rest of the site. 37-7 Cont'd.

As written, the analysis appears to admit there is an impact (since special-status plants are documented on the site) but defers identifying the specific mitigation measures that would identify no net loss of the species.

6. **Impact 4.5-2 and Mitigation Measure 4.5-2**

The analysis and mitigation measures are inadequate given that there was adequate time to do a survey for elderberry shrubs on the project site before publishing the Draft EIR, and there remains adequate time to do a survey prior to approval of the Final EIR. A comprehensive survey would determine cumulative impacts due to development of the area. The proposed mitigation measure would result in a piecemeal analysis as individual tentative maps are submitted. Subsequent surveys should also be done prior to construction to determine whether additional shrubs have been established since the initial survey. 37-8

7. **Impact 4.5-3 and Mitigation Measure 4.5-3**

As stated on page 4.5-29, "*The project applicant shall <u>continue</u> to conduct annual surveys to determine the location of nesting Swainson's hawks and other raptor in the project site*" (emphasis added). The Yolo Audubon Society requests a copy of all previous surveys done by the applicant and asks to receive a copy of all future annual surveys. 37-9

Mitigation Measure 4.5-3(c) must include land within ½ mile of project site and not just the project site if 4.5-3(b) is to have meaning. Does this mitigation measure mean that the applicant will conduct annual surveys through complete build out of the Specific Plan Area? It should if the mitigation is to be meaningful. 37-10

Mitigation Measure 4.5-3(b) appears to say that no consultation with DFG is needed if activities are not within ¼ mile of a nest site. DFG require consultation for activities within ½ mile of a nest site. What is the rationale for the apparent reduction to ¼ mile? Has DFG approved this reduction? 37-11

8. **Impact 4.5-4 and Mitigation Measure 4.5-4**

The statement is made that the proposed mitigation measure would reduce the impact. However, the loss 939+ acres would still occur, no new habitat would be created, and the mitigation measure does not propose habitat improvements. Therefore, there is no reduction of the impact. 37-12

When does the project applicant anticipate that the first tentative map will be filed, and when will it be up for approval? 37-13

The Yolo Audubon Society requests to receive copies of all future correspondence between the City, the Applicant, other project developers, and the Department of Fish and Game regarding implementation of Mitigation Measure 4.5-4(a). The Yolo Audubon Society also requests timely notification of all meetings that involve either the City, the Applicant, other project developers, and the Department of Fish and Game regarding implementation of Mitigation Measure 4.5-4(a). 37-14

9. Impact 4.5-6 and Mitigation Measure 4.5-6

The Yolo Audubon Society requests to receive copies of all future correspondence between the City, the Applicant, other project developers, and U.S. Army Corps of Engineers regarding implementation of Mitigation Measure 4.5-6. The Yolo Audubon Society also requests timely notification of all meetings that involve either the City, the Applicant, other project developers, and the U.S. Army Corps of Engineers regarding implementation of Mitigation Measure 4.5-6. 37-15

10. Impact 4.5-7 and Mitigation Measure 4.5-7

Mitigation Measure 4.5-1(a) does not include a the commitment "to ensure no net loss of the species." That statement was in 4.5-1(b) which is not included in Mitigation Measure 4.5-7. This commitment needs to be added. 37-16

Thank you for the opportunity to comment on this Draft EIR. We would like to be notified of all future public meetings and hearings on this project. Please send us a copy the responses to our comments before the Planning Commission and the City Council consider project approval. We also request a copy of the Final EIR and the Notice of Determination. Please send these materials, Attention: Conservation Chair, at the above address. 37-17

We also request that in the future, public comment periods should not be scheduled to end on public holidays. We are faxing this to the Community Development Office on September 6, 1999, and mailing a copy on the same day. 37-18

Sincerely,

Kevin Guse

COMMENT LETTER 37: Kevin Guse, Yolo Audubon Society

Response to Comment 37-1:

Impact 4.5-7 recognizes that the new storm drain channels have the potential to intersect special-status plant species habitat. Some of these properties have been surveyed for palmate-bracted bird's beak. Figure 4-1 indicates the on and offsite areas that were surveyed, which include the City of Woodland preserve, Woodland Regional Park, and Maupin property. The channel alignments along Road 25 were previously surveyed and are known to support populations of palmate-bracted bird's beak. Changes in water levels or construction activity on this alignment reach would result in disturbance to palmate-bracted bird's beak. The channel alignments north of Road 25 would intersect alkali sink habitat where palmate-bracted bird's beak is known to occur. EIP has not surveyed this area, but surveys for bird's beak were conducted by other biologists in the past. The proposed retention basin area would also result in loss of palmate-bracted bird's beak in the habitat adjacent to the existing pond east of County Road 102. The potential basin site south of Road 25A was not surveyed, so special-status plant surveys would have to be conducted for it and in the areas along the alignment north of Road 25 prior to development to determine the presence of palmate-bracted birds beak. In addition, as required by Mitigation Measure 4.5-7, pre-construction surveys of all offsite infrastructure alignments must occur prior to any development, and no net loss of affected habitat shall occur.

Response to Comment 37-2:

The error is not in Figure 4.5-1 but in the text. Therefore, the last sentence of the second full paragraph on page 4.5-9 of the DEIR is raised as follows:

> The plants were observed northwest of the intersection of County Road 102 and County Road 25~~A~~, as shown in Figure 4.5-1.

Response to Comment 37-3:

The only area in which elderberry shrubs are likely to occur is where there is existing shrubbery or drainage ways. The vast majority of the project site consists of agricultural operations, which limits the area where these plants could occur. Agricultural activities involve discing of the lands on which crops are grown, so elderberry shrubs are not likely to occur in these areas. To verify the presence or absence of elderberry shrubs, surveys were conducted at several locations. Surveys were performed on properties where landowners' permission could be obtained (see Figure 4-2). However, properties for which permission to enter had not been obtained were not surveyed. The time of year in which surveys were conducted was a constraint as well as the fact that some portions of the site could only be surveyed via observation from existing roadways. For other aspects of the biological surveys, aerial photographs were used to make some of the evaluations; however, even with this method of analysis, it was not possible to determine elderberry presence or absence of the shrubs at all locations that would be developed. Mitigation Measure 4.5-2 provides for project-by-project mitigation of VELB habitat, if present. Given the limited extent of potential habitat (existing shrubbery and drainages) and that preservation or replacement of VELB habitat is an accepted

COMMENT LETTER 37: Kevin Guse, Yolo Audubon Society

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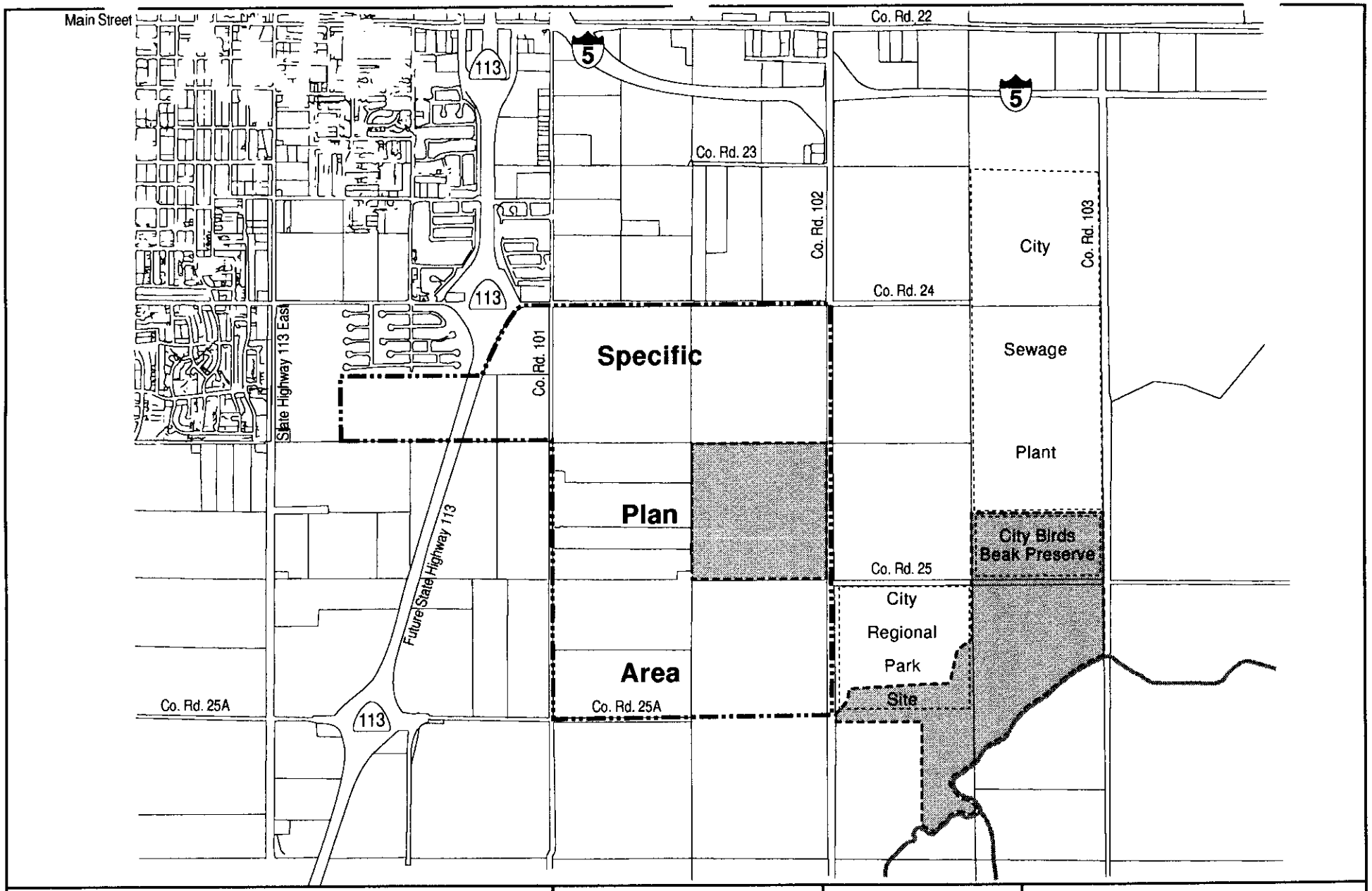
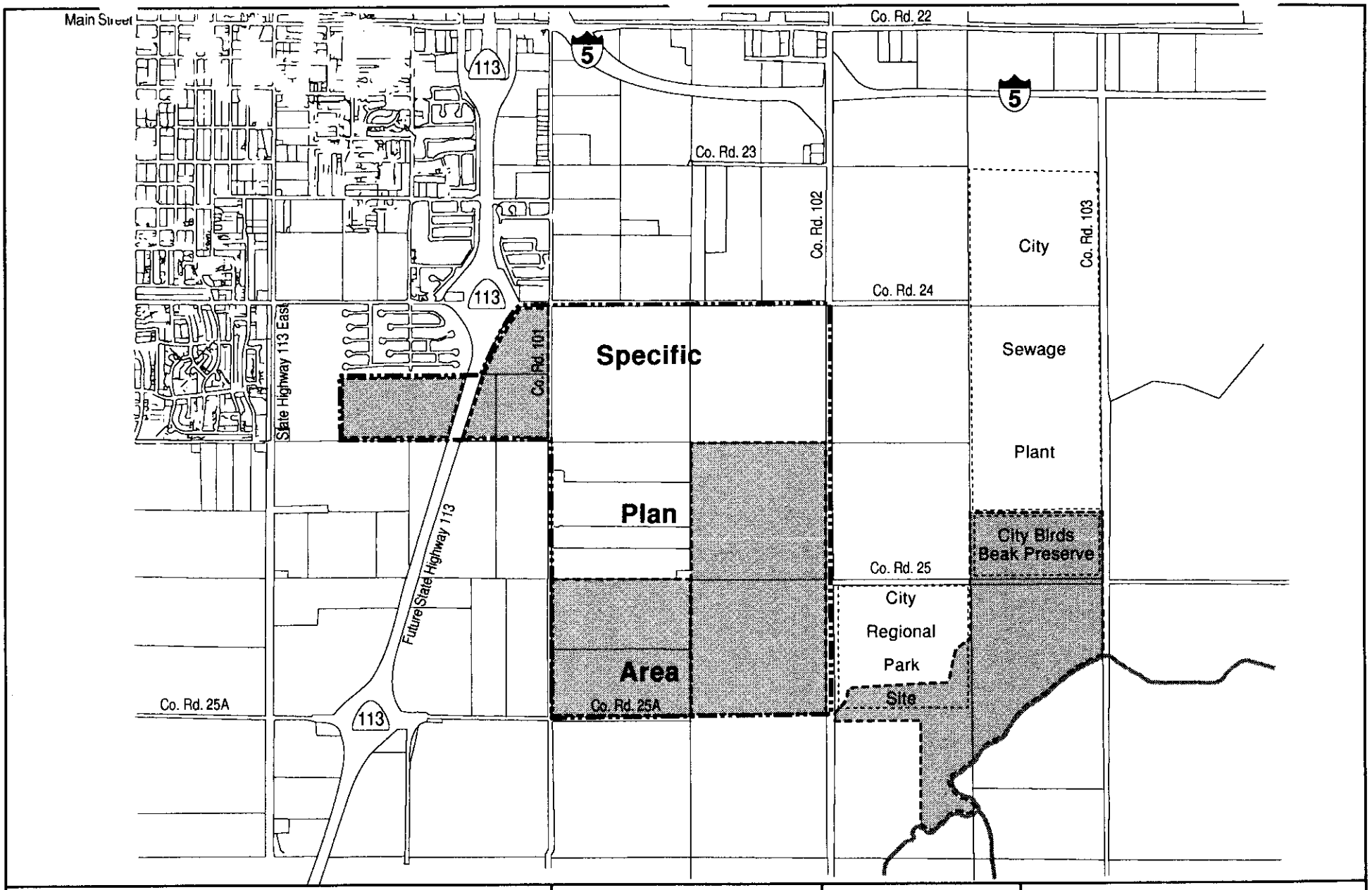


Figure 4-1

Bird's Beak Survey Area



Access Permission Obtained

Specific Plan Area

EIP ASSOCIATES

SOURCE: EIP Associates, October 1999.

N

No Scale

10173-Survey-Area

Figure 4-2

Access Obtained for Biological Field Reconnaissance

mitigation strategy, the DEIR provides an adequate analysis of impacts on VELB habitat. Project-specific mitigation for VELB would reduce the project contribution to cumulative impacts on VELB to a less-than-significant level. Please also see Responses to Comments 30-14 and 30-18.

Response to Comment 37-4:

Comment noted. There was no intention to mislead the reader. The second complete paragraph on page 4.5-16 of the DEIR is revised to read:

> As proposed in 1995, the Yolo County Habitat Conservation Plan is a multispecies regional Habitat Conservation Plan (HCP) for Yolo County that mitigates planned development within the spheres of influence of the incorporated cities in the county. The HCP would provide~~s~~ a conservation strategy to mitigate for the loss of approximately 12,000 acres of urban development in a largely agricultural region.

Response to Comment 37-5:

For an update on the HCP, please see Response to Comment 30-2.

Response to Comment 37-6:

The standard of significance on page 4.5-25 of the DEIR applies to the entire project site. Using this standard, different mitigation measures were applied based on the level of information available for each parcel. Most of the project area does not have suitable habitat for special-status plant species, so no survey was or will be necessary. Detailed surveys were conducted on parcels that could contain habitat for special-status plant species, including the properties owned or controlled by TOC LLC (see Figure 4-1). Some of the parcels that were surveyed (both on and offsite) were those that exhibited the characteristics necessary to indicate potential habitat for the listed Palmate bird's beak and related species. Within the Specific Plan area that was surveyed, the only special-status plant that was found was San Joaquin saltbrush on the TOC LLC property (parcel 9 in revised Figure 4.1-2). The plant surveys were not conducted on Community College and County properties, although they both contain alkali soils, which are considered potential habitat. Therefore, it is not known whether bird's beak or related plant species occur on those parcels, and these parcels would need to be surveyed if and when the County and/or College decide to develop their land (see Mitigation Measure 4.5-1 on page 4.5-26 of the DEIR as revised in Chapter 2).

Response to Comment 37-7:

The purpose of the initial habitat evaluation at the project site was to identify and determine if the potential habitat for special-status plant species was present onsite. Because the evaluation revealed that the habitat onsite consists of agricultural fields except for the alkali sink habitat identified on Figure 4.5-1, it was determined that the remainder of the site did not support habitat suitable for any special-status plants. The DEIR (page 4.5-2) establishes that approximately 939 acres of the project site is Agricultural Habitat (the remaining acre is wetland). As specified by Mitigation Measure 4.5-1, a specific survey effort would be required prior to any development in the specified area containing alkali sink habitat, and the number of San Joaquin saltbush, or other potentially occurring special-status plants that are obligate to alkali soils, may be quantified. The legal requirement for

the identified plant species is specified in Mitigation Measure 4.5-1(a). This mitigation would ensure compliance with accepted agency mitigation requirements and applicable policies and guidelines to ensure no net loss of the plant species.

The City respectfully disagrees with the commentor as the mitigation appears appropriate and there is no deferral of mitigation.

Response to Comment 37-8:

Please see Responses to Comments 37-3 and 37-7. Mitigation Measure 4.5-2 will be implemented on a project-by-project basis such that any elderberry plants that are established over the 15 to 20 years of project development will be identified, and mitigated if removed. This will result in site-specific mitigation wherever the impact will actually occur and allows for changes in the natural environment over time.

Response to Comment 37-9:

Nesting surveys have not been conducted, except for roadside observations in conjunction with preparation of the EIR, as described on page 4.5-24 in the DEIR.

The reference to "continue" is taken out of context. As specified by Mitigation Measure 4.5-3, nesting surveys will be initially conducted prior to grading or tree trimming on any property with tree resources, and will "continue" to be conducted as construction proceeds. This approach is recommended because development of the project will occur over 15 to 20 years.

Response to Comment 37-10:

Surveys would be conducted within one-half mile of the project site. Mitigation Measure 4.5-3(a) on page 4.5-29 of the DEIR is revised as shown below:

> *~~Prior to approval of a tentative map for any property with trees~~For each individual development project, the project applicant, in consultation with the DFG, shall conduct a pre-construction or pre-tree pruning or removal survey of trees greater than 30 feet tall (proposed activity) during the raptor breeding-season (approximately March 1 through September 15~~August 31~~). This survey shall be conducted for a half mile radius around the project site at which any construction activity is proposed. The survey shall be conducted by a qualified raptor biologist...*

Swainson's hawk surveys would only be conducted in conjunction with commencement of construction activities.

Response to Comment 37-11:

Mitigation Measure 4.5-3 (b) on page 4.5-29 of the DEIR, which is clarified as follows:

> *If an active Swainson's hawk nest is identified within one half mile of the project site, then CDFG shall be contacted to determine if consultation is required. A limited operating*

> *period shall be implemented within a (0.25) mile radius of the nest tree. No construction activities shall be initiated during the Swainson's hawk nesting period (March 1 – September 15~~August 1~~) without the approval by DFG...*

The buffer zone between activity and a nest site is .25 miles, which is consistent with Department of Fish and Game Comments (see Response to Comment 2-3).

Response to Comment 37-12:

Please see Responses to Comments 30-3 and 30-17.

Response to Comment 37-13:

The applicant has indicated that tentative maps are anticipated to be filed in early 2000.

Response to Comment 37-14:

The City is pleased to work cooperatively with the Audubon Society and other interested organizations in this regard; however, there is no mechanism to ensure compliance with such a request nor would all meetings necessarily be open for general public attendance. The Society is urged to continue their general coordination with the City's Planning Department. See also Response to Comment 2-7.

Response to Comment 37-15:

Please see Responses to Comments 2-7 and 37-14.

Response to Comment 37-16:

Mitigation Measure 4.5-1 does refer to the "no net loss" standard (see text of Mitigation Measure 4.5-1(c)). Mitigation Measure 4.5-7 refers to appropriate agency permits and refers back to 4.5-1. No change to the wording of the mitigation measures appear necessary.

Response to Comment 37-17:

The Final EIR will be provided as requested. Please see Response to Comment 2-7. Other materials (e.g. staff report, NOD, etc.) may be requested from the City individually as they become available.

Response to Comment 37-18:

Comment noted. Public comment periods are set by State law, and run on calendar days. The City accepted all comments received the week of September 6, 1999.

PRESIDENT
Duane Chamberlain
FIRST VICE-PRESIDENT
Casey Stone
SECOND VICE-PRESIDENT
Eric Paulsen
SECRETARY/TREASURER
Denise Sagara

American Farm Bureau Federation/California Farm Bureau Federation

YOLO COUNTY FARM BUREAU

P.O. Box 1556, Woodland, California 95776
(530) 662-6316 • FAX (530) 662-8611

RECEIVED
SEP 1999

September 7, 1999

City of Woodland
Community Development Dept.
300 First Street
Woodland CA 95695

RE: Turn of the Century Project

The Yolo County Farm Bureau strongly objects to the Turn of the Century Project (TOC). We urge you to withhold a decision until LAFCO, the Department of Conservation and the Yolo County Board of Supervisors have held their public hearings for the following reasons: 38-1

1) The proposed TOC Project leapfrogs over agricultural lands. Allowing this to happen will pave the way for others to say the undeveloped lands (that were leapfrogged) should be developed. 38-2
2) The pending cancellation of the Williamson Act is not appropriate. Williamson Acts should be honored. Protecting the Williamson Act is one of the highest priorities of the Farm Bureau. The Department of Conservation has yet to rule on the rescission of the Williamson Act. 38-3
3) No mitigation easement has been settled yet. This is a serious issue that needs to be addressed. The Yolo County Board of Supervisors postponed the public hearing until September 21 because TOC has not found suitable mitigation sites. 38-4
4) No plans have been made for the new schools that will be needed. Increasing the population by 2,000 will definitely cause a need for more schools to be built. Who will pay for this? 38-5
5) County Road 102 will be highly impacted. It is the only North and South Road between Woodland and the bypass. Farmers must use this road to move their equipment. This issue has not been addressed. 38-6

Both the Yolo County and California Farm Bureaus have been following this project closely. We oppose this project and will take steps to prevent it being implemented. 38-7

Sincerely,

Duane Chamberlain

Duane Chamberlain
President

COMMENT LETTER 38: Duane Chamberlain, President, Yolo County Farm Bureau

Response to Comment 38-1:

The commentor's objection to the project is noted for the record. LAFCO can not act on annexation of the project until and unless the City approves the Specific Plan. Hearings before the Planning Commission and City Council are planned in November and December (see Response to Comment 2-7). The Board of Supervisors has no jurisdiction over the project. The Board of Supervisors has recently acted to allow the parcel split and the Williamson Act contract split for the Russell property. The Board of Supervisors took no action (September 21, 1999) on the Williamson Act recision, except to postpone it for 90 days to enable further discussions about an appropriate "swap" property for the conservation easement.

Response to Comment 38-2:

See Response to Comment 1-2.

Response to Comment 38-3:

See Responses to Comments 1-5 and 34-8.

Response to Comment 38-4:

Please see Responses to Comments 38-1 and 38-3.

Response to Comment 38-5:

As discussed in on pages 4.14-26 and 4.14-27, the Specific Plans propose a high school, middle school, and two elementary schools. Sites for these public schools have been chosen, but would not be able to accommodate all of the students generated by the proposed project. As required by Mitigation Measure 4.14-4, the Specific Plan must designate an additional public school site of at least 10 acres for the development of an elementary school. As discussed in the fourth complete paragraph on page 4.14-27 of the DEIR, the project would contribute its "fair share" of taxes (e.g., property tax), a portion of which would support schools. In addition, the school district could receive State funds for school construction.

Response to Comment 38-6:

Potential conflicts between agricultural vehicles and project traffic are addressed in Impact 4.6-2 and Mitigation Measure 4.6-2(a), which requires that provisions be made to minimize such conflicts.

Response to Comment 38-7:

Comment noted.

Woodland TOC
Hearing on DEIR
September 2, 1999

COMMENTS AND RESPONSES TO TESTIMONY

Michael O'Kane Woodland/Davis Aeromodelers

The full text of Mr. O'Kane's statement is provided at the end of this section, followed by responses. Mr. O'Kane also provided a letter commenting on the DEIR (see Comment Letter 36).

Comment H-1

Mr. O'Kane stated that he was representing the Woodland/Davis Aeromodelers, and provided background on the activities of the club.

Response H-1

Comment noted.

Comment H-2

Mr. O'Kane provided corrections to the DEIR regarding the expiration of the Aeromodelers' lease.

Response H-2

Please see Response to Comment 36-5.

Comment H-3

Mr. O'Kane provided information on the operation and membership of the Aeromodelers.

Response H-3

Comment noted.

Comment H-4

Mr. O'Kane states that expansion of development has been an ongoing concern due to the conflicts that can occur between development and the flying areas, and that the AMA (Academy of Model Aeronautics) and its members recognize these concerns and are willing to work with agencies involved in studies like the DEIR.

Response H-4

Comment noted.

Comment H-5

Mr. O'Kane recommends using large growth trees along Road 102 to disperse noise from traffic and aircraft.

Response H-5

Please see Response to Comment 36-8.

Comment H-6

Mr. O'Kane characterized the noise made by aircraft engines, and suggested that the reduction of the noise standard of 5dB for model aircraft was unwarranted.

Response H-6

Please see Response to Comment 36-4.

Comment H-7

Mr. O'Kane stated that the Aeromodelers club felt that their activity would not create annoying hardships for residents, but that conditions could be improved by developing required greenbelt acreage and set backs adjacent to the field to assure a wider margin between the Aeromodelers' facility and new homes.

Response H-7

There are no required greenbelts or set backs along Road 102. For a discussion of the ability of trees to reduce noise levels, please see Response to Comment 36-8.

Comment H-8

Mr. O'Kane stated that the loss of water from the Farmer's Central canal and the Yolo County Flood Control District would deplete the water level in the lake at the Regional Park site. He asked how water would enter the lake during the summer agricultural season.

Response H-8

Please see Response to Comment 36-6.

Comment H-9

Mr. O'Kane stated that there is no mention of traffic control measures at the intersection of Road 102 and the Flying Field entrance, and recommends that there be safety improvements.

Response H-9

Please see Response to Comment 36-13.

Comment H-10

Mr. O'Kane concludes that the Woodland/Davis Aeromodelers is a good neighbor and that the Flying Park deserves consideration while the project is in development stages. Mr. O'Kane further states that with planning and cooperation, the Flying Field and the proposed project can be joined in an amicable solution.

Response H-10

Comment noted.

Sgt. David Ingman, Administrative Services Division, Woodland Police Department

Sgt. Ingman provided a synopsis of his letter, dated August 31, 1999. Please see responses to Comment Letter 8.

Sgt George Bierwirth, Traffic Division, Woodland Police Department

Sgt. Bierwirth provided a synopsis of his letter, dated September 2, 1999. Please see responses to Comment Letter 9.

Glen Barton (also author of Letter 19)

Comment H-11

Mr. Barton stated that he represented property owners east of Road 102 between Gibson and Road 25.

Response H-11

Comment noted.

Comment H-12

Mr. Barton expressed concern that the Farmers central ditch ends at Road 102 and dumps storm water into roadside ditch. Runoff travels both north and south and floods their property; to south on relative's property low spot runs diagonally across property and floods both properties.

Response H-12

Please see Response to Comment 12-7.

Comment H-13

Mr. Barton stated concern that the proposed project will increase runoff due to impervious surfaces. He asked whether there will be development of downstream water control to handle additional runoff from project.

Response H- 13

Please see Responses to Comments 6-3 and 6-4.

<u>David Wade, David Wade Associates</u>

Comment H-14

Mr. Wade stated that he was representing some of smaller property owners within the project site, including Jones, the Littles, and the Heidricks and the Hollmans.

Response H-14

Comment noted.

Comment H-15

Mr. Wade stated that he will submit comments in writing.

Response H- 15

Mr. Wade did submit a letter, which appears as Comment Letter 34 in this Final EIR.

Comment H-16

Mr. Wade noted that many of the property owners he represents attend the hearing to show interest in the proposed project.

Response H-16

Comment noted.

Comment H-17

Mr. Wade submitted an alternative to the proposed project for consideration, labeled Alternative C.

Response H- 17

The figure of Alternative C submitted by Mr. Wade is provided at the end of these comments and responses, along with an evaluation of the alternative.

Dudley Hollman

Comment H-18

Mr. Hollman stated that he understood that at one point the overcrossing was required by the General Plan, and that the City would need to amend the General Plan to eliminate overcrossing.

Response H-18

The comment is correct.

Comment H-19

Mr. Hollman stated that the General Plan mentions a golf course, but that none is shown in the Specific Plans. The golf course was to be across from the Aeromodelers. A golf course would be noise barrier and would not require land be taken out of Williamson Act contract.

Response H- 19

Please see Response to Comment 36-9.

Comment H-20

Mr. Hollman stated that if the overcrossing needs a General Plan amendment, then the elimination of golf course would also require an amendment.

Response H-20

Please see Response to Comment 36-9. A General Plan amendment is not needed because the General Plan did not require that a golf course be located within the project site.

Bruce Bailey

Comment H-21

Mr. Bailey stated that he is part owner of the Oyang parcel.

Response H- 21

Comment noted. The Oyang parcel is located within the project site.

Comment H-22

Mr. Bailey stated that he learned of Planning Commission meeting the day before. He did not receive an agenda, and the agendas were gone when he arrived 5 minutes after the meeting started.

Response H-22

The Planning Commission meeting was noticed to all parties through the Notice of Availability for the DEIR, which was distributed on July 17, 1999. Property owners within the project site were sent a Notice of Availability (NOA). The NOA was also included as the first page of the DEIR.

Comment H-23

Mr. Bailey stated that 10 to 15 percent of Specific Plan area is in FEMA flood plain area. He asked what the time table would be if the flood plain issue can be mitigated, 10, 20 years? He also asked whether floodplain mitigation would require regional money?

Response H- 23

Please see Response to Comment 18-1. Cost and funding for floodplain issues have not been finally determined.

Comment H-24

Mr. Bailey asked who would pay for the mitigation if the project site were in the floodplain: taxpayers, bond, those in flood plain, project owners? Mr. Bailey expressed opposition to latter, because he represents owners who are not in floodplains.

Response H-24

If a portion of the project site were determined by FEMA to be located in the 100-year floodplain, the project developer would be responsible for taking action and/or obtaining funds to remove the site from the floodplain and/or construct development in accordance with FEMA regulations.

Please see also Response to Comment 18-1.

Comment H-25

Mr. Bailey stated that contiguity is stressed by LAFCO, and suggested that the proposed project could have contiguity if it were developed from north to south.

Response H- 25

Comment noted.

Comment H-26

Mr. Bailey stated that development proposed to move from 102 west would have flood plain and Williamson contract issues; so the proposed project may not be able to meet its timetable.

Response H-26

Comment noted.

Tom Lumbrazo, Turn of the Century

Comment H-27

Mr. Lumbrazo stated that he would be submitting written comments on the DEIR.

Response H-27

Comment noted. Mr. Lumbrazo's written comments appear as Comment Letters 32 and 33 in this Final EIR.

Comment H-28

Mr. Lumbrazo stated that, with regard to Mr. Hollman's golf course comment, in 1997 Turn of the Century investigated developing a golf course with designers in the region. They found that a developer needed at least 180 acres of land available at no cost before golf course developers would design and build a course, club house and other facilities. The golf course developers would then charge fees for the golf course. For these reasons, Turn of the Century did not further pursue development of a golf course.

Response H-28

Comment noted.

The written testimony of Mr. O'Kane is attached (H-29 through H-38) and included on the following pages. Responses to comments H-29 through H-38 follow written comments.

Good Evening members of the City Planning Department, I am Mike O'Kane, and have come tonight representing the Woodland/Davis Aeromodelers. I would like to take this time to present some projects we accomplish at the Mavis Henson Flying Field to better acquaint you with our activities.

We are organized as a "not for profit" club with the interest of promoting Sport Aeromodeling to the youth and interested organizations in and around Woodland, Davis and Yolo County. We hold organized demonstrations at various elementary schools through out the year and host numerous Scouting groups at MH Field. WDA offers Flight demonstrations and educational instruction sessions at the flying field as well. Our most recent Scouting group was Camp Kyous which was attended by approximately 100 Scouts for 4 consecutive nights at the Flying Field. Along with there scheduled activities WDA offered one night of glider demonstration and another night of powered flight

H-29

demonstration.

A Free introduction flight is offered by the Club as well as no cost flight instruction and club trainer use if one decides to join the club. All members are required to join the Academy of Model Aeronautics (AMA), this membership in the AMA includes a 2 ½ million dollar liability insurance policy to that member. The WDA is also a chartered Club of the AMA and is provided Site insurance through the AMA as required in the Lease Agreement. H-29 Cont'd.

We acquired use of this flying site through a lease agreement with the Parks and Recreation Department in 1984, entered into a new lease agreement in October of 1995 and amended that agreement in August 1997. Current expiration of this lease is June 27, 2007, with an option for a 5 year extension. The draft EIR incorrectly lists our lease expiration as 2002. H-30

All site maintenance, improvements, development and planning is carried out by volunteers of the WDA. County Parks and Rec's conducts periodic audit inspections to H-31

ensure facility conditions are kept in order. Development of this property over the past 15 years has been in the order of Hundreds of thousands of Dollars all provided by donation and labor to bring this Regional Park Flying site to the premier status it is today. No other sites in the Norther California region offer a facility with a lake for Float Flying, U-control circles and a paved runway of this Qaulity. We invite you all to walk through MH Field and see the facility first hand.

H-31
Cont'd.

An equal share of our 1999 membership is made up of senior citizens whose modeling experience dates back to the beginning of the Aeromodeling Sport in 1939.

The Senior citizens are the majority users of the facility during the summer weekday before the heat of the day builds. Weekend flying is mainly used by members who work during the week and most flying is typically finished by early afternoon.

Flying events are held on some weekends through out the year and

are well attended by the public, it is these events that make up a large portion of our operating revenue. The improvements we recently completed have already strengthened our membership and we are looking forward to offering more scheduled events in the future.

H-31 Cont'd.

The expansion of developments has been an ongoing concern to Sport Aeromodeling, as developments approach flying areas it creates conflicts And has become a major concern for all Modeling Members. The AMA recognizes these concerns and has assisted its members with understanding the views of all parties, the most important fact being courteous and willing to work with all agencies involved in studies like the TOC. The WDA would like to make comments toward this in process.

H-32

1. Include large growth trees along the road 102 corridor, this will disperse the noise patterns that carry over from passing traffic as

H-33

well as Airborne noises. Samples of our airborne noise patterns taken by our members showed that noise from agriculture traffic exceeded the noise from the aircraft when flown directly along the inbound side of the power lines. H-33 Cont'd.

2. The noise from model aircraft is listed as a buzzing noise and is recommended it be reduced an additional 5dBa. Most aircraft engines do not represent a buzzing noise, all long stroke, 4 cycle model engines are ½ the frequency output of 2 cycle engines. These engines are extremely quite and comparative noise from a neighborhood lawn mower or hedge trimmer is many times louder. The study provided in the EIR was a vary small sample of flying activity due to heavy wind conditions on one of the study days. The recommendation is un-warranted. H-34

3. WDA and its members feel that our Field activity will not cause any annoying hardship on respective residents. This could be improved on by developing the required Greenbelt acreage and Set Backs to be adjacent to the Field assuring a wider margin between H-35

our facility and any proposed homes. THIS method we feel would CREATE A NEGATIVE IMPACT H-35 Cont'd.

4. The loss of water from the Farmers Central canal and the Yolo County Flood Control and Water District will deplete the water level in the Lake. How will water be allowed to enter the ~~Regional~~ Community Park Lake during the summer agriculture season? H-36

5.Traffic Control at the proposed road across the Highway from the WDA entrance has no mention of traffic control, turn lanes, lights etc. Safety improvements are recommenced. H-37

I would like to conclude by saying The Woodland/Davis Aeromodelers is a good neighbor to the peoples of Yolo County and in particular its young and Seniors. This Flying Park deserves to have consideration towards it while the project is in the development stages. With proper planning and cooperation we feel the Mavis Henson Flying Field and its WDA membership can adjoin the TOC Group in a amicable solution during this development phase. H-38

Response to Comment H-29:

As noted in Response to Comment 36-1, the description of the activities of the Aeromodelers is noted.

Response to Comment H-30:

As stated in Response to Comment 36-5, the DEIR incorrectly noted the expiration date of the Aeromodelers lease agreement with the City of Woodland Parks and Recreation Department. The DEIR text will be revised, see Response to Comment 36-5.

Response to Comment H-31:

Comment noted.

Response to Comment H-32:

Comment noted. Please see Responses to Comments 36-1 and 36-2. It is important to note that any expansion of the Aeromodelers activities would be subject to the Club's lease terms.

Response to Comment H-33:
Comment noted. Trees and other vegetation are often thought to provide significant noise attenuation. However, approximately 100 feet of dense foliage is required to achieve a 5 dB attenuation of noise. Therefore, this would not be considered a feasible method to provide significant noise attenuation. Please see Response to Comment 36-8.

Response to Comment H-34:

Comment noted. Please see Response to Comment 36-4.

Response to Comment H-35:

Comment noted. Please see Response to Comment H-7.

Response to Comment H-36:

Please see Responses to Comments 32-2 and 36-6.

Response to Comment H-37:

Comment noted. As stated in Response to Comment 36-13 no significant impact was identified in this area; however, Mitigation Measure 4.6-8 requires that detailed traffic impact studies be prepared for each development within the plan area. These studies should include a more detailed review of site specific traffic operations and event conditions as determined necessary by the City of Woodland Traffic Engineer.

Response to Comment H-38:

Comment noted. Please see also Responses to Comments 36-1, 36-2, and 36-7.

Discussion Among Planning Commissioners

The following is a summary of comments made by Planning Commissioners, including questions asked about the EIR and/or proposed project, and responses provided by City staff. No further responses are necessary.

Chairperson Barzo thanked the audience for their comments.

Commissioner Carotenuto asked where the City was with respect to the time table set by City. Does the Commission have time to fully consider the EIR? Commissioner Carotenuto was concerned that the Commission had not had enough time to discuss the plan or EIR.

Commissioner O'Bryant stated that the Commission would have another meeting to address DEIR and FEIR.

Commissioner Carotenuto suggested that the Specific Plan be a single item when the Commission considered it.

Commissioner Thompson asked how roadway mitigation for the proposed project related to the City's Master Plan for transportation improvements.

Ms. Graham, EIR consultant, stated that the DEIR assumed that Master Plan improvements would be constructed under the cumulative scenario. Mitigation for the proposed project then required additional improvements or changed timing of planned improvements.

Mr. Ponticello, consulting engineer, further clarified that the DEIR does assume improvements in the Master Plan, and identifies additional improvements, needed at locations identified in the DEIR.

Commissioner Thompson asked whether the Streets Master Plan would be revised after this project is adopted.

Mr. Ponticello said no, the Streets Master Plan would not be revised solely in response to the project. The Streets Master Plan is updated about every 5 years. Specific improvements for individual intersections are programmatic, so they do not trigger an update to the Master Plan. Street improvements required of the proposed project will be addressed in financing plan for Specific Plan.

Commissioner Ybarra asked whether in other forums there have been comments requesting, for example, saving trees on Gibson Road.

Mr. Ponticello stated that the olive trees on Gibson Road at Road 101 will not be able to be saved. For the proposed project, decisions about tree removal will be made on a case-by-case basis. The issue with the olive trees was whether to realign Gibson Road to avoid trees, to the relocate trees, or

to take other action. Four months ago, the City Council decided to keep the alignment and remove the trees.

Commissioner Dole asked if the Air Quality Management District had commented on the DEIR yet?

Ms. Graham stated that no comment had yet been received from the Air District. (Note: a letter was received, and appears in this FEIR as Comment Letter 17).

Commissioner Dole stated that, since the County is barely in attainment and air quality impacts are significant, the City will likely hear from the Air District.

Commissioner O'Bryant asked if offsite infrastructure improvements should be included in total acreage? He also asked legal counsel if the City could consider items outside of Plan area?

Ms. Siprelle, City legal counsel said that the City could consider offsite improvements.

Commissioner O'Bryant stated that the Department of Conservation (DOC) had written a letter on the Williamson Act contract recision being requested by the project applicant, and requested that the letter be included and discussed in the FEIR. (Note: the letter appears in Appendix A). The letter outlines the conditions under which a recision can occur, and states three DOC concerns with the proposed recision: (1) that the resulting development would not be contiguous; (2) that the recision could result in the removal of adjacent agricultural land; and (3) that the valuation of the property for the cancellation fee calculation appears to be in error. The Department also raises concerns about the choice of land that would be used for an agricultural easement to compensate for the recision. Items (1) and (2) are discussed in the responses to Letter 1. Item (3) and the final concern are subject to Yolo County Board of Supervisors determinations, and do not affect the conclusions of the EIR.)

Commissioner O'Bryant provided correct references to Department of Conservation figures for conversion of farmland on page 4.2-1 of the DEIR. The figures indicate the number of acres committed to non-agricultural use between 1994 and 1996. The text on page 4.2-1 of the DEIR is revised as follows.

> According to the California Department of Conservation, 3,005 acres of important farmland (including Prime, Statewide Importance, Unique, and Local Importance) in Yolo County (including incorporated areas[4]) were converted to non-agricultural use ~~in~~ between 1994 and 1996. ~~out of~~ 420,771 acres of Important Farmland were inventoried in 1996.[5] Of the total lost, 1,181 acres were Prime Farmland, from a total of 269,149 acres of Prime Farmland inventoried in 1996.

Commissioner O'Bryant requested that a discussion of soil porosity be included in the DEIR. (Note: Soil characteristics are described in Section 4.3, Geology, Seismicity and Soils).

Commissioner Carotenuto stated that the commission needed data to demonstrate whether the overcrossing is needed.

Ms. Graham stated that the traffic consultant would provide this information. The traffic consultant (Fehr & Peers Associates) subsequently provided the following information on the overcrossing.

> The traffic operations analysis conducted for the City of Woodland General Plan, City of Woodland Street Master Plan, and the Turn of the Century DEIR consistently showed that additional roadway capacity across SR 113 is required between Gibson Road and Road 25A to provide adequate peak hour traffic operations under 2020 conditions. In the General Plan and Street Master Plan, the additional capacity was recommended in the form of anew four-lane overcrossing of SR 113 at Road 24C, which is about half way between Gibson Road and Road 25A. If the Road 24C overcrossing is not built to four lanes, additional widening would be required at the Road 25 overcrossing of SR 113. This new roadway connection not only provided the additional capacity that was necessary to provide adequate peak hour traffic operations, it created the primary east-west arterial necessary to create a grid-based street system in the City's new growth area (i.e., TOC Specific Plan and Master Plan Remainder Area) as specified in the General Plan policies. In the TOC DEIR, the traffic analysis for Plan A confirmed the findings of the General Plan and Street Master Plan analysis. The traffic analysis for Plan B revealed that the Road 25 interchange with SR 113 could be widened instead of constructing the Road 24C overcrossing to provide an alternative form of additional capacity across SR 113. However, Plan B was identified as being potentially inconsistent with the General Plan policies requiring a grid-based street pattern in new growth areas if the Road 24C overcrossing was not constructed. Therefore, the conclusion that additional capacity across SR 113 between Gibson Road and Road 25A is supported by all three planning studies. The location of this capacity appears to be more of a policy interpretation that will ultimately need to be made by the City.

Commissioner Ybarra asked when the airport would need to be shut down. (Note: This issue is discussed on page 4.12-17 of the DEIR and in Response to Comment 32-48).

ANALYSIS OF ALTERNATIVE C

The Alternative C Land Use concept, submitted by David Wade of Wade and Associates, would develop the same project site as the proposed project (see figure on following page, which illustrates the proposed alternate land use configuration). Table 4-1 compares the land uses proposed for the Alternative C to those of Specific Plans A and B. Land uses listed in Table 4-1 for the Alternative Land Use concept are based on information shown on the map and table provided by the commentor. The Alternative Land Use concept proposes 3,692 residential units on 689 acres. Housing densities include a mix of 3 du/acre, 4 du/acre, 5 du/acre, 7 du/acre, 10 du/acre, 18 du/acre, and 25 du/ac. Alternative C includes 19.5 acres of commercial uses, and approximately 32 acres of parks. A middle school, high school, and private school would be included, identical to the proposed project. There would be a total of three elementary schools. Although not delineated on the map provided by the commentor, for purposes of the analysis, it is assumed there would be approximately 62 acres for roadway infrastructure and utility easements because such facilities would be necessary for development. The Alternative C Land Use concept does not specifically designate any areas for the following: Affordable Housing, Convalescent Care, General Commercial, Parkways and Urban Forest, Day Care, and Institutional.

The Plan C Concept differs from the TOC proposals (Plan A and B) in the following ways:

- greater distribution of residential land uses over plan area;
- greater range of proposed densities of residential land uses;
- slightly lower over all gross density:
    - Plan A 6.3 du/ac
    - Plan B 6.0 du/ac
    - Plan C 5.4 du/ac;
- lower percentage split between multi-family and single-family units overall:
    - Plan A 39% MF
    - Plan B 33% MF
    - Plan C 26% MF;
- less retail and general commercial acreage (48 acre business park is shown in Master Plan remainder area);
- no sports park (moved to Master Plan Remainder area);
- two more east/west outlets on Road 102, with a somewhat more developed back bone grid pattern of circulation; and

TABLE 4-1

LAND USE SUMMARY – COMPARISON OF ALTERNATIVE LAND USE CONCEPT TO PROPOSED PROJECT

Land Use	Specific Plan A		Specific Plan B		Alternative Land Use Concept	
	Acres	Units	Acres	Units	Acres	Units
SFR/5**	336.9	1,683	379.4	1,896	**267.2	**1,390
SFR/4	76.6	305	76.6	305	238.6	953
SFR/3	103.2	308	103.2	307	125	374
MFR/18	68.1	1,224	63.2	1,137	*45.9	*676
Affordable Housing	5.0	100	5.0	100	0	0
Convalescent Care	3.0	50	0	0	0	0
Senior Apartments	5.0	100	0	0	12	300
	597.8	**3,770**	**627.4**	**3,745**	**688.7**	**3,693**
Highway Commercial			0		0	
General Commercial	7.0		7.0		0	
Retail Commercial	11.9		0		5.3	
Office Commercial	25.0		19.0		14.2	
	43.9		**26.0**		**19.5**	
Parks	65.1		65.4		31.8	
Parkways	9.2		8.6		0	

TABLE 4-1

LAND USE SUMMARY – COMPARISON OF ALTERNATIVE LAND USE CONCEPT TO PROPOSED PROJECT

Land Use	Specific Plan A		Specific Plan B		Alternative Land Use Concept	
	Acres	Units	Acres	Units	Acres	Units
Urban Forest	5.6		5.5		0	
Drainage Parkway	13.3		13.3		0	
	93.2		**92.8**		**31.8**	
Public Schools	95.0		95.0		106.2	
Private Schools	24.3		24.2		26	
Day Care	1.5				0	
Fire Station	2.0		1.5		1.4	
Institutional	5.0				0	
Public Utility Easement	4.7		4.9		0	
Major Roads and Streets	74.7		70.3		61.8	

TABLE 4-1

LAND USE SUMMARY – COMPARISON OF ALTERNATIVE LAND USE CONCEPT TO PROPOSED PROJECT

Land Use	Specific Plan A		Specific Plan B		Alternative Land Use Concept	
	Acres	Units	Acres	Units	Acres	Units
	207.2		195.9		192.5	
Totals	**942.1**	**3,770**	**942.1**	**3,745**	**941.2**	**3,693**

Notes: Acreage is exclusive of Yuba Community College (118.2 acres) and Yolo County facilities (36.6 acres). Discrepancies in addition are due to rounding.

*Multi-family residential for Alternative Land Use Plan is total of MFR-10 and MFR-18
**SFR/5 for Alternative Land Use Plan includes SFR-7.
Source: Turn of the Century, *Specific Plan, Plan "A"*, February 3, 1999; TOC Specific Plan Alternative Land Use Concept (Wade Associates Urban Planning, August 1999, Comment Letter 34)

- different anticipated phasing of development

  - Plan A (see DEIR, p. 2-10)
  - Plan B (see DEIR, p. 2-13)
  - Plan C - Phase 1 would include everything north of proposed Parkway Drive (Road 24C) and everything east of SR 113, within the Plan Area;
    - Phase 2 would include everything south of propose Parkway Drive and everything west of SR 113, within Plan Area.

Overall, although development would be at different densities and locations, the total number of residential units constructed and acres converted to urban uses would be similar to the proposed project. Consequently, most project-specific and cumulative effects (and their level of significance) related would be identical or very similar to those identified for the proposed project. For transportation, housing-related issues, schools, and General Plan policy consistency matters, impacts related to these issue areas under the Alternative C Land Use concept would differ from the proposed project, as discussed in greater detail below.

Effects Similar to the Proposed Project

Because overall development would be similar to the proposed project, the Alternative C Land Use concept would also result in the following less-than-significant impacts, similar to the proposed project:

- consistency with LAFCO agricultural conservation policies;
- effects on agricultural viability and consistency with policies related to agriculture;
- geology and soils;
- flooding, drainage, and water quality;
- special-status species, wetlands, and oak trees;
- construction emissions, carbon monoxide emissions, and odors;
- construction noise, traffic and aircraft noise, noise from adjacent land uses;
- changes in the visual environment;
- potential to disturb cultural resources;
- population;
- public health and safety;
- demand for water supply, wastewater, solid waste services;
- demand for fire and police protection services; and
- demand for parks, recreational facilities, schools, and libraries.

The following impacts were identified as significant for the proposed project, and would be expected to be similar, if not identical, under the Plan C concept:

- loss of Important Farmland;
- cancellation of Williamson Act contracts;
- changes in groundwater levels;
- loss of raptor foraging habitat and loss of general wildlife habitat (cumulative)

- cumulative air quality;
- cumulative noise; and
- nuisance pests (black gnats).

Effects of Alternative C That Differ from the Proposed Project

As with the proposed project, there would be an increase in motor vehicle traffic on local roadways under Alternative C. Because the number of individuals occupying or visiting the site would be similar to the proposed project, Alternative C would generally result in transportation-related effects similar to the less-than-significant impacts identified for the proposed project. However, a detailed traffic study would be required to determine the specific effects on intersections and roadways. Key issues related to this alternative would be differences in intersection and roadway levels of service as a result of changes in density and mix of uses, potential differences associated with the proposed business park and relocated sports park, and consistency with the General Plan and Street Master Plan.

Alternative C proposes a greater range of densities than the proposed project, which would be more consistent with General Plan policy 1.B.9 than the proposed project. However, as indicated in Table 4-1, total multi-family residential units (including senior apartments) would be 976, or approximately 26 percent of the total residential units, which is less than the General Plan Housing Element objective of 35 percent. Specific Plan A would meet the 35 percent requirement; Specific Plan B would not (33 percent). Therefore, this alternative would result in a significant impact, as related to housing opportunity and General Plan consistency. Alternative C does not specifically identify affordable housing. However, assuming the number of required affordable units could be incorporated into the total number of multi-family units (similar to the approach identified for Specific Plan B), this alternative could be consistent with the Housing Element in this regard. General Plan policy 1.B.7 encourages the dispersal of multi-family housing throughout the community. Alternative C better distributes multi-family housing throughout the Plan Area, as compared to Plans A and B. This was considered a significant impact for the proposed project, and would likely be less-than-significant for Plan C.

The alternative plan would be more consistent with General Plan policies calling for grid-street pattern and may achieve greater consistency as related to development phasing.

Alternative C proposes three elementary schools. The need for a third elementary school was identified as mitigation to reduce schools-related impacts to a less-than-significant level for the proposed project. Therefore, this alternative could reduce this impact, as compared to the proposed project.

This alternative includes 31.8 acres of parkland. The City's standard of providing 10 acres of parkland for every 1,000 residents would require approximately 102 acres for this alternative, which would not be achieved by Alternative C. Additionally, this alternative does not include the planned sports park. The proposed project would provide approximately 65 acres of parkland, which was identified as not meeting the City's defined needs and therefore a significant impact. The level of significance in this regard would be the same for Alternative C, but additional mitigation would be necessary because the deficit would be greater than under the proposed project.

Summary

The Alternatives chapter in the DEIR provides an analysis of a reasonable range of alternatives to the project, with the primary purpose of identifying an option that could feasibly attain the basic objectives of the project while avoiding or substantially lessening any of the significant effects. There may be an infinite variety of land use configurations that could be considered for the project site that could generally reflect the General Plan Planned Neighborhood designation while meeting the objectives of the proposed project. Analysis of every possible option and/or alternative configuration would be complex and redundant, without providing any new, meaningful information to the decisionmakers. Alternative C is one of many configurations that could be considered. If the City Council chose to pursue Alternative C, the DEIR analysis would be applicable in most issue areas, because, as stated above, the impacts would be similar to the proposed project. However, additional analysis of environmental effects, particularly as related to traffic, would need to be prepared to precisely determine how traffic and circulation impacts would differ.

ENDNOTES

1. Fuel Cell Commercialization Group, "What is a Fuel Cell?" (http://www.ttcorp.com/fccg/); Avista Labs, "Fuel Cell Technology" (http://www.wwp.com/avistalabs/fuelcell/); Avista Labs, "Brochure" (http://www.copysmith.com/avista); Plug Power, LLC, "About Fuel Cells" (http://www.plugpower.com).

2. California Air Resources Board, *Air Pollution Research – Ecological Effects of Air Pollution*, July 22, 1999 (http://www.arb.ca.gov/research/apr/past/ecol.htm).

3. Eriksen and Belk, 1999.

4. Eriksen and Belk, 1999.

5. Bud Allen, Woodland Community College Services Group, personal communication, September 24, 1999.

5. MITIGATION MONITORING PROGRAM

5. MITIGATION MONITORING PROGRAM

INTRODUCTION

The California Environmental Quality Act requires public agencies to report on and monitor measures adopted as part of the environmental review process (PRC §21081.6). This Mitigation Monitoring Program (MMP) is designed to ensure that the measures identified in this EIR are fully implemented. The MMP describes the actions that must take place as a part of each measure, the timing of these actions, who is responsible for implementation, and the agency responsible for enforcing each action.

For most of the measures noted in this MMP, the City has ultimate responsibility for implementation of mitigation measures. Therefore, it is recommended that the Community Development Director be assigned chief monitor and be responsible for assigning monitoring actions to responsible agencies. The Director would track the overall progress of each action.

If another agency or entity is responsible for implementation, it is recommended that the Director or his/her designee contact these agencies or entities and request detailed information to be appended to this Plan, in order to ensure coordination in monitoring reporting.

As required by §21081.6 of the PRC, the Woodland Community Development Department is the "custodian of documents and other material" which constitute the "record of proceedings" upon which a decision to approve the proposed project was based. Inquiries should be directed to:

Steve Harris, Community Development Director
Woodland Community Development Department
530-661-5820

The location of this information is:

Woodland Community Development Department
300 First Street
Woodland, California 95695

In order to assist implementation of the EIR mitigation measures, the Program has been formatted as a table with the following information:

Impact and Mitigation Measures: The impacts and mitigation measures are taken verbatim from the Draft EIR or when a revision has been made, from the Final EIR.

Timing /Milestone: Each action must take place during or prior to some part of the Specific Plan or project development or approval. Generally, the timing of actions falls into one of the following categories:

Prior to approval of Specific Plan
At the time of Specific Plan approval
At the time of Annexation
Prior to approval of Tentative Map
Prior to acceptance of Final Map
Prior to approval of Improvement Plans
Prior to issuance of Building Permit
During construction

Responsibility for Oversight: The City of Woodland will have ultimate and legal responsibility for implementation of most mitigation measures. This column indicates which entity will oversee implementation of the measure, conduct the actual monitoring and reporting, and take corrective actions when a measure has not been properly implemented.

Implementation of Mitigation Measure: This column identifies how actions will be implemented and verified.

Responsibility for Implementation: This column identifies the entity that will undertake the required action. "Applicant" refers to the TOC Specific Plan applicant. "Developer" is used to denote developers of individual projects within the Specific Plan area. For certain Specific Plan-wide measures, required prior to, or at the time of, adoption of the Specific Plan, the applicant or first developer will have to fund the entire measure with subsequent reimbursement on a fair-share basis from later developers.

Other mitigations should be incorporated into the final Specific Plan document in some manner (e.g. as an appendix) and the costs of those actions should be included as elements of the final fiscal analysis, financing plans, and/or CIP (as appropriate).

Checkoff Date/Initials: This column verifies that mitigation measures have been implemented.

Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
Land Use and Planning						
4.1-1 The proposed project could be incompatible with existing surrounding land uses.	4.1-1 (A/B) Consistent with Specific Plan Policy N.2., all residential units within 500-feet of active (interim or long-term) agricultural uses shall be provided with a deed disclosure regarding the proximity and nature of neighboring agricultural uses. This disclosure shall be applied at the tentative map stage to the affected properties. The text of the disclosure language shall be approved by the City Attorney.	Prior to approval of each Tentative Map Prior to approval of each Tentative Map	CDD/City Attorney CDD	Prepare deed disclosure language to satisfaction of City Attorney. Document attachment of deed disclosure to title for each residential parcel.	Developer of property within 500 ft of agriculturally zoned, designated, and/or used land Developer of property within 500 ft of agriculturally zoned, designated, and/or used land	
4.1-2 The proposed project could be incompatible with planned surrounding land uses.	4.1-2 (A/B) All residential units within 500 feet of the regional park shall be provided with a deed disclosing the Regional Park and planned future development. This disclosure shall be applied at the tentative map stage to the affected properties. The text of the disclosure language shall be approved by the City Attorney.	Prior to approval of Tentative Map Prior to approval of Tentative Map	CDD/City Attorney CDD	Prepare deed disclosure language to satisfaction of City Attorney. Document attachment of deed disclosure to title for each residential parcel.	Developer of property within 500 ft of regional park boundaries Developer of property within 500 ft of regional park boundaries	

BD = Building Development
CDD = Community Development Department
PWD = Public Works Department
YCTD = Yolo County Transportation District
USACOE = US Army Corps of Engineers
DFG = California Department of Fish and Game
USFWS = US Fish and Wildlife Service
SYMVCD = Sacramento-Yolo Mosquito Vector Control District

Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
4.1-3 The proposed project could be incompatible with existing internal land uses.	4.1-3 (A/B) (a) Implement Mitigation Measures 4.12-6 (a) through (d) from Section, 4.12, Public Health and Safety, which would ensure proper building height and distance be observed in the design of residential uses near the existing airstrip, or require closure of the airstrip by revocation of the conditional use permit or amortization/abatement of the use as non-conforming.	See Mitigation Measures 4.12-6(a) through (d).				
	(b) The Specific Plan shall be amended to include fencing and landscaping to screen residential areas from adjacent existing commercial uses.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
4.1-4 Under the proposed project, the mix of internal land uses could be considered incompatible.	4.1-4 (A/B) (a) Development of the Sports Park shall require a Conditional Use Permit with special attention given to the design and operation of this facility.	Prior to approval of Specific Plan	CDD	Include appropriate language in Final Specific Plan requiring a Conditional Use Permit, to ensure that the site plan for the park places uses that are more likely to create nuisances (e.g. noise) farthest from residential areas and/or that the plan includes features (e.g., berms) that will minimize intrusion of park activities into residential areas.	Applicant	

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	(b) Implement Mitigation Measure 4.8-8(a), (b), and (c) from Section 4.8, Noise.	See Mitigation Measure 4.8-8(a), (b), (c).				
	(c) School facilities shall be designed to be compatible with surrounding land uses and shall include: ingress and egress shall be designed to not impede traffic flow on local arterials; the noise generating components shall be placed away from residential use (e.g., sports fields, parking lots); and directional lighting, planting, fences, or other barriers shall be used to shield neighboring land uses from school activities.	Prior to approval of school site plan	School District	Document that school facilities include designs as specified in the mitigation measure.	School District	
	(B) (d) The middle school site depicted in Plan B shall be moved to the south of the sports park site, and the elementary school site shall be moved to the west to the proposed park site to reduce traffic impacts on these uses.	Prior to approval of Specific Plan B	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(e) Implement Mitigation Measure 4.8-8(e) from Section 4.8, Noise.	See Mitigation Measure 4.8-8(e).				
4.1-5 Under the proposed project, development may be inconsistent with some of the City's General Plan goals and polices and land use ordinances.	4.1-5 (A/B) (a) (i) Implement mitigation measures identified in Sections 4-6, 4-13, and 4-14 related to circulation, implementation of a financing plan, implement-ation of a capital improvement program, and parkland.	See Mitigation Measures identified in Sections 4.6, 4.13 and 4.14.				

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	Implement Policy 1.C.2 by consolidating and expanding the proposed 5.1 acres of mini parks into two additional neighborhood parks to serve the proposed residential areas.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(ii) Find that the proposed project is substantially consistent with the General Plan policies, with implementation of identified measures.	At the time of approval of Specific Plan	CDD	Make appropriate Findings of Fact.	City Council	
	OR	OR	OR	OR	OR	
	(iii) Reject relevant mitigation measures, and find that the proposed project is in substantial conformance with the General Plan as proposed.	At the time of approval of Specific Plan	CDD	Make appropriate Findings of Facts.	City Council	
	(b) For Policy 1.A.2, find that the proposed project is substantially consistent with General Plan Policies related to development with Urban Limit Line boundaries.	At the time of approval of Specific Plan	CDD	Make appropriate Findings of Fact.	City Council	
	(B) (c) (i) Establish a focal point within the Specific Plan area.	Prior to approval of Specific Plan B	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	OR	OR	OR	OR	OR	
	(ii) Find that the proposed project is substantially consistent with the General Plan.	At the time of approval of Specific Plan B	CDD	Make appropriate Findings of Fact.	City Council	

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4.1-6 The proposed project would include zoning designations that could result in development of land uses other than those identified in the Specific Plan, resulting in unforeseen incompatibilities between land uses.	4.1-6 (A/B) (a) The parcel depicting mini-storage in Plan A and Plan B shall be restricted to that use through available mechanisms in the Specific Plan.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(A) (b) The parcel depicting convalescent care in Plan A shall be restricted to that use through available mechanisms in the Specific Plan.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
4.1-7 The proposed project may allow development that would be inconsistent with the City's Zoning Ordinance.	4.1-7 (A/B) (a) (i) The Specific Plan shall be revised to reconcile the zoning inconsistency for the proposed mini-storage use by modifying the proposed Specific Plan land use designation from C-2 to C-3,	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	OR	OR	OR	OR	OR	
	(ii) The Specific Plan shall be revised to specify the mini-storage use as allowed by Conditional Use Permit in the C-2 zone within the Specific Plan area only.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(b) (i) The Specific Plan shall be revised to reconcile the lot area inconsistency for SF5 lots by modifying the proposed Specific Plan land use designation to be consistent with existing citywide zoning	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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	designations. OR (ii) The Specific Plan shall be revised to clarify the intent to have different standards for the SR5 designation.	 OR Prior to approval of Specific Plan	 OR CDD	 OR Make appropriate revisions to Specific Plan figures and text.	 OR Applicant	
	(c) (i) Other inconsistencies with the City's zoning requirements shall be identified and reconciled by making modifications to the Specific Plan to ensure consistency, OR (ii) The Specific Plan shall be revised to specify standards intended to be different.	Prior to approval of Specific Plan OR Prior to approval of Specific Plan	CDD OR CDD	Make appropriate revisions to Specific Plan figures and text. OR Make appropriate revisions to Specific Plan figures and text.	Applicant OR Applicant	
4.1-8 The proposed project could result in residential densities that are inconsistent with the proposed zoning.	4.1-8 (A/B) The Specific Plan policy on the transfer of development shall be revised to restrict the transfer of development to the maximum density of any given zoning district.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
4.1-9 The proposed project includes land use designations that differ from adopted General Plan land use designations.	4.1-9 (A/B) (a) The Specific Plans shall be modified to include Tables 4.1-2 and 4.1-3 in order to ensure the Specific Plans are consistent with the City's General Plan land use designations and associated zoning.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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	(b) The Specific Plans shall be modified to include the City's land use designation of Service Commercial and Public Service on the portion of the project site which includes Yuba College and land owned by the County, as shown on the City's Land Use Diagram.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
4.1-10 The proposed project may be inconsistent with LAFCO Agricultural Conservation policies.	4.1-10 (A/B) (a) The annexation of the Specific Plan shall be staged to match the proposed phasing of the Specific Plan.	At the time of annexation	CDD	Submit annexation application consistent with adopted phasing of Specific Plan.	Applicant/ Developer/City (prepare application) LAFCO (final action)	
	OR	OR	OR	OR	OR	
	(b) The annexation of the Specific Plan shall be staged to include all of the project site, except the acreage that remains under Williamson Act contract.	At the time of annexation	CDD	Submit annexation application that excludes properties remaining subject to Williamson Act (042-010-05; 042-010-20; 042-030-03).	Applicant/ Developer/City (prepare application) LAFCO (final action)	
	OR	OR	OR	OR	OR	
	(c) LAFCO shall determine that the applicable facts and circumstances support a finding of substantial conformity with LAFCO Policy IV.D, which would allow for annexation of the entire site.	At the time of annexation	CDD	Make appropriate Findings of Fact.	LAFCO	
Agricultural Resources						
4.2-1 Development of the proposed project would result in the loss of 940 acres of Important	4.2-1 (A/B) The project applicant shall set aside in perpetuity an equal amount (940 acres	Prior to approval of first Tentative Map	CDD	The City shall adopt a TOC Specific Plan Agricultural Land	City Council	

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Farmland.	of the Plan Area plus Important Farmland converted for offsite infrastructure) of contiguous, active agricultural acreage elsewhere in Yolo County through the purchase of development rights and execution of an irreversible conservation or agricultural easement. These soils shall be permanently protected from future development via enforceable deed restrictions. Acreage between Woodland and Davis, already experiencing, or likely to experience, growth pressures shall be targeted. Soils and farming conditions shall be equivalent or superior to the project area.			Mitigation Program that further specifies the parameters required for compliance with this measure. The program shall identify acceptable areas of the County within which mitigation acreage shall be purchased, required soils and farming conditions (equivalent or superior to the project area), required terms of the conservation easement, appropriate management entities for the easement, mechanism and source of funding for ongoing oversight and enforcement of the easements, and other appropriate requirements as may be subsequently determined.		

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	Protected acreage equal to the total acreage of any particular development shall be, set aside prior to commencement of any development activity within that development.	Prior to approval of first Tentative Map	CDD	The first developer shall purchase, in fee or conservation easement, development rights for 940 acres (plus any additional acreage converted for offsite infrastructure).	First Developer	
		Prior to approval of first Tentative Map	CDD/City Attorney	A mechanism shall be established for subsequent reimbursement to the first developer, by subsequent developers.	City/First Developer	
	Acreage set aside required by Mitigation Measure 4.5-4 for loss of Swainson's hawk foraging habitat (see Section 4.5, Biological Resources) may be used jointly to satisfy all or a portion of this mitigation requirement, so long as it meets the habitat needs of the species and is retained in active agricultural uses. The land shall be managed via an agreement satisfactory to the City and Department of Fish and Game, governing operations such that it remains agriculturally productive and also provides hawk habitat. Land that does not meet the intent of both measures can not be used as joint mitigation, in which case more acreage would be needed in order to satisfy both mitigations.	Prior to approval of first Tentative Map	CDD/DFG	The Agricultural Land Mitigation Program shall include appropriate cropping and land management restrictions, satisfactory to the Department of Fish and Game, applicable to any mitigation acre intended to also satisfy Swainson's hawk foraging habitat (Mitigation Measure 4.5-4). A letter from DFG shall be made an attachment to the Program attesting to its acceptance by DFG.	City Council/First Developer/DFG	

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4.2-2 Development of the proposed project would conflict with or result in the cancellation of Williamson Act contracts.	4.2-2 (A/B) A Williamson Act contract and conservation easement shall be established on 162 acres of land outside of the project site, or greater if land is removed from Williamson Act contract for the required detention/retention basin, to the satisfaction of the City.	See Mitigation Measure 4.2-1.				
4.2-3 Development of the proposed project could result in incompatibilities between active agricultural uses and future residential uses.	4.2-3 (A/B)(a) Implement Mitigation Measure 4.1-1.	See Mitigation Measure 4.1-1.				
	(b) The City of Woodland shall consider adopting a Right to Farm Ordinance to address interim land use conflicts that could occur between new development and planned growth areas that may remain in agricultural uses until future conversion.	Prior to approval of first Tentative Map	CDD	A draft Right to Farm Ordinance shall be prepared and presented to the City Council, for adoption.	CDD/City Council	
4.2-4 Development of the proposed project could adversely affect agricultural viability.	4.2-4 (A/B) The Specific Plan shall be revised to require a 500-foot buffer within the project site adjacent to active agricultural uses to the south of Road 25A.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
4.2-5 The proposed project may be inconsistent with General Plan policies.	4.2-5 (A/B) (a) Implement Mitigation Measures 4.2-1, 4.2-2, and 4.2-4. AND	See Mitigation Measures 4.2-1, 4.2-2, and 4.2-4.				
	(b) For General Plan Policies 1.I.4 and 1.I.6, the City shall implement one of the following measures:					

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	(i) Find that the proposed project is essentially consistent with the direction of the General Plan Policies	At the time of approval of Specific Plan	CDD	Make appropriate Findings of Fact.	City Council	
	OR	OR	OR	OR	OR	
	(ii) Amend the General Plan Policies to conform with the inconsistencies identified.	At the time of approval of the Specific Plan	CDD	Amend the General Plan to ensure consistency between the two documents.	City Council	
4.2-6 Development of the proposed project, in combination with other cumulative development, would contribute to the loss of Important Farmland.	4.2-6 (A/B) Implement Mitigation Measure 4.2-1 and/or 4.2-2.	See Mitigation Measures 4.2-1 and 4.2-2.				
4.2-7 Development of the proposed project, in combination with other cumulative development, could adversely affect agricultural viability.	4.2-7 (A/B) Implement Mitigation Measure 4.2-4.	See Mitigation Measure 4.2-4.				
Hydrology, Drainage and Water Quality						
4.4-1 The proposed project would increase the rate and amount of stormwater runoff from newly created impervious surfaces, which could contribute to localized or downstream flooding.	4.4-1 (A/B) (a) Prior to the first tentative map approval, the Specific Plan storm drainage plan shall be completed. The drainage plan shall identify specific storm drainage design features to control increased runoff from the project site. This may be achieved through one or more of the following: onsite conveyance and detention facilities, offsite detention or retention facilities, channel modification, or	Prior to approval of the first Tentative Map	PWD	The applicant shall prepare and submit the Turn of the Century Specific Plan Storm Drainage Plan consistent with the terms of the measure and accepted engineering practice. The Plan is subject to PWD review and approval. The Plan is also subject to separate CEQA clearance to determine if additional	Applicant	

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	equally effective measures to control the rate and volume of runoff. To demonstrate the effectiveness of the proposed system to prevent additional flooding at offsite (downstream) locations, all necessary hydrologic and hydraulic calculations and assumptions and design details shall be submitted to the City Public Works Department for review and approval. The design of all features proposed by the project applicant shall be consistent with the most recent version of the City's Storm Drainage Guidelines and Criteria, and standard design and construction specifications and details.			environmental review is required.		
	(b) Prior to the first tentative map approval, the project applicant shall demonstrate to the City Public Works Department that development of either Specific Plan A or Specific Plan B will not preclude future installation and operation of Storm Drainage Facilities Master Plan improvements anticipated in the project site and that facility improvements will be consistent with the Storm Drainage Facilities Master Plan.	Prior to approval of the first Tentative Map	PWD	Review and approval by PWD, consistent with terms of measure.	Applicant	
	(c) Prior to the first tentative map approval, the project applicant shall demonstrate that an appropriately sized and located storm drainage system shall be installed or adequately financed (through fair-share payment of fees or other means).	Prior to approval of the first Tentative Map	PWD	Review and approval by PWD; approval of final Financing Plan and CIP.	Applicant prepares information. City Council takes final action.	

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4.4-3 Runoff from new impervious surfaces would contain urban contaminants that could affect receiving water quality.	4.4-3 (A/B) Prior to each tentative map approval, the applicant shall identify proposed urban stormwater runoff Best Management Practices (BMPs) that will be incorporated into project design. The BMPs shall be selected based on and consistent with the City's planning and design criteria set forth in the "Phase A Storm Drainage Facilities Master Plan Storm Water Quality Regulations and Control Measures".	Prior to approval of each Tentative Map During all site work and construction	PWD PWD	Review and approval by PWD, consistent with terms of measure. Verify through site visits that BMPs are being properly implemented.	Developer Developer	

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4.4-5 The proposed project would require the use of groundwater, which could result in changes in groundwater levels or groundwater areas of influence or induce subsidence.	4.4-5 (A/B) (a) Prior to approval of the first tentative map, the applicant shall identify specific steps to be taken to minimize project effects on groundwater levels that could affect agricultural wells. The program shall establish site-specific and local baseline groundwater levels, existing and proposed wells, uses and rates, and areas of influence. The program shall also establish criteria that will be used to determine whether the effect on non-project wells may be considered adverse (e.g., groundwater levels shall not fall below a specific elevation during the irrigation season). This information shall be used to appropriately site and design project wells throughout project buildout to minimize the effects on wells and locations that could be affected by groundwater pumping associated with the proposed project.	Prior to approval of the first Tentative Map	PWD	The applicant shall prepare and submit the Turn of the Century Specific Plan Water Supply Plan consistent with the terms of the measure and accepted engineering practices. The Plan is subject to PWD review and approval.	Applicant	
	OR	OR	OR	OR	OR	
	(b) If project wells cannot be sited to reduce effects on agricultural wells that could be adversely affected by project pumping, the City shall establish a mechanism to relocate the agricultural wells to ensure that groundwater pumping for irrigation purposes is maintained at baseline levels for the affected well.	Prior to approval of first Tentative Map	PWD	Satisfactorily relocate agricultural wells.	Applicant	

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4.4-7 If the revised FEMA Flood Insurance Rate Maps are adopted, portions of the project site would be situated in the 100-year floodplain and would be subject to increased risk of flooding.	4.4-7 (A/B) (a) If the FEMA maps are adopted and development occurs in the area delineated as Zone AE, structures placed in the floodplain shall be sited and designed so they do not impede or restrict flood flows. The results of site-specific hydrologic and hydraulic studies shall be used to quantify baseline and post-development conditions to identify development recommendations.	Prior to approval of Tentative Map, for APNs 042-010-24, 042-010-28, 042-010-32, 042-010-35, 042-010-34, 042-010-46	PWD	Demonstrate that structures placed in the floodplain would not impede or restrict flood flows, based on site-specific hydraulic study.	Developer of property that falls within FEMA floodplain	
	(b) If the FEMA maps are adopted and flood control features such as levees or floodwalls are proposed to protect future development, the applicant shall quantify the potential effects of loss of floodplain storage on areas that could be affected by increased flooding. The applicant shall coordinate with the City to identify and implement feasible options for replacing the loss of floodplain storage.	Prior to approval of Tentative Map, for APNs APNs 042-010-24, 042-010-28, 042-010-32, 042-010-35, 042-010-34, 042-010-46 Prior to approval of Tentative Map, for APNs APNs 042-010-24, 042-010-28, 042-010-32, 042-010-35, 042-010-34, 042-010-46	PWD PWD	Quantify the loss of floodplain storage areas due to the project. Identify and obtain and/or construct floodplain storage equal to the loss caused by the project.	Developer of property that falls within FEMA floodplain Developer of property that falls within FEMA floodplain	

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4.4-9 The proposed project, in combination with future development that would occur with General Plan buildout, would increase the rate and amount of stormwater runoff from newly created impervious surfaces.	4.4-9 (A/B) Implement Mitigation Measures 4.4-1(a) through 4.4-1(c).	See Mitigation Measures 4.4-1(a) through 4.4-1(c).				
Biological Resources						
4.5-1 The proposed project would convert agricultural lands to urban uses, which could result in the loss of the alkali sink type special-status plant species listed in Table 4.5-1.	4.5-1 (A/B) (a) In accordance with Fish and Game Code Section 1900 et seq., DFG shall be given a minimum of 10-day notice prior to site grading or development on the TOC property within the project site to allow for salvage of any San Joaquin saltbush plant materials.	At least 10 days prior to any grading on APN 042-010-46	CDD	Document that DFG has received notice.	Developer of subject property	
	(b) Prior to development of the alkali sink habitat in the Yolo County and the Yuba Community College properties, shown in Figure 4.5-1, a rare plant survey shall be conducted by qualified biologists in accordance with the most current DFG/USFWS guidelines or protocols. Survey timing for the various plant species is dependent in part on yearly rainfall patterns and is determined on a case-by-case basis.	Prior to approval of projects on County (042-010-24, 042-010-28, 042-010-32, 042-010-35) or college (042-010-34) property	DFG/USFWS	Preparation and acceptance of rare plant survey.	Yolo County/ Woodland Community College	

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	(c) Based on the results of the survey in the Yolo County and the Yuba Community College properties, prior to new design approval, the County and Yuba Community College shall, in consultation with DFG and/or USFWS, determine whether the project would substantially affect special-status plant species dependent upon alkali sink habitat. If special-status plants are identified, measures shall be incorporated to ensure no net loss of the species. Evaluation of impacts to plant species shall consider the following: ▪ the status of the species in question (e.g., officially listed by the State or Federal Endangered Species Acts, candidate species, CNPS list); ▪ the relative density and distribution of the onsite occurrence versus typical occurrences of the species in question; and ▪ the habitat quality of the onsite occurrence relative to historic, current or potential distribution of the population.	Prior to approval of projects on County (042-010-24, 042-010-28, 042-010-32, 042-010-35) or college (042-010-34) property	DFG/USFWS	Undertake consultation with DFG and/or USFWS. Incorporate measures to ensure no net loss of species if special-status plants are identified.	Yolo County/ Woodland Community College	

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	(d) If the surveys on the Yolo County and the Yuba Community College lands reveal no occurrences of any species, or if the County and/or Yuba Community College in consultation with DFG or USFWS determines that no significant impacts on any special-status plant species would result from project implementation, then no further mitigation would be required.					
4.5-2 The proposed project could result in the loss of potential habitat for the valley elderberry longhorn beetle (VELB).	4.5-2 (A/B) (a) Prior to approval of a tentative map for any property with shrubbery and/or onsite drainage ways that will not be preserved/avoided, the project applicant shall: (i) Conduct a project-specific survey of the tentative map area for all potential VELB habitat, including a stem count and an assessment of historic or current VELB use; (ii) Avoid and protect all potential VELB habitat within a natural open space area where feasible; and	Prior to approval of each Tentative Map	USFWS	Conduct VELB survey consistent with measure and applicable USFWS mitigation guidelines.	Developer of any property with shrubbery and/or on-site drainages	

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	(iii) Where avoidance is infeasible, develop and implement a VELB mitigation plan in accordance with the most current USFWS mitigation guidelines for unavoidable take of VELB habitat pursuant to either Section 7 or Section 10(a) of the Federal Endangered Species Act.					

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
4.5-3 The proposed project could result in the take of Swainson's hawk individuals (eggs, nestlings or juveniles) and other nesting raptors (birds-of-prey).	4.5-3 (A/B) (a) For each individual development project the project applicant, in consultation with the DFG, shall conduct a pre-construction or pre-tree pruning or removal survey of trees greater than 30 feet tall (proposed activity) during the raptor breeding-season (approximately March 1 through September 15). This survey shall be conducted for a half mile radius around the project site at which any construction activity is proposed. The survey shall be conducted by a qualified raptor biologist during the same calendar year that the proposed activity is planned to begin to determine if any nesting birds-of-prey would be affected.	During the breeding season immediately prior to the commencement of site work or construction within one-half mile of trees ±30 feet in height	DFG	Conduct general raptor survey consistent with measure and applicable DFG mitigation deadline.	Developer	
	Prior to grading of fallow fields with ruderal vegetation, surveys for ground nesting raptors such as northern harrier and burrowing owl shall be conducted.	Prior to grading of fallow fields with ruderal vegetation	DFG	Conduct ground-nesting raptor survey (e.g. northern barrier and burrowing owl) consistent with measure and applicable DFG requirements.	Developer	
	If phased construction procedures are planned for the proposed activity, the results of the above survey shall be valid only for the season when it is conducted.					

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	If the above survey does not identify any nesting raptor species within the area affected by the proposed activity, then no further mitigation would be required. However, should any nesting raptor species be found, then the following mitigation measure shall be implemented.					
	(b) If an active Swainson's hawk nest is identified within one half mile of the project site, then CDFG shall be contacted to determine if consultation is required. A limited operating period shall be implemented within a (0.25) mile radius of the nest tree. No construction activities shall be initiated during the Swainson's hawk nesting period (March 1 – September 15) without the approval by DFG.	Prior to commencement of site work or construction in any area with active Swainson's hawk nest	DFG	Site work and construction contracts shall include specifications listed in mitigation measure subject to DFG approval.	Developer	
	For other raptors, compliance with Fish and Game code for the particular species shall be implemented.	Prior to commencement of site work or construction in any area with other active raptor nesting	DFG	Site work and construction contracts shall include specifications listed in mitigation measure subject to DFG approval.	Developer	

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	(c) The project applicant shall continue to conduct annual surveys to determine the location of nesting Swainson's hawks and other raptors in the project site. If nesting hawks or other raptors are found during the survey at a previously unknown location within one-half mile of the project site and not within 100 yards of a previously documented site, the project applicant shall contact the DFG prior to project construction. Consultation shall be initiated to determine the potential for disturbance to nesting hawks and other raptors and the project applicant shall implement feasible changes in the construction schedule or other appropriate adjustments to the project in response to the specific circumstances.	See Mitigation Measure 4.5-3(a) and (b). The trigger for raptor surveys is the impending commencement of site work or construction within one half mile of trees ±30 feet in height.				
	(d) If, after five years, a previously recorded nest site remains unoccupied by a Swainson's hawk, it will no longer be considered as a Swainson's hawk nest site subject to this mitigation.					

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4.5-4 The proposed project would result in the loss of foraging habitat for Swainson's hawks and other raptors.	4.5-4 (A/B) (a) Prior to approval of the first tentative map, the project applicant shall develop a plan in consultation with CDFG to compensate for loss of Swainson's hawk foraging habitat resulting from development of the project site. This agreement shall set aside in perpetuity, an equivalent amount (939 acres of the Specific Plan Area plus Important Farmland converted for offsite infrastructure) of contiguous, Swainson's hawk foraging land elsewhere in Yolo County through the purchase of development rights and execution of irreversible conservation or agricultural easement. This acreage shall be permanently protected from future development via enforceable deed restrictions. Protected acreage equal to the total acreage of any particular phase shall be, set aside prior to commencement of any development activity within that phase.	Prior to approval of first Tentative Map	DFG	Preparation and acceptance of a Hawk Mitigation Plan consistent with the measure and satisfactory to the DFG.	First Developer	
		Prior to approval of first Tentative Map	CDD/DFG	The first developer shall purchase, in fee or conservation easement, development rights for 939 acres (plus any additional acreage converted for offsite infrastructure).	First Developer	
		Prior to approval of first Tentative Map	CDD	A mechanism may be established for subsequent reimbursement to the first developer by subsequent developers.	CDD/First Developer	
	Acreage set aside required by Mitigation Measure 4.2-1 (4.2, Agricultural Resources) for loss of agricultural land may be used jointly	Prior to approval of first Tentative Map	CDD/DFG	See implementation for Mitigation Measure 4.2-1.	Applicant	

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	to satisfy all or a portion of this mitigation requirement, so long as it meets the habitat needs of the species and is retained in active agricultural uses. The land shall be managed via an agreement satisfactory to the City and Department of Fish and Game, governing operations such that it remains agriculturally productive and also provides hawk habitat. Land that does not meet the intent of both measures can not be used as joint mitigation, in which case more acreage would be needed in order to satisfy both mitigations.					
	OR	OR	OR	OR	OR	
	(b) If adopted, the project applicant shall participate in the Yolo County Habitat Conservation Plan (HCP).	Prior to approval of First Tentative Map	CDD	Take appropriate actions as required by the adopted HCP to mitigate for entire 939 acres (and offsite infrastructure acreage).	First Developer	
4.5-6 The proposed project would convert approximately one acre of wetland to urban uses.	4.5-6 (A/B) (a) Prior to approval of a tentative map for the area immediately west of Road 102 (see Figure 4.5-1, as revised), the project applicant shall prepare a wetland delineation and seek a verification from the U.S. Army Corps of Engineers to determine where jurisdictional wetlands are present in the project site.	Prior to approval of Tentative Map for APN 042-010-46	USACOE	Prepare delineation and secure USACOE verification.	Developer	
	(b) If jurisdictional wetlands are verified, the project applicant shall provide for no net loss of wetland acreage through the federal permitting process. If the total acreage of the jurisdictional	Prior to approval of Tentative Map for APN 042-010-46	USACOE	Secure appropriate federal permit.	Developer	

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	wetland is less than 1/3 of an acre, then the project applicant shall obtain a nationwide permit to fill the wetlands, and provide for a minimum 1:1 mitigation ratio. If the total area exceeds 1/3 of an acre then the project applicant shall obtain a individual permit through the U.S. Army Corps of Engineers.					
	(c) If wetlands are delineated in project site that exceed 1/3 of an acre, then the project applicant shall mitigate the filled amount in a 2:1 ratio at an onsite or 3:1 ratio at an offsite location;	Prior to approval of Tentative Map for APN 042-010-46	USACOE	Identify mitigation area and method.	Developer	
	OR	OR	OR	OR	OR	
	(d) If adopted, the project applicant shall participate in the Yolo County Habitat Conservation Plan (HCP).	Prior to approval of Tentative Map for APN 042-010-46	CDD	Take appropriate actions as required by the adopted HCP.	Developer	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
4.5-7 The proposed project would require offsite infrastructure (wastewater and storm drainage), which would result in conversion of additional agricultural land and the loss of general wildlife habitat.	4.5-7 (A/B) (a) If the construction of offsite roadway, sewer, water or drainage infrastructure occurs in undeveloped areas, the City shall ensure that surveys have been conducted that are appropriate to the habitats where the infrastructure will be located. Construction of offsite infrastructure shall not begin until such surveys have been completed, the appropriate agencies have been consulted, mitigation measures outlined and permits (e.g. 404, 1603) have been obtained, as necessary. Mitigation for these potential impacts could include preservation, onsite construction, or the purchase of mitigation credits through the HCP or an agency-approved mitigation bank or in lieu fee program, e.g., Wildlands Inc. This measure may be implemented through the proposed project, or the expansion of the City's infrastructure systems.	Prior to approval of Improvement Plans for backbone and offsite infrastructure	PWD/DFG/ USFWS/ USACOE	Prepare and secure acceptance of biological surveys and results for all offsite infrastructure areas.	Applicant/First Developer	
	(b) Implement Mitigation Measures 4.5-1(a), 4.5-2, 4.5-3, 4.5-4 and 4.5-6.	See Mitigation Measures 4.5-1(a), 4.5-2, 4.5-3, 4.5-4 and 4.5-6.				
4.5-8 The proposed project may be inconsistent with General Plan goals and policies for the protection of biological resources.	4.5-8 (A/B) Implement Mitigation Measures 4.5-1, 4.5-2, 4.5-3, 4.5-4, 4.5-6 and 4.5-7.	See Mitigation Measures 4.5-1, 4.5-2, 4.5-3, 4.5-4, 4.5-6 and 4.5-7.				

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4.5-9 The proposed project, in combination with other cumulative development, would convert undeveloped land to urban uses, resulting in the loss of general wildlife habitat for resident and migratory species.	4.5-9 (A/B) Implement Mitigation Measures 4.5-1, 4.5-2, 4.5-3, 4.5-4, 4.5-6, and 4.5-7.	See Mitigation Measures 4.5-1, 4.5-2, 4.5-3, 4.5-4, 4.5-6, and 4.5-7.				
Traffic and Circulation						
4.6-1 The proposed project would cause an increase in a.m. and p.m. peak hour traffic volumes at study intersections, resulting in unacceptable levels of service and warranting the installation of traffic signals.	4.6-1 (A/B) (a) A traffic signal shall be installed at the E. Gum Avenue/Matmor Road intersection and each approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. These improvements were warranted by previously approved development and are included in the City of Woodland Major Projects Financing Plan (MPFP) as being funded by development fees. However, the proposed project could require implementation of the improvements prior to their programmed installation in the MPFP. Therefore, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. If this intersection requires signalization and	Prior to approval of each Tentative Map Prior to approval of each Tentative Map As funding becomes available	PWD PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map, including timing of planned improvements. Construct improvement, as needed. Reimburse developer for non-project related portion of improvement.	Developer Developer City	

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	widening prior to the programmed installation of these improvements in the MPFP, then the project applicant shall be required to install the improvements and shall be reimbursed by development fees.					
	(A/B) (b) A traffic signal shall be installed at the Pioneer Avenue/E. Gum Avenue intersection and each approach shall be widened to include an exclusive left-turn lane and a shared through/right-turn lane. These improvements were warranted by previously approved development and are included in the City of Woodland Major Projects Financing Plan (MPFP) as being funded by an assessment district. However, the proposed project could require implementation of the improvements prior to their programmed installation in the MPFP. Therefore, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. If this intersection requires signalization and widening prior to the programmed installation of these improvements in the MPFP, then the project applicant shall be required to install the improvements and shall be reimbursed by the assessment district.	Prior to approval of each Tentative Map Prior to approval of each Tentative Map As funding becomes available	PWD PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map, including timing of planned improvements. Construct improvement, as needed. Reimburse developer for non-project related portion of improvement.	Developer Developer City	

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	(A/B) (c) The project applicant shall install geometric design features to prohibit left-turn movements at the Gibson Road/Road 101 intersection. These improvements shall be completed prior to the issuance of building permits.	Prior to issuance of building permits	PWD/BD	Design, construct, and secure acceptance of identified improvement.	First Developer	
	(A/B) (d) A traffic signal shall be installed at the Gibson Road/Ogden Street intersection and the northbound and southbound approaches shall be widened to include an exclusive left-turn lane and a shared through/right-turn lane. These improvements were warranted by previously approved development and are included in the City of Woodland Major Projects Financing Plan (MPFP) as being funded by an assessment district. However, the proposed project could require implementation of the improvements prior to their programmed installation in the MPFP. Therefore, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. If this intersection requires signalization and widening prior to the programmed installation of these improvements in the MPFP, then the project applicant shall be required to install the improvements and shall be reimbursed by the assessment	Prior to approval of each Tentative Map Prior to approval of each Tentative Map As funding becomes available	PWD PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map, including timing of planned improvements. Construct improvement, as needed. Reimburse developer for non-project related portion of improvement.	Developer Developer City	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	district.					

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	(B) (e) The project applicant shall install a traffic signal at the I-5 Northbound Ramps/Road 102 intersection. In addition, the project applicant shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map under Plan B	PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map, including timing of planned improvements.	Developer	
		Prior to approval of each Tentative Map under Plan B	PWD	Construct improvement, as needed.	Developer	
		As funding becomes available	PWD	Reimburse developer for non-project related portion of improvement.	City	
4.6-2 The proposed project may be inconsistent with roadway-related policies of the City of Woodland General Plan and design standards contained in the City of Woodland Standard Specifications and Details.	4.6-2 (A/B) (a) (i) The project applicant shall modify the Estate Street design to include a minimum width of 35 feet and the Road 25A design to include a minimum width of 64 feet. The project applicant shall also modify Plan A/Plan B to include provisions for minimizing potential conflicts between new development and agricultural uses as it relates to the potential conflicts between automobiles, pedestrians, bicyclists, trucks, and tractors on Road 25A and Road 102. This modification would result in consistency of	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	Plan A and Plan B with the General Plan policies.					
	(b) Offsite roadways needed to serve the project site (e.g., Road 101, Road 25A) shall be improved to meet City design standards. The specific segments that must meet the standard are: Road 101 from Gibson Road to Road 25A. Road 25A from SR113 to Road 101.	Prior to approval of Improvement Plans for backbone and offsite infrastructure and prior to any occupancy	PWD	Design, construct and secure acceptance of identified improvements.	Applicant	
	(A) (c) (i) The project applicant shall modify Plan A to include an enhanced roadway network that reflects a denser pattern of arterial and collector streets, consistent with existing Woodland residential neighborhoods. The average street density for arterials and collectors within the modified plan should be approximately nine centerline miles per square mile and the maximum block length shall be 1,320 feet. The enhanced roadway system shall consider potential consequences on residential neighborhoods and the need to incorporate traffic calming measures consistent with General Plan Policy 3.B.6.	Prior to approval of Specific Plan A	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	OR (ii) Find that the proposed project is substantially consistent with the General Plan policies.	OR At the time of Specific Plan A approval	OR CDD	OR Make appropriate Findings of Fact.	OR City Council	
	(B) (d) (i) The project applicant shall modify Plan B to include an enhanced roadway network that reflects a denser pattern of arterial and collector streets, consistent with existing Woodland residential neighborhoods. The average street density for arterials and collectors within the modified plan should be approximately nine centerline miles per square mile and the maximum block length shall be 1,320 feet. The enhanced roadway system shall consider potential consequences on residential neighborhoods and the need to incorporate traffic calming measures consistent with General Plan Policy 3.B.6.	Prior to approval of Specific Plan B	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(ii) With regard to the overcrossing of SR 113, the City shall find that the proposed project is substantially consistent with General Plan policies by preserving right-of-way for	At the time of approval of Specific Plan B	CDD	Make appropriate Findings of Fact.	City Council	

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	a future overcrossing should one be desirable.					
	(iii) Grid-pattern local streets shall be required to complement the proposed curvilinear arterials and collectors, to provide more effective connections to parks, schools, and commercial uses for bicyclists and pedestrians.	Prior to approval of Specific Plan B Prior to approval of each Tentative Map under Plan B	CDD CDD	Make appropriate revisions to Specific Plan figures and text. Ensure consistency with requirement.	Applicant Developer	
4.6-3 The proposed project would increase demand for public transit service to an area that is not currently served by YCTD.	4.6-3 (A/B) All development within the Specific Plan shall contribute a fair-share of the capital and operating costs associated with providing public transit service to the Plan Area. It is anticipated that new transit vehicles would be required to provide the additional service within the project site. However, the final determination of additional capital equipment or other costs shall be determined by the City of Woodland and YCTD. The fair-share cost or a plan for providing the fair-share cost over time shall be submitted to the City of Woodland prior to the issuance of building permits.	Prior to acceptance of each final map	YCTD	Document that applicant is contributing fair-share of the capital cost. YCTD shall identify "fair share" finding requirement for payment by each developer at final map.	YCTD/Applicant	

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4.6-4 The proposed project would increase demand for public transit and create inconsistencies with transit-related policies in the City of Woodland General Plan.	4.6-4 (A/B) (a) (i) The project applicant shall modify the proposed project to identify (or require with each development the identification of) the specific locations of sheltered transit stops with bus turnouts. The City of Woodland and YCTD shall approve the location, design, and implementation timing of the sheltered transit stops and bus turnouts prior to the issuance of building permits.	Prior to approval of Specific Plan Prior to approval of each Tentative Map	CDD/PWD/ YCTD CDD/PWD/ YCTD	Make appropriate revisions to Specific Plan figures and text. Each tentative map shall identify bus turnouts and shelters at locations acceptable to YCTD.	Applicant Developer	
	(B) (b) Implement Mitigation Measure 4.6-2(d)(ii).	See Mitigation Measure 4.6-2(d)(ii).				
4.6-5 The proposed project would disrupt existing bikeway facilities and create inconsistencies with bicycle- and pedestrian-related policies of the City of Woodland General Plan and the City of Woodland Bikeway Master Plan.	4.6-5 (A/B) (a) (i) The Specific Plan shall be modified to include the following: ▪ Class II bike lanes on both sides of Road 102 from Road 25A to Gibson Road (these facilities must be depicted in street sections and on the circulation plan);	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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	▪ Class I bike path on the north side of Road 25A from Road 102 to SR 113 (these facilities must be depicted in street sections and on the circulation plan); ▪ Realign the Road 101 Parkway Class I bike path to provide direct access to the retail shopping and employment center of Plan A and Plan B (these changes must be depicted in street sections and on the circulation plan); ▪ Class II bike lanes on all collectors and arterials; ▪ Class I bike path grade separations of collectors and arterials at the time Class I facility is installed; and ▪ Standards for requiring secure and convenient bicycle parking and other support facilities at schools, commercial centers, and employment centers.					
	OR	OR	OR	OR	OR	
	(ii) The City shall find that the proposed project is substantially consistent with the General Plan policies.	At the time of approval of Specific Plan	CDD/PWD	Make appropriate Findings of Fact.	City Council	

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	(B) (b) (iii) Implement Mitigation Measure 4.6-2(d)(i) to provide a street system and pedestrian walkway system that is more conducive to walking.	See Mitigation Measure 4.6-2(d)(i).				
4.6-6 The proposed project, in conjunction with cumulative development, would increase cumulative a.m. and p.m. peak hour traffic volumes at study intersections, causing unacceptable levels of service and warranting the installation of traffic signals.	4.6-6 (A/B) (a) Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair-share cost to modify the traffic signal at the East Street/E. Main Street intersection and widen the eastbound approach to include an exclusive left-turn lane, two exclusive through lanes, and one exclusive right-turn lane. This improvement was previously identified in the East Street Corridor Specific Plan, City of Woodland, May 19, 1998. The City of Woodland shall determine the method and timing of the contribution for this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map Prior to approval of each Tentative Map Prior to approval of each Tentative Map As funding becomes available	PWD PWD PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Determine project's fair share of improvement cost. Construct improvement, if needed. Reimburse developer for other projects' portion of improvement costs.	Developer Developer Developer City	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	(b) Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share cost to modify the traffic signal at the Gibson Road/East Street intersection and widen the northbound and southbound approaches to include two exclusive left-turn lanes, one exclusive through lane, and one shared through/right-turn lane. These improvements were previously identified in the East Street Corridor Specific Plan, City of Woodland, May 19, 1998. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map Prior to approval of each Tentative Map Prior to approval of each Tentative Map As funding becomes available	PWD PWD PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Determine project's fair share of improvement cost. Construct improvement, if needed. Reimburse developer for other projects' portion of improvement costs.	Developer Developer Developer City	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	(c) Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share cost to modify the traffic signal at the Gibson Road/Matmor Road intersection and widen the northbound and southbound approaches to include one exclusive left-turn lane, one through lane, and one right-turn lane. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map	PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map.	Developer	
		Prior to approval of each Tentative Map	PWD	Determine project's fair share of improvement cost.	Developer	
		Prior to approval of each Tentative Map	PWD	Construct improvement, if needed.	Developer	
		As funding becomes available	PWD	Reimburse developer for other projects' portion of improvement costs.	City	
	(d) Implement Mitigation Measure 4.6-1(c).	See Mitigation Measure 4.6-1(c).				

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	(A) (e) Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share cost to install a traffic signal at the Road 25A/East Street intersection and widen the northbound, southbound, and eastbound approaches to include an exclusive left-turn lane and a shared through/right-turn lane. The westbound approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map under Plan A Prior to approval of each Tentative Map under Plan A Prior to approval of each Tentative Map under Plan A As funding becomes available	PWD PWD PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Determine project's fair share of improvement cost. Construct improvement, if needed. Reimburse developer for other projects' portion of improvement costs.	Developer Developer Developer City	
	(B) (e) Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share cost to install a traffic signal at the Road 25A/East Street intersection and widen the northbound and eastbound approaches to include one exclusive left-turn lane and one shared through/right-turn lane. The west-	Prior to approval of each Tentative Map under Plan B Prior to approval of each Tentative Map under Plan B	PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Determine project's fair share of improvement cost.	Developer Developer	

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	bound approach shall be widened to include one exclusive left-turn lane, one through lane, and one right-turn lane. The southbound approach shall be widened to include two exclusive left-turn lanes and a shared through/right-turn lane. In addition to the intersection widening, Road 25 A shall be widened to four lanes from East Street to Parkway Drive. Specific intersection widening at the SR 113 interchange and at the Road 25A/Parkway Drive intersection associated with this widening is addressed in Mitigation Measure 4.6-6 (f,g,j) for Plan B. The City of Woodland shall determine the method and timing of contribution for this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map under Plan B As funding becomes available	PWD PWD	Construct improvement, if needed. Reimburse developer for other projects' portion of improvement costs.	Developer City	
	(A) (f) A traffic signal shall be installed at the Road 25A/SR 113 Southbound Ramps intersection. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm	Prior to approval of each Tentative Map under Plan A	PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map.	Developer	

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	existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map under Plan A	PWD	Construct improvement, as needed according to the traffic study.	Developer	
	(A) (g) A traffic signal shall be installed at the Road 25A/SR 113 Northbound Ramps intersection. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map under Plan A Prior to approval of each Tentative Map under Plan A	PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Construct improvement, as needed according to the traffic study.	Developer Developer	
	(B) (f,g) Based on the Specific Plan-wide CIP and financing plan required by Mitigation Measure 4.6-8, each development shall contribute its fair share to the modification of the Road 25 A/SR 113 interchange. The design modification to the interchange shall be based on the outcome of the Caltrans Project Study Report (PSR) conceptual approval process. The four lanes on Road 25A shall extend from East Street to Parkway Drive. The southbound and northbound off-ramp approaches to Road 25A shall include a minimum of two exclusive left-turn lanes and an exclusive right-turn lane. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as	Prior to approval of each Tentative Map under Plan B Prior to approval of each Tentative Map under Plan B	PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Construct improvement, as needed according to the traffic study.	Developer Developer	

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	required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. Should the Parkway Drive overcrossing be constructed, further traffic study is required to determine the extent of additional improvements to the Road 25A/SR 113 interchange if needed.	Prior to first Tentative Map under Plan B	PWD	Preparation and acceptance of study of Road 25A/SR 113.	First Developer	

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	(A) (h) A traffic signal shall be installed at the Pioneer Avenue/A Street intersection and the eastbound and westbound approaches to include an exclusive left-turn lane and a shared through/right-turn lane shall be constructed. Pioneer Avenue shall be constructed to its ultimate four-lane width as identified in the Specific Plan prior to 2020 and additional signalized access shall be provided to the proposed high school.	Prior to approval of each Tentative Map under Plan A	PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map.	Developer	
		Prior to approval of each Tentative Map under Plan A	PWD	Construct improvement, as needed according to the traffic study.	Developer	
	The westbound approach to this intersection would serve the proposed high school. The level of traffic generated by the high school during the a.m. peak hour will likely be sufficient to warrant another signalized access and potentially require additional improvements at the Pioneer Avenue/A Street intersection. Traffic operations in this location could also be adversely affected by the middle school, which is proposed directly south of the high school. The close proximity of these two schools would not be desirable given the a.m. peak hour traffic volume characteristics for schools. This issue would also apply to the Gibson Road/Pioneer Road intersection in both plans and the Pioneer Avenue/B Circle North intersection in Plan B.					
	The proposed Sports Park in the vicinity of these intersections also has the potential to create adverse traffic operations impacts. The location of	During design of Sports Park and schools under Plan A	Parks Dept. for Sports Park; School District for schools	Examine traffic and circulation issues associated with design of Sports Park and schools	Park Dept. for Sports Park and School District for schools	

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	the schools and Sports Park need to be carefully considered in relation to their access and circulation needs. These potential issues need to be addressed on a more detailed level no later than the time at which a site plan for the high school, middle school, or Sports Park is developed. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation improvements and timing that are required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.			and incorporate solutions into site and facility design.		

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	(A) (i) A traffic signal shall be installed at the Parkway Drive/D Street intersection and the northbound and southbound approaches shall be constructed to include an exclusive left-turn lane and a shared through/right-turn lane. In addition, the eastbound and westbound approaches shall be constructed to include an exclusive left-turn lane, an exclusive through lane, and a shared through/right-turn lane. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map under Plan A Prior to approval of each Tentative Map under Plan A	PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Construct improvement, as needed according to the traffic study.	Developer Developer	
	(B) (j) A traffic signal shall be installed at the Parkway Drive/Road 25A intersection and the northbound approach to include one exclusive left-turn lane and one exclusive right-turn lane shall be constructed. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine	Prior to approval of each Tentative Map under Plan B Prior to approval of each Tentative Map	PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Construct improvement, as needed according to the traffic study.	Developer Developer	

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	the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.					
	(B) (k) A traffic signal shall be installed at the Pioneer Avenue/B Circle North intersection and the eastbound and westbound approaches shall be constructed to include an exclusive left-turn lane and a shared through/right-turn lane. Mitigation Measure 4.6-6(A)(h) shall be implemented as it relates to intersection improvements associated with school access. The City of Woodland shall determine the timing of this mitigation measure. To assist the City in its determination, the developer shall prepare a traffic impact study for each tentative map as required by General Plan Policy 3.A.4 to confirm existing conditions and to determine the specific mitigation timing that is required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2.	Prior to approval of each Tentative Map Prior to approval of each Tentative Map	PWD PWD	Prepare "map-specific" traffic impact study to identify traffic improvements needed for development included in the Tentative Map. Construct improvement, as needed according to the traffic study.	Developer Developer	
4.6-7 The proposed project, in combination with cumulative development, would create inconsistencies with roadway-related policies of the City of Woodland General Plan.	4.6-7 (A) (a) (i) Plan A shall be modified to comply with the functional classification system of the General Plan. OR	Prior to approval of Specific Plan A OR	CDD OR	Make appropriate revisions to Specific Plan figures and text. OR	Applicant OR	

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	(ii) Find that the proposed project is substantially consistent with General Plan policies.	At time of approval of Specific Plan A	CDD	Make appropriate Findings of Fact.	City Council	
	(B) (b) (i) Plan B shall be modified to comply with the functional classification system of the General Plan.	Prior to approval of Specific Plan B	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	OR	OR	OR	OR	OR	
	(ii) Find that the proposed project is substantially consistent with the General Plan policies.	At time of approval of Specific Plan B	CDD	Make appropriate Findings of Fact.	City Council	

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	AND (iii) With regard to the overcrossing of SR 113, the City shall find that the proposed project is substantially consistent with the General Plan policies by preserving right-of-way for a future overcrossing should one be desirable.	AND At time of approval of Specific Plan B	AND CDD	AND Make appropriate Findings of Fact.	AND City Council	
4.6-8 Development of the proposed project would generate 48,690 to 52,200 daily vehicle trips under the specific plan portions of Plan B or Plan A (respectively) and 115,330 to 127,240 daily vehicle trips under full build out of Plan A and Plan B (respectively).	4.6-8 (A/B) (a) Development within the new growth area shall be assessed its fair share of offsite and onsite roadway improvement costs based on its use of existing and proposed facilities and consistent with General Plan Policy 3.A.6. A fee mechanism shall be established to fund necessary roadway/freeway improvements prior to approval of any tentative map or issuance of a building permit within the boundaries of the specific plan. These fees shall subsequently be charged of all development that proceeds in the area.	Prior to approval of first Tentative Map Prior to acceptance of Final Map, or for projects that do not require a Map, prior to issuance of building permit	PWD PWD/BD	The applicant shall identify and establish an appropriate mechanism, acceptable to the City, for funding backbone roadway and freeway improvements. Payment of appropriate fees.	Developer Developer	
	(b) Every development within the new growth area shall be required to submit an acceptable traffic impact study to confirm existing conditions and identify roadway and intersection improvements required to maintain the City's LOS thresholds identified in General Plan Policy 3.A.2. These project level traffic studies will	Prior to approval of each Tentative Map	PWD	The scope and assumptions for each project-specific study shall be subject to City approval to ensure consistency with the assumption of the EIR traffic and circulation analysis and this measure.	Developer	

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	determine the timing of local improvements (such as traffic signals) to be implemented with each development. The analysis shall take into account proposed lotting, site design, local street pattern, access, traffic calming, and other pertinent factors including consistency with General Plan Policies 3.B.1, 3.B.5, and 3.B.6. If a project-level study identifies a needed improvement prior to the collection of sufficient fees to fund the improvement, the developer shall install the improvement prior to occupancy and receive credit against future fees or be reimbursed.	Prior to occupancy	PWD	Design, construct, and secure acceptance of required improvements.	Developer	
	(c) A plan for financing public facilities shall be finalized and shall identify the means to fully fund all improvements wholly or partially triggered by the Turn of the Century Specific Plan. These mechanisms shall be put into place prior to the approval of the first tentative map within the plan area. Fees shall be collected with final maps or building permits, whichever occurs first.	Prior to approval of first Tentative Map	PWD	The applicant shall identify and establish, appropriate mechanisms, acceptable to the City for funding all improvements, facilities, and programs required (wholly or partially) for the proposed Specific Plan development.	Applicant	
	(d) A capital improvement program (CIP) shall be finalized and shall identify and cost-out all improvements wholly or partially triggered by the Turn of the Century Specific Plan. This plan shall provide a schedule for implementation of identified improvements, in coordination with the existing citywide Major Projects Financing Plan and the Specific Plan public facilities financing	Prior to approval of first Tentative Map	PWD	The applicant shall prepare and submit the final TOC Specific Plan CIP consistent with the terms of the measure. The CIP is subject to PWD review and approval.	Applicant	

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	plan. This CIP shall be updated on a regular basis, based on the results of the monitoring of traffic volumes and based on project-specific traffic impact studies.					
	(e) Each development shall be required to pay appropriate traffic mitigation fees or contractually bind themselves to voluntarily do so, prior to acceptance of final maps, or issuance of building permits, where a map is not required.	Prior to acceptance of Final Map, or prior to issuance of building permit, where Map is not required	PWD	Payment of appropriate fees.	Developer	
		Air Quality				
4.7-1 Project-related construction activity would generate criteria air pollutants.	4.7-1 (A/B) In addition to Specific Plan Policies 11.13.Q, 11.13.R and 11.13.S, the Specific Plan shall be revised to require the contractor to implement the following:	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(a) Trucks hauling dirt and debris shall be adequately covered to prevent visible dust emissions.	During site work and construction	PWD	Verify that construction contracts include specifications listed in mitigation measures. Verify through site visit that measure is being property mitigated.	Developer	

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	(b) On dry days, dirt or debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction related dirt in dry weather.	During site work and construction	PWD	Verify that construction contracts include specifications listed in mitigation measures. Verify through site visit that measure is being property mitigated.	Developer	
	(c) Exposed soils and onsite stockpiles of excavated materials shall be covered, stabilized or watered to prevent dust emissions from creating a nuisance in the vicinity or to surrounding properties.	During site work and construction	PWD	Verify that construction contracts include specifications listed in mitigation measures. Verify through site visit that measure is being property mitigated.	Developer	
	(d) Onsite vehicle speeds shall be operated on unpaved surfaces at speeds that will not create dust emissions that would cause a nuisance in the project vicinity or to surrounding properties.	During site work and construction	PWD	Verify that construction contracts include specifications listed in mitigation measures. Verify through site visit that measure is being property mitigated.	Developer	
	(e) Soils shall not be exposed nor grading shall occur during periods when wind speeds would cause dust emissions to create a nuisance in the vicinity or to surrounding properties.	During site work and construction	PWD	Verify that construction contracts include specifications listed in mitigation measures. Verify through site visit that measure is being property mitigated.	Developer	

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4.7-3 Operational emissions resulting from project-related energy consumption and motor vehicle trip generation could exceed ROG, NO_X and CO standards.	4.7-3 (A/B) The Specific Plans shall be revised to include the following residential design features to be incorporated in the project development regulations and required for all residential development:	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(a) Solar water heaters, in conjunction with low-NO_x gas fired water heaters shall be provided in 50 percent of the units.	Prior to issuance of building permit	CDD/BD	Verify that building plans include specifications identified in the mitigation measure.	Developer	
	(b) All new wood burning appliances, such as wood stoves, shall be certified (EPA Phase II) by the US EPA.	Prior to issuance of building permit	CDD/BD	Verify that building plans include specifications identified in the mitigation measure.	Developer	
	(c) Only high efficiency gas or electric appliances shall be installed in each unit.	Prior to issuance of building permit	CDD/BD	Verify that building plans include specifications identified in the mitigation measure.	Developer	
	(d) A separate electric outlet shall be provided in each garage to allow for the convenient recharging of cordless electric lawn mower and gardening equipment.	Prior to issuance of building permit	CDD/BD	Verify that building plans include specifications identified in the mitigation measure.	Developer	
	(e) One cordless electric lawnmower shall be provided with each single-family residential unit.	Prior to issuance of building permit	CDD/BD	Verify that building plans include specifications identified in the mitigation measure.	Developer	
	(f) Light colored roofing materials shall be used on all structures in order to reduce energy demand.	Prior to issuance of building permit	CDD/BD	Verify that building plans include specifications identified in the mitigation measure.	Developer	

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4.7-4 Existing agriculture operations, industrial uses such as sugar processing facilities, and the City's wastewater treatment plant could produce odors that could be experienced by future residents of the project site.	4.7-4 (A/B) Implement Mitigation Measure 4.1-1 from Section 4.1, Land Use.	See Mitigation Measure 4.1-1.				
4.7-6 Project emissions, in combination with other development in the air basin, could interfere with achievement of Attainment Plan goals.	4.7-6 (A/B) Implement Mitigation Measures 4.7-1 and 4.7-2.	See Mitigation Measures 4.7-1 and 4.7-2.				
Noise						
4.8-2 Noise-sensitive uses within the project site could be exposed to traffic noise in excess of City standards.	4.8-2 (A/B) Prior to approval of each tentative map, the project applicant shall demonstrate that exterior and interior noise levels will not exceed the levels shown in Table 4.8-2. The noise standards may be achieved through a combination of site design, sound attenuation measures (interior and exterior) and/or noise barriers.	Prior to approval of each Tentative Map	CDD	A qualified noise consultant shall evaluate potential noise levels at proposed development, taking into account distance and barriers, and recommend additional noise attenuation measures as needed, to achieve City noise standards.	Developer	
		Prior to occupancy permit	CDD/BD	Verify that required noise attenuation measures have been incorporated.	Developer	
4.8-4 Although the project site is located well beyond the noise impact zone (60 dB L_{dn} contours) for the Sacramento International	4.8-4 (A/B) A disclosure statement shall be provided to all prospective buyers of properties within the project site notifying that Sacramento	Prior to approval of each Tentative Map	CDD/City Attorney	Prepare deed disclosure language to satisfaction of City Attorney.	Developer	

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Airport, occasional overflights by commercial aircraft may disturb project residents.	International Airport Commercial Aircraft overflights of the project site at relatively low altitudes currently occur and will continue to occur in the future.	Prior to approval of each Tentative Map	CDD	Document attachment of deed disclosure to title for each parcel.	Developer	
4.8-5 If the private airstrip remains in use, occasional small aircraft arrivals, departures and overflights at the private airstrip could disturb project residents.	4.8-5 (A/B) A disclosure statement shall be provided to all prospective buyers of properties within the project site notifying that the Hollman Field may continue to exist and operate small aircraft following commencement of development within the project site.	Prior to approval of each Tentative Map Prior to approval of each Tentative Map	CDD/City Attorney CDD	Prepare deed disclosure language to satisfaction of City Attorney. Document attachment of deed disclosure to title for each parcel.	Developer Developer	
4.8-6 Noise from agriculture operations, including crop-dusting, could disturb project residents.	4.8-6 (A/B) Implement Mitigation Measure 4.1-1 from Section 4.1, Land Use and Planning.	See Mitigation Measure 4.1-1.				
4.8-7 The Regional Park east of the southeast corner of the project site could result in clearly audible noise levels at the proposed low-density residential uses.	4.8-7 (A/B) (a) A disclosure statement shall be provided to all prospective buyers or tenants of properties within 300 feet of the Regional Park site notifying of the presence of existing and future noise-producing model airplane, rodeo, and playing field activities. Notification of prospective tenants shall be the property-owners responsibility. (b) If the operation of the model airplanes is shown to exceed City standards at noise-sensitive land uses within the project site, additional noise mitigation measures shall be implemented as necessary and appropriate. Such	Prior to approval of each Tentative Map Prior to approval of each Tentative Map Ongoing	CDD/City Attorney CDD CDD	Prepare deed disclosure language to satisfaction of City Attorney. Document attachment of deed disclosure to title for each parcel. Monitor noise levels at residential boundaries as needed. Identify additional operational controls.	Developers of property within 300 ft. of Regional park boundaries Developers of property within 300 ft. of Regional park boundaries Parks Department/ Aeromodelers	

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	measures could include limiting the allowable flight patterns, limiting operations to muffled airplanes, restricting the loudest engine types, and limiting hours of operation of the model aircraft operations.					
4.8-8 Noise-producing aspects of certain land uses developed within the project site could exceed the City of Woodland General Plan noise standards or expose future residents within the project site to substantial short-term increases in ambient noise levels.	4.8-8 (A/B) (a) The Specific Plan shall specify that active recreation areas of school playgrounds and neighborhood parks shall be located as far as possible from residential property lines and solid noise barriers shall be constructed at the interfaces of such playgrounds and residential areas. Noise barrier heights shall be sufficient to intercept line of sight from the play areas, (including elevated play structures) to the center of adjacent back yards at a height of 5 feet. In most cases, a barrier height of 6 feet would be sufficient. Noise barriers shall be constructed of solid materials such as masonry or precast concrete, rather than wood, or shall be earthen berms or a combination of berm and wall.	Prior to approval of Specific Plan Prior to approval of school and/or park site plans or facilities design	CDD CDD for parks/School District for schools	Make appropriate revisions to Specific Plan figures and text. Verify that site and facilities plans include specified noise measures.	Applicant Parks Department for parks/School District for schools	
	(b) The Specific Plan shall specify that loading dock areas shall be located as far as possible from residential property lines and consideration shall be given to constructing solid noise barriers at the interfaces of loading docks and residential areas. In addition, to the extent possible, truck deliveries shall be limited to daylight	Prior to approval of Specific Plan Prior to issuance of use permit or building permit for	CDD CDD/BD	Make appropriate revisions to Specific Plan figures and text. Verify that building plans comply with measure.	Applicant Developer	

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	hours.	commercial uses				
	(c) The Specific Plan shall specify that car washes associated with new gas stations are to be conditionally allowed uses only. Each car wash facility shall demonstrate that site design and proposed operations would not result in noise levels above the applicable City of Woodland noise standards. Specific attention shall be paid to the locations of dryers and vacuums relative to nearby residential areas.	Prior to approval of Specific Plan Prior to issuance of use permits for car washes	CDD CDD	Make appropriate revisions to Specific Plan for figures and text. Document that car wash design and operation of car washes complies with measure.	Applicant Developer	
	(d) Implement Mitigation Measure 4.1-4, which requires that the Sports Park be subject to a conditional use permit. Active areas, such as diamonds and bleachers, shall be located a minimum of 100 feet from the eastern boundary of the park site.	See Mitigation Measure 4.1-4.				
	(e) The following measures shall be implemented for the sports park:					
	(i) Park maintenance activities shall be limited to the hours of 7 a.m. to 10 p.m. on weekdays.	Ongoing	Parks Department	Periodically review park operations to ensure compliance with measures (i), (ii) and (iii).	Parks Department	
	(ii) All park equipment using internal combustion engines shall be properly muffled in accordance with manufacturers specifications.	Ongoing	Parks Department	Periodically review park operations to ensure compliance with measures (i), (ii) and (iii).	Parks Department	
	(iii) The public address system shall be designed and tested	Ongoing	Parks Department	Periodically review park operations to ensure	Parks Department	

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	so as not to generate noise levels in excess of 50 dB Leq during the day or 45 dB Leq between 10 p.m. and 7 a.m., at the park property boundaries. Consideration should be given to increasing the number of speakers and using lower volume settings, focusing the speakers on the spectator areas (away from residential uses).			compliance with measures (i), (ii) and (iii).		
	(iv) Earth berms and or solid noise barriers shall be erected at the interface of all residential uses located adjacent to the park site to a sufficient height to intercept line of sight from park activities (including parking lots) to the adjacent residential back yards or outdoor activity areas.	Prior to approval of park design	Parks Department	Based on recommendations of a noise consultant, use barriers and setbacks to achieve City noise standards.	Parks Department	
	(v) Implement Mitigation Measure 4.1-4(d) for Plan B.	See Mitigation Measure 4.1-4(d).				

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	(B) (f) The fire station in Plan B shall be relocated so that it is not immediately adjacent to residential or other land uses which have a high sensitivity to noise.	Prior to approval of Specific Plan B	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
4.8-9 Future cumulative plus project traffic noise levels could exceed the 60 dB L_{dn} exterior noise level standard of the City of Woodland at proposed residential uses located within the project site.	4.8-9 (A/B) Implement Mitigation Measures 4.8-1 and 4.8-2.	See Mitigation Measures 4.8-1 and 4.8-2.				
Visual Resources and Aesthetics						
4.9-1 The proposed project may be inconsistent with the General Plan goals and policies related to visual character and the City's Community Design Guidelines.	4.9-1 (A/B) (a) Figures 5.5.A and 5.5.B of the Specific Plan and associated text shall be modified to show garages subordinate to the main living area, pursuant to the City's Community Design Guidelines, Guidelines for Single-Family Development, Site Planning for Single-Family Residences.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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	(b) Figure 5.5.C of the Specific Plan and associated text shall be modified to show 5-foot minimum sidewalks and 20-foot minimum front yard setbacks, pursuant to the Community Design Guidelines, Neighborhood Design Standard 6.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(B) (c) If Plan B is adopted, the City shall amend the Community Design Guidelines to allow for the Plan B street pattern.	In conjunction with approval of Specific Plan B	CDD	Make appropriate amendments to Community Design Guidelines to ensure consistency with Plan B, if adopted.	Applicant/CDD	
Cultural Resources						
4.10-1 The proposed project could damage or destroy unidentified prehistoric and historic cultural resources.	4.10-1 (A/B) In addition to Specific Plan Policy 5.5.P., the Specific Plan shall be amended to include the following measures which shall be implemented during project construction:	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(a) If a Native American site is discovered, then the evaluation process shall include consultation with the appropriate Native American(s).	During site work and/or construction	PWD/BD	Verify that these provisions are included in construction contracts.	Developer	
	(b) If human remains are discovered, California law requires that work must stop immediately and the County Coroner must be notified, according to Section 7050.5 of the California Health and Safety Code. If the remains are Native American, the coroner shall notify the Native American Heritage Commission, which in turn shall inform a most likely descendant. The descendant will	During site work and/or construction	PWD/BD	Verify that these provisions are included in construction contracts.	Developer	

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	then recommend to the landowner appropriate disposition of the remains and any grave goods which may include in-situ reinterment of the remains and any associated artifacts and capping the site or relocation and reinterment.					
4.10-2 The proposed project could substantially alter a potentially significant historic resource and/or its context.	4.10-2 (A/B) The Specific Plan shall be amended to require that, prior to modification or removal of any potentially historic existing structures, the project applicant submit a report from a professional architectural historian assessing the historical significance of the structure/resource. If significant historic structures are identified, mitigation pursuant to Sections 15064.5 and 15126.4 of the CEQA Guidelines, as identified and applied in the architectural historian's recommendations, shall be followed.	Prior to approval of Specific Plan Prior to removal of any structure Prior to removal of any structure over 45 years of age	CDD CDD CDD	Make appropriate revisions to Specific Plan figures and text. Determine age of structures to be removed through review of USGS maps, assessors maps and other documents. If potentially historic, a qualified architectural historian shall document historic significance. If structure is potentially historically significant, it shall be avoided and/or recorded, as recommended by the historian.	Applicant Developer Developer	
4.10-3 Construction of offsite infrastructure could damage or destroy undiscovered archeological and/or historic resources.	4.10-3 (A/B) The Specific Plan shall be amended to include the following:	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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	(a) Phase I archaeological surveys (archival research and visual surface inspections) shall be required for all offsite infrastructure, prior to final design. If potentially significant cultural resources are identified during the Phase I archaeological survey(s), mitigation pursuant to Section 21083.1 of the Public Resources Code and Sections 15064.5 and 15126.4 of the CEQA Guidelines and any other applicable regulations, as identified and applied in management recommendations made by a qualified expert, shall be followed.	Prior to approval of Improvement Plans for offsite infrastructure	PWD/CDD	Undertake Phase 1 archeological surveys for all offsite infrastructure routing prior to approval of Improvement Plans. Implement mitigation plan, if needed, consistent of measure and CEQA requirements.	Developer	
	(b) In the event that cultural resources are uncovered during project construction (e.g., foundations, historic tools, refuse/trash piles, shell deposits, arrowheads, chip stone, objects that appear to be out of place are observed), implement Mitigation Measures 4.10-1 (a) and (b).	During site work and construction	PWD/BD	Verify that contractor's contract includes identified specifications.	Developer	
4.10-5 Cumulative development in the City of Woodland, in conjunction with the development of the proposed project, could contribute incrementally to the regional loss of cultural resources in Yolo County.	4.10-5 (A/B) Implement Mitigation Measures 4.10-1 (a) and (b), 4.10-2 and 4.10-3(a) and (b).	See Mitigation Measures 4.10-1(a) and (b) and 4.10-3(a) and (b).				
Population, Employment and Housing						
4.11-2 The proposed project would increase demand for	4.11-2 (B)	Prior to approval of Specific Plan B	CDD	Make appropriate revisions to Specific Plan	Applicant	

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affordable housing.	(a) (i) Specific Plan B shall be amended to provide that 35% of total dwelling units are multifamily.			figures and text.		
	OR	OR	OR	OR	OR	
	(ii) The City shall find that Specific Plan B is substantially consistent with the Housing Element.	Prior to approval of Specific Plan B	CDD	Make appropriate Findings of Fact.	City Council	

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	(A/B) (b) Prior to approval of the first tentative map, an Affordable/ Special Needs Housing Plan shall be prepared for the Specific Plan and submitted to the City for review and approval. The Housing Plan shall indicated how a fair-share of the affordable/special needs housing obligations of the City will be implemented within the Specific Plan on a subdivision basis. The Plan shall demonstrate compliance with the policies of the City Housing Element including: ▪ Identification of areas for land donations and/or other sites for construction of affordable housing under various programs or as proposed by the developer. Specific sites for multiple units within each phase shall be identified in advance and disclosed on deeds and in real estate documents for underlying and adjoining subdivisions, marketing brochures, and via signage posted at the sites.	Prior to approval of first Tentative Map	CDD	The applicant shall prepare and submit the TOC Specific Plan Affordable/Special Needs Housing Plan consistent with the terms of the measure and local requirements. The plan is subject to CDD review and approval.	Applicant	

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	▪ Achievement of the requirements shown in Table 4.11-5. Methods shall be identified by which these units will be proportionately required within each of the Phases on a subdivision by subdivision basis, so that affordable housing of all types keeps pace with construction of single family market rate housing as development within the Plan Area occurs. ▪ Criteria for individual subdivisions to ensure that affordable housing/special needs housing is integrated within all single family subdivisions including requirements for duplexes on corner lots, second units on single-family lots, senior housing, congregate care facilities, single rooms/studios in non-residential areas, and other types of projects. ▪ Mechanisms for ensuring that permanent affordability be incorporated into the Plan.					

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	▪ Provisions for ensuring compliance with the inclusionary housing provisions of the ordinance (Section 6A-3-60). ▪ Mechanisms for reservation, protection, and disclosure of lots for affordable projects					
4.11-4 The proposed project may be inconsistent with the City of Woodland General Plan policies.	4.11-4 (A/B) (a) (i) The Specific Plan shall be amended to incorporate a greater range of densities;	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(ii) Proposed large blocks of multi-family units shall be more evenly distributed throughout the Plan Area; and	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	(iii) The Specific Plan shall identify and incorporate varying types of multi-family and affordable housing, such as co-op housing, corner duplexes, and senior facilities.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	
	OR	OR	OR	OR	OR	
	(b) For any rejected measure, the City shall make a finding of substantial conformity with the General Plan.	Prior to approval of Specific Plan	CDD	Make appropriate Findings of Fact.	City Council	
	(c) The Specific Plan shall be revised to require that no more than 100 multi-	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan	Applicant	

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	family units be located in any one area.			figures and text.		
4.11-5 The proposed project, in combination with future buildout in the City of Woodland, would increase the City's population.	4.11-5 (A/B) (a) The City shall regulate growth in the Master Plan Remainder Area so that the City of Woodland population does not exceed 60,000 by the Year 2015.	Until 2015	CDD	For each new project, calculate projected City population. Residential projects that would cause the City's population to exceed 60,000 shall not be approved prior to 2015.	CDD	
	OR	OR	OR	OR	OR	
	(b) Find that the proposed project is essentially consistent with the direction of General Plan policies.	Prior to approval of Specific Plan	CDD	Find that the project is consistent with the General Plan.	City Council	
	OR					
	(c) Amend the General Plan to allow for growth beyond 60,000 by 2015.	Prior to approval of projects that would cause the City's population to exceed 60,000	CDD	Amend the General Plan to allow for population growth of more than 60,000 before 2015.	City Council	

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Public Health and Safety						
4.12-1 The proposed project could expose future occupants and construction workers to localized soil or groundwater contamination due to prior site uses.	4.12-1 (A/B) (a) Prior to tentative map approval for each development within the project site, the applicant shall complete an Environmental Site Assessment (Phase 1) in accordance with professional standards to determine the potential for past or current uses within the project site to have resulted in soil or groundwater contamination at any location that will be developed under the proposed project, or for releases from offsite locations (e.g., the former City landfill) to have adversely affected groundwater under the project site. Results of the site assessment shall be provided to the City of Woodland Planning Department and Yolo County Environmental Health Department.	Prior to approval of each Tentative Map	PWD	Document that a Phase 1 Site Assessment has been completed.	Developer	
	(b) If contamination is suspected, the applicant shall proceed with additional investigation (Phase 2), including, but not limited to, soil and groundwater testing. A work plan for and results of the investigation shall be submitted to the City of Woodland Community Development Department and Yolo County Environmental Health Department for review and concurrence. The results of the study shall identify recommended measures to reduce potential risks, if any, to individuals and the environment that could occur during site development or future occupancy.	Prior to approval of each Tentative Map where Phase I study indicates that contamination could be present	PWD	Document that a Phase 2 Site Assessment has been completed.	Developer	

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	(c) If risk management measures are determined to be necessary, the applicant shall develop a plan for use prior to, during, and after site development that identifies requirements for soil management (e.g., excavation, re-use, or disposal), construction dewatering, and air monitoring to protect construction workers, current and future onsite occupants and visitors, and offsite populations. The plan shall also identify contingency measures in the event previously unidentified hazards are encountered during site development. Contract specifications shall reflect identified risk management measures.	After completion of a Phase 2 Site Assessment, and prior to approval of Tentative Map	PWD	The applicant shall prepare and submit a risk management plan consistent with the terms of the measure, accepted engineering practice and best available technology.	Developer	
	(d) The applicant shall obtain necessary agency approvals prior to implementing any identified measures in the risk management plan. The results of additional testing, monitoring, tank removal, soil or groundwater cleanup, or other equally effective risk management measures shall be submitted to the regulatory agency/agencies with jurisdiction over the particular risk management activity prior to, during, or after development, as appropriate for the type of activity. Agencies that could require notification would include, but would not be limited to, Woodland Fire Department, Yolo County Environmental Health Department, Yolo-Solano Air Pollution Control	Prior to approval of Tentative Map for projects requiring a risk management plan	PWD	Document that agency approvals have been obtained.	Developer	

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	District, Central Valley Regional Water Quality Control Board, or California Department of Toxic Substances Control. All activities shall comply with applicable federal, State, and local laws and regulations pertaining to hazardous materials management.					
4.12-4 The proposed project could expose future residents and construction workers to nuisance pests (black gnats).	4.12-4 (A/B) Prior to each construction season, each landowner or developer with a project under construction shall consult with the Sacramento-Yolo Mosquito Vector Control District to identify safe, effective, and feasible means to reduce onsite Valley black gnat populations during construction activities that take place during the active season. Such methods could include physical controls, such as watering, or the use of chemical insecticides. The applicant's contractor shall use only those methods for site insect control that it has developed through consultation with the District.	Prior to each construction season During site work and construction	SYMVCD SYMVCD	Document that contractor has consulted with District to identify means for reducing gnat population. Verify that identified measures are being implemented through a site visit.	Developer Developer	

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4.12-5 Detention basins and other storm drainage system water features could increase mosquito and other vector populations.	4.12-5 (A/B) (a) Prior to final design of storm drainage system features that convey or store water, the City shall ensure compliance with applicable vector control standards as adopted by the Sacramento-Yolo Mosquito and Vector Control District. Vector control measures shall include, but would not be limited to: ▪ Adequate drainage shall be incorporated to drain minor flows and prevent ponding; ▪ Detention/retention facilities shall be designed to minimize mosquito production and shall be capable of being completely drained; ▪ Adequate access and clearance for motorized vector and weed control equipment shall be provided; and ▪ Project design shall incorporate features to minimize the amount of surface runoff carrying nutrients into slow-moving channels or standing water.	Prior to approval of Improvement Plans for backbone infrastructure and subsequent infrastructure for each Tentative Map	SYMVCD	Document that storm drainage system incorporates vector control standards.	Applicant/ Developer	
	(b) During project operation, the City shall coordinate with the Sacramento-Yolo Mosquito and Vector Control District to ensure onsite open	Ongoing	PWD	Coordinate on regular basis with SYMVCD.	PWD	

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	drainages, channels, and detention/retention facilities are monitored and managed to control mosquitoes and other vectors. If the District determines additional controls are necessary, the City shall ensure implementation of the controls.					
4.12-6 If the private airstrip remains operational, development of the proposed project could expose people and property to aircraft hazards.	4.12-6 (A/B) (a) As long as the airstrip remains operational, the project applicant shall ensure that the placement and height of structures east of the airstrip runway achieve the 20:1 approach surface criterion. This may be accomplished by limiting the height of structures and selection of appropriately sized landscape trees, or providing adequate distance separation where limiting the height is not practical or feasible. At no time shall the distance between the east end of the runway and the nearest project feature be less than 200 feet.	Prior to approval of Tentative Map for Parcel 042-010-46	CDD	Document that the placement and height of proposed structures are designed per the mitigation measure.	Developer	
	(b) Prior to occupancy of any structure where height or siting design standards have been imposed to meet the 20:1 approach surface criterion, the applicant shall provide proper notification to the Caltrans Division of Aeronautics and/or Federal Aviation Administration, as appropriate. The notification shall provide required details of proposed development in accordance with agency regulations (FAR Part 77).	Prior to final inspection	CDD	Document that notification was provided.	Developer	
	(c) If warranted by safety and/or nuisance concerns, the City shall require closure	Ongoing; at any time.	CDD	If warranted, undergo proper notification and set	Planning Commission/City	

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	of the airstrip by revocation of the use permit, or amortization/abatement of the use as non-conforming.			hearing for revocation.	Council	
	(d) Implement Mitigation Measure 4.8-5.	See Mitigation Measure 4.8-5.				
4.12-7 The proposed project, in combination with development that could occur with General Plan buildout, would increase the number of people who could be exposed to potential hazards associated with hazardous materials (including agricultural operations), vectors (primarily mosquitoes), and aircraft operations.	4.12-7 (A/B) (a) Implement Mitigation Measure 4.12-1(a) through 4.12-1(d) (Contaminated Sites).	See Mitigation Measure 4.12-1(a) through 4.12-1(d).				
	(b) Implement 4.12-5(a) through 4.12-5(b) (Mosquitoes and Vectors).	See Mitigation Measure 4.12-5(a) through 4.12-5(b).				
	(c) Implement 4.12-6(a) through 4.12-6(d) (Private Airstrip Operations).	See Mitigation Measure 4.12-6(a) through 4.12-6(d).				

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
4.12-8 The proposed project, in combination with development of other projects that could occur with General Plan buildout, would increase the number of people who could be exposed to nuisance pests (black gnats).	4.12-8 (A/B) Implement Mitigation Measure 4.12-4 (Black Gnats).	See Mitigation Measure 4.12-4.				
Public Services and Facilities						
4.13-1 The proposed project would increase demand for fire protection services.	4.13-1 (A/B) (a) Prior to the first tentative map approval, the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan shall demonstrate that fire station locations and operations will be adequate to service the new development according to City fire standards and policies.	Prior to approval of first Tentative Map	CDD/Fire Dept.	Amend final Specific Plan Public Facilities Financing Plan and CIP to include fire station locations and operations are adequate, per City Council action on final Specific Plan.	Applicant	
	(b) The Specific Plan shall be amended to provide for the construction of Fire Station Four in the project site when one of the following project elements is constructed beyond the four minute response time from an existing Woodland Fire Station: (i) Two light commercial or planned unit developments with a fire flow of 2,500 gpm are constructed;	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan.	Applicant	
	OR (ii) One educational occupancy					

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	with a combined fire flow of 2,500 gpm for use with grades 12 and under is constructed for year-round scheduling; OR (iii) One-hundred dwelling units.					
	(c) Per the Woodland Fire Department requirements, all new construction built prior to the construction and staffing of the fire station shall be supplied with a disclosure notice informing the owner or tenants of the delayed level of response.	Prior to approval of first tentative map for first commercial use, school, or 100 residential units Prior to approval of Tentative Map	CDD/City Attorney CDD	Prepare deed disclosure language to satisfaction of City Attorney. Document attachment of deed disclosure to title of each parcel, consistently measure.	Developer Developer	
	(d) The Fiscal Impact Analysis for the Turn of the Century Specific Plan shall demonstrate that the identified increased demand for fire fighters, support personnel, and equipment will be adequately funded, on a phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficiency, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing.	Prior to approval of first Tentative Map	Fire Dept.	Document that the Fiscal Impact Analysis provides adequate funding or that a "gap financing mechanism" satisfactory to the City has been included in the Financing Plan.	Applicant/ First Developer	
	(e) The City's existing Major Projects Financing Plan shall be amended and fee schedule revised to incorporate construction of the new fire station. This station (including the phase of	Prior to approval of first Tentative Map	PWD	Document that the Major Projects Financing Plan has been amended and fee schedule revised. TOC Specific Plan Pubic	Applicant/ First Developer	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	development at which time it will be required) shall be described in greater detail in the Turn of the Century Specific Plan Public Facilities Financing Plan and Capital Improvements Plan. Individual projects proposed within the project site shall pay the appropriate capital facility fees to finance the construction of new fire protection capital facilities. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.	Prior to Final Map, or to issuance of building permit if no map, if needed.	PWD	Facilities Financing Plan and Capital Improvements Plan shall be finalized and accepted by City. Verify that fees have been paid.	Developer	
4.13-2 The proposed project would impede the ability of the fire department to efficiently access all portions the project site.	4.13-2 (B) (a) Prior to the first tentative map approval, the project applicant shall demonstrate that the entire project site can be served within 4 minutes from existing and planned fire stations. The City's Fire Station Location Study Model shall be used to determine response time.	Prior to approval of first Tentative Map under Plan B	Fire Dept.	Demonstrate that the project site can be adequately served on proposed curvi-linear road pattern.	Applicant	
	OR (b) If response times cannot be met, the project applicant shall provide for an additional fire station or other acceptable mechanism, located to achieve the 4 minute response time standard.	OR Prior to approval of first Tentative Map under Plan B	OR Fire Department	OR Document that additional fire stations or other mechanisms to ensure fire safety are provided if response times are not met due to curvi-linear street patterns.	OR Applicant	
4.13-3 The proposed project would have adequate fire flow to service the project site.	4.13-3 (A/B) The water distribution system installed for the proposed project shall meet the requirements of the City of Woodland	Prior to approval of Improvement Plans for backbone infrastructure	PWD	Document that the water distribution system is adequate per mitigation measures.	Applicant	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	fire hydrants and mains installed to meet current fire protection standards and the most current City design standards.					
4.13-4 The proposed project may be inconsistent with the City of Woodland General Plan policies related to fire protection.	4.13-4 (A/B) (a) Implement Mitigation Measure 4.13-1(a) through (e).	See Mitigation Measure 4.13-1(a) through (e).				
	(B) (b) Implement Mitigation Measure 4.13-2(a) or (b).	See Mitigation Measure 4.13-2(a) or (b).				
4.13-5 The proposed project, in conjunction with future development in the City of Woodland, would create demand for additional fire protection services.	4.13-5 Implement Mitigation Measures 4.13-1 and 4.13-2.	See Mitigation Measures 4.13-1 and 4.13-2.				
4.13-6 The proposed project would increase the demand for police protection services.	4.13-6 (A/B) (a) The Fiscal Impact Analysis for the Specific Plan shall demonstrate that the identified increased demand for officers, non-sworn personnel, and equipment will be adequately funded, on a phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficiency, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing.	Prior to approval of first Tentative Map	Police Department	Document that the Fiscal Impact Analysis provides adequate funding of police staff and facilities needed to serve project development or that a "gap financing mechanism" satisfactory to the City has been included in the Financing Plan.	Applicant	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
4.13-7 The proposed project may be inconsistent with the City of Woodland General Plan policies related to police protection.	4.13-7 (A/B) (a) Implement Mitigation Measure 4.13-6.	See Mitigation Measure 4.13-6.				
	OR	OR				
	(b) Amend General Plan policy 4.H.1 to conform with the inconsistencies identified related to staffing ratios.	Prior to approval of Specific Plan	CDD/Police Department	Amend General Plan Policy 4.H.1.	City Council	
	OR	OR	OR	OR	OR	
	(c) Find that the proposed project is substantially consistent with General Plan policy 4.H.1.	Prior to approval of Specific Plan	CDD/Police Department	Make appropriate Findings of Fact.	City Council	
4.13-8 The proposed project, in conjunction with cumulative development in the City of Woodland, would increase the demand for police protection services.	4.13-8 (A/B) Implement Mitigation Measure 4.13-6.	See Mitigation Measure 4.13-6.				
4.13-9 The proposed project would increase the demand for wastewater treatment.	4.13-9 (A/B) Prior to approval of each tentative map, the applicant shall demonstrate that WWTP treatment capacity is adequate to serve the flows generated by new development covered by the tentative map.	Prior to approval of each Tentative Map	PWD	Document that the WWTP treatment capacity is adequate. If inadequate capacity will be available when square footage or units come on line, approval of improvement plans for those projects shall be withheld until a satisfactory solution can be determined.	Developer	

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4.13-11 Groundwater infiltration into offsite wastewater infrastructure could affect WWTP capacity.	4.13-11 (A/B) (a) The Specific Plan shall require that the sewer collection system is designed to reduce the potential for groundwater infiltration. The design shall comply with criteria established by the City, when such criteria are adopted. If such criteria have not been adopted prior to the first tentative map, each individual project shall identify specific design features that will be incorporated into wastewater line design and installation to minimize groundwater infiltration so that conveyance line or WWTP is not adversely affected.	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text to require that the sewer collection system design contains the criteria listed in the mitigation measure.	Applicant	
	(b) Offsite infrastructure connections to the WWTP shall be constructed at the start of project construction.	Prior to issuance of first building permit	PWD/BD	Verify that offsite connections have been constructed.	Developer	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
4.13-13 The proposed project would increase demand for domestic water.	4.13-13 (A/B) (a) The City's existing Major Projects Financing Plan shall be amended and fee schedule revised to include the development of wells to serve project development. The location, number and phasing of wells shall be described in greater detail in the Specific Plan Public Facilities Financing Plan and Capital Improvements Plan. Individual projects proposed within the Plan Area shall pay the appropriate capital facility fees to finance the construction of new wells. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.	Prior to approval of first Tentative Map Prior to Final Map, or to issuance of building permit if no Map needed.	PWD PWD	Document that the Major Projects Financing Plan has been amended and the fee schedule revised. TOC Specific Plan Public Facilities Financing Plan and CIP shall be finalized and accepted by City. Verify that fees have been paid.	Applicant Developer	
4.13-18 The proposed project would generate construction debris.	4.13-18 (A/B) (a) At the beginning of each job, the construction contractor shall set up bins or other means of containment to hold separated scraps of recyclable material (i.e., cardboard, lumber, etc.). The contractor shall identify processors in the area that are interested in the materials. The paper, cardboard, and metal packaging that the building materials and major appliances come in shall also be separated and stored for future recycling.	During construction	PWD/BD	Requirements of mitigation measure shall be reflected in construction contracts. The Recycling Coordinator shall verify that means of containment to hold separated scraps of recyclable material have been established and are in use.	Developer	
	(b) The contractor shall work with the City of Woodland Recycling Coordinator to establish construction	During construction	PWD (Recycling Coordinator)	Verify that construction recycling measures are being used.	Developer	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	recycling measures to reduce the amount of construction waste disposed of at the landfill.					
4.13-22 Installation of the offsite sewer pipeline could intercept the high-pressure natural gas line.	4.13-22 (A/B) Prior to the installation of offsite wastewater infrastructure, all potential conflict locations with the existing PG&E high-pressure natural gas line shall be potholed and verified.	Prior to approval of Improvement Plans	PWD	Document that potential conflict locations are potholed and verified.	Developer	
4.13-26 The proposed project may be inconsistent with the City of Woodland General Plan policies regarding provision of public utilities.	4.13-26 (A/B) Pursuant to General Plan Policy 4.J.2, all utilities shall be undergrounded within the Specific Plan area unless an acceptable assessment of infeasibility is prepared by the applicant and adopted by the City.	Prior to approval of Specific Plan Prior to approval of Improvement Plans	CDD PWD	Make appropriate revisions to Specific Plan figures and text. Document that all utilities will be located underground.	Applicant Developer	
Recreational, Educational and Community Services						
4.14-1 Implementation of the proposed project would increase the demand for parks and recreational facilities.	4.14-1 (A/B) (a) Individual projects proposed within the project site shall pay the appropriate park development fees to finance the construction of new parks and open space areas. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.	Prior to approval of each Tentative Map	PWD/Parks Department	Verify that fees have been paid.	Developer	
	(b) The City shall allow payment of in-lieu fees for a fair share portion of future community and regional parks, and consider providing credit toward underserved Special Use/Sports Parks for overserved neighborhood parks.	Prior to approval of each Tentative Map Prior to approval of Specific Plan	PWD/Parks Department CDD	Verify that in lieu fees have been paid. Make appropriate revisions to Specific Plan figures and text to reflect policy regarding credit.	Developer Applicant	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	(c) The Fiscal Impact Analysis for the Turn of the Century Specific Plan shall demonstrate that the identified increased demand for recreational programs, employees, equipment, and park maintenance will be adequately funded, on a phase-by-phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficiency, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing.	Prior to approval of first Tentative Map	Parks Dept.	Document that the Fiscal Impact Analysis provides adequate funding or that a "gap financing mechanism" satisfactory to the City has been included in the Financing Plan.	Applicant/First Developer	
	(d) Implement Mitigation Measure 4.1-5 requiring consolidation and expansion of mini parks into two additional neighborhood parks.	See Mitigation Measure 4.1-5.				
4.14-2 The proposed project may be inconsistent with the City of Woodland General Plan and Parks Master Plan policies.	4.14-2 (A/B) Find that the proposed project, as mitigated by Measure 4.14-1, is substantially consistent with the General Plan Policies.	Prior to approval of Specific Plan	CDD	Make appropriate Findings of Fact.	City Council	
4.14-3 The proposed project, in combination with the future buildout of the City of Woodland, would increase the demand for parks and recreational facilities, resulting in a shortfall of services.	4.14-3 (A/B) Implement Mitigation Measure 4.14-1.	See Mitigation Measure 4.14-1.				
4.14-4 The proposed project would increase the demand for school services.	4.14-4 (A/B) The Specific Plan shall designate an additional public school site of at least 10 acres for the development of an elementary school. This school shall be sited in conjunction with one of the	Prior to approval of Specific Plan	CDD	Make appropriate revisions to Specific Plan figures and text.	Applicant	

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Environmental Impact	Mitigation Measure(s)	Timing/Milestone	Responsibility for Oversight	Implementation of Mitigation Measure	Responsibility for Implementation	Checkoff Date/Initials
	neighborhood parks required in Mitigation Measure 4.14-1.					
4.14-5 The proposed project may be inconsistent with General Plan policies regarding education.	4.14-5 (A/B) (a) Implement Mitigation Measure 4.14-4.	See Mitigation Measure 4.14-4.				
	(b) Find that the proposed project, as mitigated, is substantially consistent with the General Plan Policies.	Prior to approval of Tentative Map	CDD	Make appropriate Findings of Fact.	City Council	
4.14-7 The proposed project, in combination with future buildout in the City of Woodland, would increase the demand for school facilities.	4.14-7 (A/B) Implement Mitigation Measure 4.14-4.	See Mitigation Measure 4.14-4.				
4.14-8 The proposed project would increased demand for the City of Woodland Library facilities.	4.14-8 (A/B) (a) The Fiscal Impact Analysis for the Turn of the Century Specific Plan shall demonstrate that the identified increased demand for library services will be adequately funded, on a phase basis, by general fund revenue generated by the proposed development on a phase basis. If the Fiscal Impact Analysis demonstrates a net deficit, a mechanism for funding the projected gap, by phase, shall be proposed as a part of the Plan financing.	Prior to approval of first Tentative Map	Library Services	Document that the Fiscal Impact Analysis provides adequate funding or that a "gap financing mechanism" satisfactory to the City has been included in the Financing Plan.	Applicant/First Developer	
	(b) The City's existing Major Projects Financing Plan shall be amended and fee schedule revised to include lease or construction of ±5,300 square feet of additional space for the Woodland Library. This expansion (including	Prior to approval of first Tentative Map	PWD	Document that the Major Projects Financing Plan has been amended and the fee schedule revised. The TOC Specific Plan Public Facilities Financing Plan	Applicant/First Developer	

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	the phase of development at which time it will be required) shall be described in greater detail in the Turn of the Century Specific Plan Public Facilities Financing Plan and Capital Improvement Plan. Individual projects proposed within the project site shall pay the appropriate capital facility fees to finance the lease or construction of expanded library space. Facilities required prior to build-out shall be advanced by the developer and be subject to later reimbursement or credit.	Prior to Final Map, or issuance of building permit, if no Map	PWD	and Capitol Improvements Plan shall be finalized and accepted by the City. Verify that fees have been paid.	Developer	
	As an alternative to expansion of the main library facility, a new neighborhood branch facility could be located within one of the public/quasi public land use designations on the Turn of the Century Specific Plan land use plan. If this alternative is chosen, the location of the facility shall be such that the greatest number of people in the area could walk, bicycle, or take public transit to the facility.	OR Prior to approval of first Tentative Map	OR CDD/Library Services	OR The City Librarian and City Attorney shall further examine the terms of the 1979 ballot measure and identify whether this alternative or some variation thereof is preferable for satisfaction of library facilities demand created by the TOC Specific Plan.	OR Library Services/ City Attorney	
4.14-9 The proposed project may be inconsistent with the City of Woodland General Plan policies regarding library facilities.	4.14-9 Implement Mitigation Measure 4.14-8.	See Mitigation Measure 4.14-8.				

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APPENDICES

APPENDIX A

ATTACHMENTS TO COMMENT LETTERS

ATTACHMENT TO LETTER 1

NOTIFICATION PROVISIONS OF THE WILLIAMSON ACT

Notification provisions of the Williamson Act (Government Code Section 51291) require an agency to notify the Director of the Department of Conservation of the possible acquisition of Williamson Act contracted land for a public improvement. Such notification must occur when land enrolled in a Williamson Act contract is being **considered** for acquisition by a public agency, being **acquired**, the original public improvement for the acquisition is **changed**, or the land acquired is **not used** for the public improvement. The local governing body responsible for the administration of the agricultural preserve must also be notified.

CONSIDERATION

The following information must be included in the notification when land within an agricultural preserve is being **considered** for acquisition.

1. The total number of acres of Williamson Act contracted land to be acquired and whether the land is considered prime agricultural and according to Government Code Section 51201.
2. The purpose for the acquisition and why the parcel was identified for acquisition.
3. A description of where the parcel is located.
4. Characteristics of adjacent land (urban development, Williamson Act contracts, agricultural production, etc.)
5. A vicinity map and a location map.
6. A copy of the contract covering the land.
7. Explanation of the preliminary consideration of Government Code Section 51292.

ACQUISITION

The following information must be included in the notification when land within an agricultural preserve has been **acquired**. The notice must be forwarded to the Director within **10 working days** of the acquisition of the land. The notice must also include the following:

1. A general explanation of the decision to acquire the land, and why noncontracted land is not available for the public improvement.
2. Findings made pursuant to Government Code Section 51292, as amended.
3. If the information is different from that provided in the previous notice sent upon consideration of the land, a general description of the land, and a copy of the contract covering the land shall be included in the notice.

SIGNIFICANT CHANGE IN PUBLIC IMPROVEMENT

Once notice is given as required, if the public agency proposed any significant change in the public improvement, the Director must be notified of the **changes** before the project is completed.

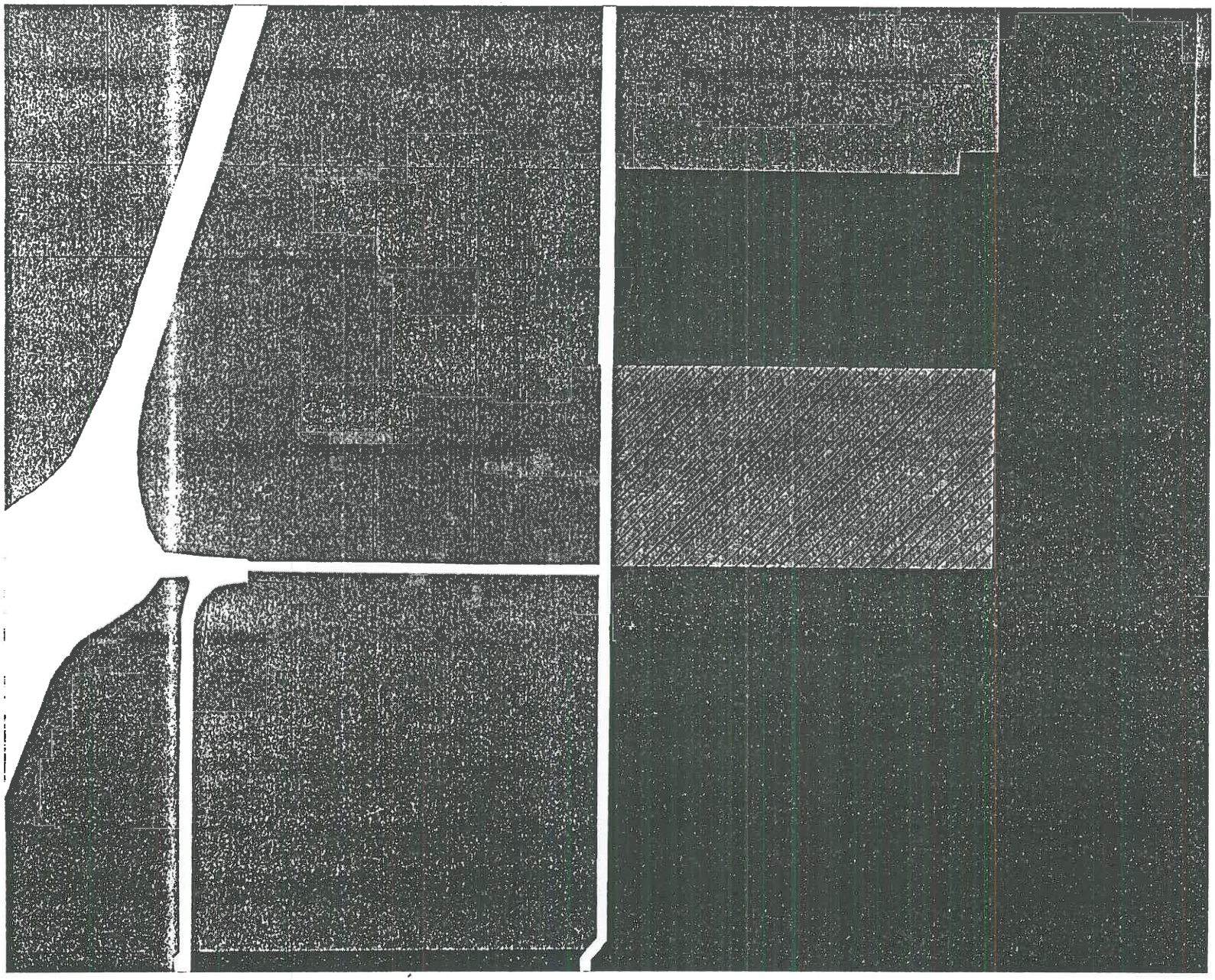
LAND ACQUIRED IS NOT USED FOR PUBLIC IMPROVEMENT

If the acquiring public agency does not use the land for the public improvement acquired and plans to return it to private ownership, **before** returning the land to private ownership, the Director must be notified.

NOTICES SHOULD BE MAILED TO:

Mr. Steve C. Authur, Chief Deputy Director
Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 95814

ATTACHMENT TO LETTER 13



Yolo County Planning and Public Works

A1 AP
R3 CH
AE M2
R2 POS
R1 AGI
C1 C3
AV ML

Print

Printed 9/3/99

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Assessor Parcel Number: 04203001

Owner Name: OYANG DEVELOPMENT INC

Site Address: 20275 SR 101 20951

Owner Address: 2005 ZORILLA PL PALOS VERDES CA

Parcel Size: 78.33

Zoning: A-1

Flood Zone: C

School District: Woodland Joint Unified

Fire District: Woodland/Springlake

Soil Types: Ca

Fema Panel: 06113C0450E

Print

Close

ATTACHMENT TO LETTER 18

APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

YOLO COUNTY,
CALIFORNIA
(UNINCORPORATED AREAS)

(SEE MAP INDEX FOR PANELS NOT PRINTED)

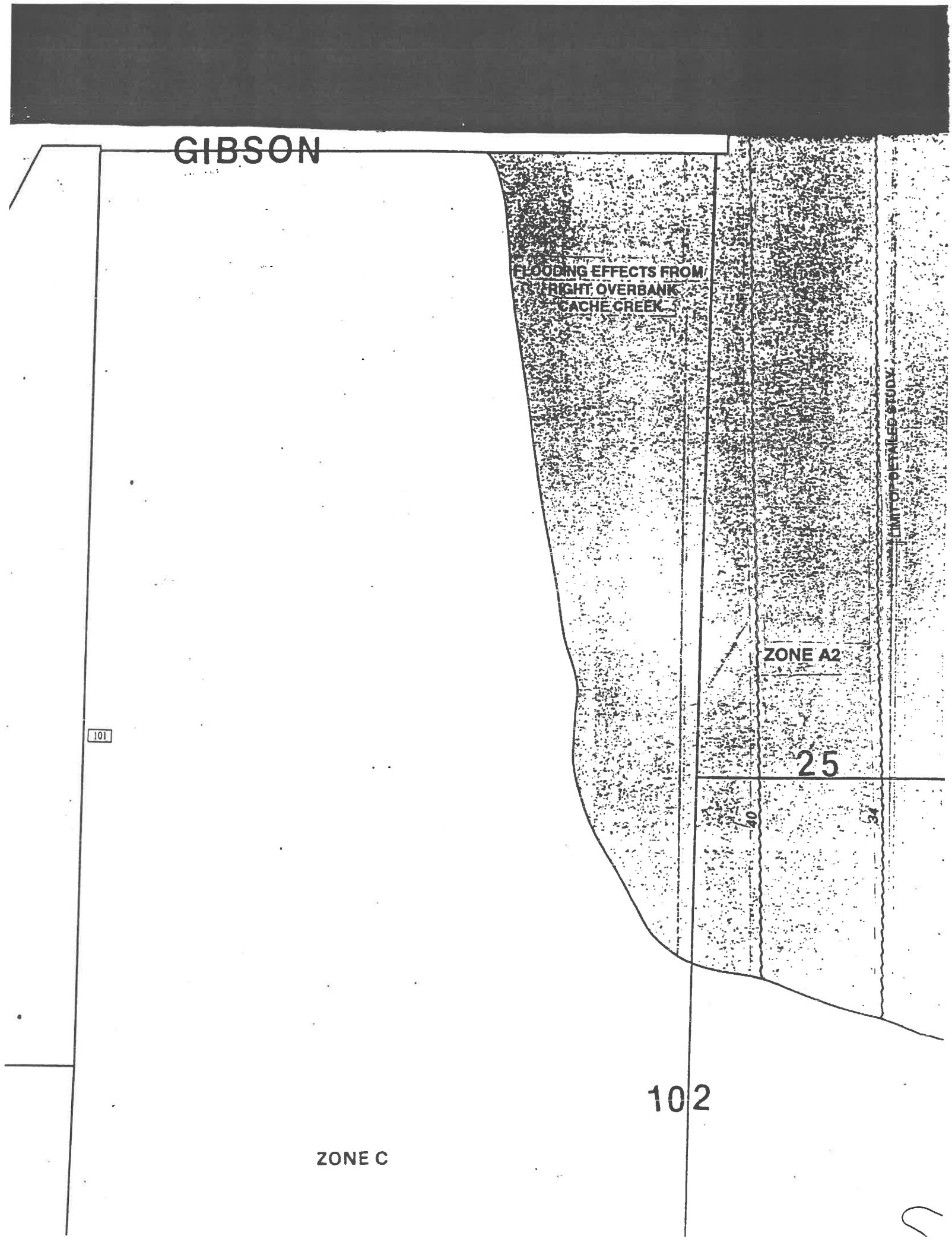
COMMUNITY-PANEL NUMBER
060423 0440 F

MAP REVISED:

PRELIMINARY
MICHAEL BAKER, JR., INC.

OCT 23 1998

Federal Emergency Management Agency

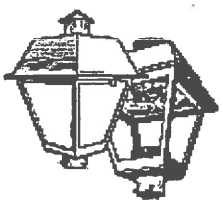

GIBSON
FLOODING EFFECTS FROM
RIGHT OVERBANK
CACHE CREEK
LIMIT OF DETAILED STUDY
ZONE A2
101
25
40
34
102
ZONE C

ATTACHMENT TO LETTER 28

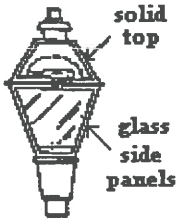
Examples of Good and Bad Lighting Fixtures

Information Sheet 122, May 1997

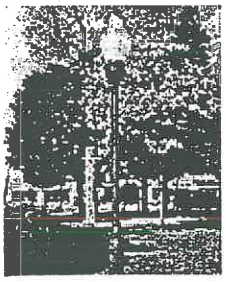
International Dark-Sky Association
3545 N. Stewart Ave., Tucson, AZ 85716 U.S.A.
E-mail: SaveOurSky@aol.com
WWW: http://www.darksky.org



GOOD Even post-top ornamental fixtures, like this Salem Cutoff from GE Lighting, can be cutoff with clear panels and lamp/reflector located above.

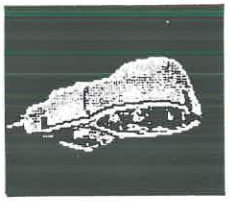


GOOD The Yorktown, another ornamental from Emery Fixtures, also has clear panels and bulb located above for maximum glare and spill light control.



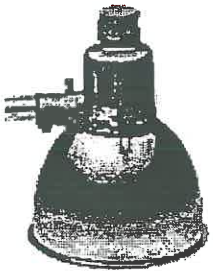
BAD Non-cutoff fixtures like this "acorn" ornamental cause light pollution.

GOOD Flat-lens cobra head fixtures, like this American Electric Series 125 Roadway Cutoff luminaire, provide excellent roadway lighting with greatly reduced glare and no uplight.

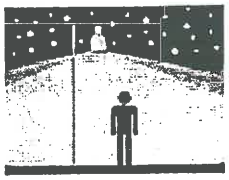


GOOD This new generation of flat-lens cobra head fixture from American Electric, call the DuraStar 2000, provides superior lighting uniformity at standard mounting heights and spacings.

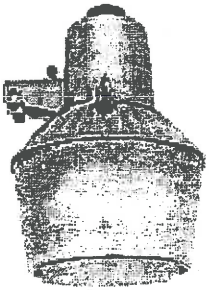
BAD The ubiquitous drop-lens cobra head luminaire produces a level of glare and uplight that is both unacceptable and unnecessary.



GOOD Many existing dusk-to-dawn security lights and residential streetlights can be retrofitted with the Hubbell Skycap.



GOOD The Hubbell Skycap turns any standard NEMA head light into a full-cutoff light with wide area coverage.



BAD NEMA head style fixtures are very inefficient, sending about 20% of the light upward and another 20% horizontally outward, creating glare.

Information Sheet Number 106 (June 1996)

International Dark-Sky Association
3545 N. Stewart, Tucson, AZ 85716-1241 USA
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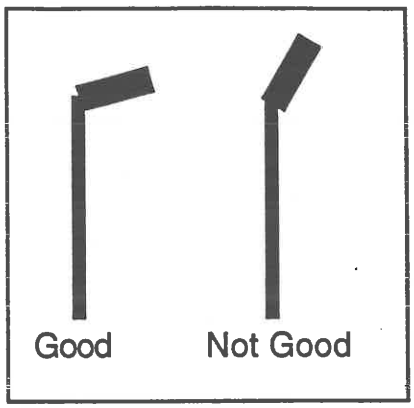
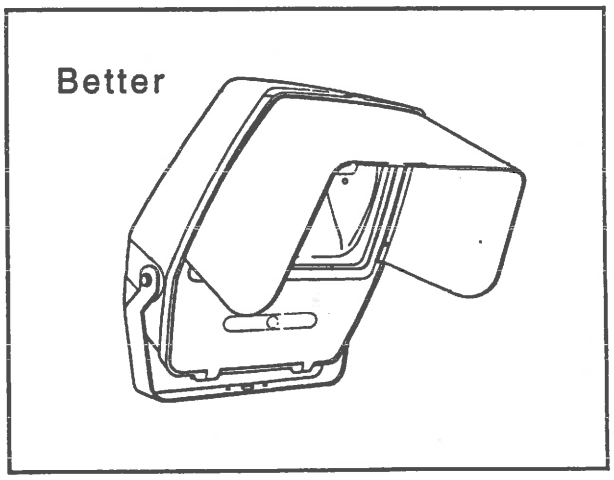
Advice Before Installing an Outdoor Lighting System

We are often asked, "What kind of outdoor lighting should we use?" and "Which fixtures should we buy?" Most bad lighting that goes up is a result of ignorance, not an apathetic attitude towards glare and light pollution. This information sheet is an attempt to answer these basic questions for some common lighting situations.





Floodlights

If you are considering using pole-mounted or building mounted floodlights, it is probably because you want to light an area (a parking lot, for example) with a minimum of fixtures, thus minimizing the cost. Or, you may not want to put light poles in the middle of the parking lot but instead wish to light the area from the periphery. But keep in mind that floodlights should only be used as a "last resort" when other, more conventional types of lighting cannot be used, because floodlights produce a great deal of glare and are wasteful because they send nearly half of their light (or more!) directly into the night sky. Floodlights may be appropriate for blinding escaping prisoners, but beyond this application, their use should be avoided.

When floodlights must be used, *always* specify **external glare shields** or **internal louvers** to control glare and uplight. Most floodlight manufacturers offer one or both of these options. Then, make sure the floodlight is pointed downward as much as possible. A tilt of just 15° to 25° is often adequate, never more than 45° above horizontal. Some manufacturers make a **cutoff floodlight** which has internal optical elements configured to minimize uplight and glare. Use these whenever possible. The CF series of floodlights from Ruud Lighting are quite good, but be sure to specify the backlight shield option.

Wall Packs

Most wall packs, or wall sconces, send a vast amount of their light straight out and up, and they, too, are a significant source of glare and light pollution. It is amazing how often this type of light is used as an entryway light, where more light shines outward than shines down on the ground at the building entrance! One should never use this type of wall pack, but instead use cutoff wall packs, with forward-throw optics when that is needed.

THE Ahwahnee Principles: TOWARD MORE LIVABLE COMMUNITIES

Preamble:

Existing patterns of urban and suburban development seriously impair our quality of life. The symptoms are: more congestion and air pollution resulting from our increased dependence on automobiles, the loss of precious open space, the need for costly improvements to roads and public services, the inequitable distribution of economic resources, and the loss of a sense of community. By drawing upon the best from the past and the present, we can plan communities that will more successfully serve the needs of those who live and work within them. Such planning should adhere to certain fundamental principles.

Community Principles:

1. All planning should be in the form of complete and integrated communities containing housing, shops, work places, schools, parks and civic facilities essential to the daily life of the residents.
2. Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other.
3. As many activities as possible should be located within easy walking distance of transit stops.
4. A community should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries.
5. Businesses within the community should provide a range of job types for the community's residents.
6. The location and character of the community should be consistent with a larger transit network.
7. The community should have a center focus that combines commercial, civic, cultural and recreational uses.
8. The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.
9. Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.
10. Each community or cluster of communities should have a well-defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development.
11. Streets, pedestrian paths and bike paths should contribute to a system of fully-connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting; and by discouraging high speed traffic.
12. Wherever possible, the natural terrain, drainage and vegetation of the community should be

Night lights linked to child nearsightedness

e News Services

Parents who think they're doing infants a favor by leaving a night light on in their bedrooms may be setting the stage for nearsightedness a few years later, researchers warn in a study released today.

The University of Pennsylvania eye specialists, writing in the journal Nature, report that infants who sleep in a room illuminated with night lights or full lighting are at substantially greater risk of becoming nearsighted than those who sleep in the dark.

Based on a survey of parents of 479 healthy 2- to 16-year-old ophthalmology patients at Children's Hospital of Philadelphia, the researchers found that only 10 percent of children who had slept in darkness before age 2 were later nearsighted, or myopic. But of those who'd slept with a night light, 34 percent were nearsighted, while 55 percent of kids who'd slept during infancy with a regular room light had the disorder.

At least 25 percent of the U.S. population is myopic, and in some Asian countries, the prevalence is as high as 90 percent. In the disorder, the image of distant objects, focused by the cornea and lens of the eye, falls in front of the retina, leading to blurred vision.

Myopia is commonly caused by excessive growth of the eye during the months after birth, making it more elongated than normal. Studies in birds and monkeys suggest this growth can be stimulated by a variety of environmental cues, including drugs and exposure to light during sleep periods.

The Pennsylvania study "is an extension of myopia research in animals," said Dr. Carl Kupfer, director of the National Eye Institute, which helped fund the study. "Additional studies are needed to determine whether eliminating such light exposure during sleep in early childhood can affect the development of (myopia)."

But prudence would suggest that young children should sleep in the dark whenever possible, said the study's principal author, Dr. Richard A. Stone.

Chances are that sleeping in darkness will not be traumatic, Stone and sleep expert Jodi Mindell said, since most children under age 2 aren't having nightmares anyway. "These night lights with babies, they're for Mom," Stone said. "They're not for the baby."

Robert Sperduto, chief of epidemiology for the National Eye Institute, said the research generated an "interesting hypothesis" but that it is "premature" to recommend against night lights. On the other hand, he said, there's no major downside to turning off the lights if that's convenient.

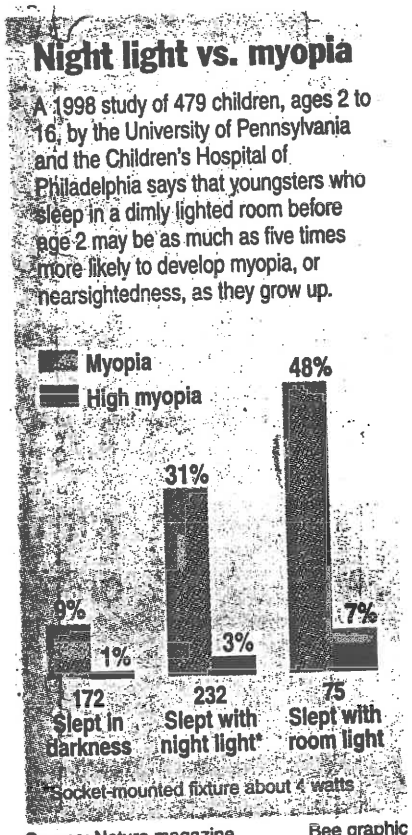
"I think I wouldn't obsess about it," he said.

Others urged that the study's results be viewed with caution.

"We have to consider this preliminary, interesting and provocative, but I don't think this proves the case yet," said Dr. Arthur Rosenbaum, chief of pediatric ophthalmology at UCLA's Jules Stein Eye Institute. "The numbers are impressive, but the findings are based on histories provided by parents, which are notoriously inaccurate."

Co-author Dr. Graham E. Quinn of Children's Hospital noted that "this was just a first pass at trying to understand if there is something here worth looking at. . . . The association (between light and myopia) came through rather strongly, and we need to do more research to find out why.

"We're not sure why this happens, but it appears the eye needs a period of rest, just like the rest of the body."



Critics of the study, such as Dr. Donald Mutti of the University of California, Berkeley, were particularly concerned that the reported data did not include any information about the parents' vision. Myopia has a strong genetic component: If the father is nearsighted, a child has a 40 percent chance of being nearsighted. If both parents are nearsighted, the child has a 60 percent chance.

The authors also did not take into account other sources of light, such as street lights shining through windows, critics said.

Quinn said the researchers did collect some data about parents' vision, and it didn't change the results. But he said the genetic link needs to be explored more thoroughly.

Ophthalmologists are concerned about myopia because its incidence seems to be increasing. The more urban a population is, the more industrialized it becomes and the higher the prevalence of myopia.

Some researchers have speculated that the rise is associated with increases in so-called nearwork – reading and other occupations where the worker must get close to the task. But no one is sure what is behind the rise.

Nearsightedness can be corrected with spectacles, but the condition can have long-term consequences. Later in life, nearsighted people are more likely to develop macular degeneration, detached retinas and other disorders that can lead to blindness.

Sac Bee

May [illegible] 1999

Does Light Have a Dark Side?

Nighttime illumination might elevate cancer risk

By JANET RALOFF

Since life began, one pattern has dominated Earth's natural environment—a daily rhythm of intense sunlight alternating with nights of near-total darkness. As a source of heat and energy, sunlight powers a majority of the planet's biological activities. When that light disappears, much of the world rests.

Humans, the grand manipulators, have not been content to cede control of their activity cycle to the heavens, however. People have spent eons developing ever better means to artificially extend the day. Thanks to widespread electrification and color-corrected, high-watt lightbulbs, synthetic sunlight can now bombard city dwellers around-the-clock.

This attempt to erase the night—or at least to confine it to small, artificially defined windows—may come with a price. At a minimum, it can lead to a chronic lack of sleep, diminishing the effectiveness of the body's immune system. Some new studies, however, suggest the possibility of an even more worrisome threat.

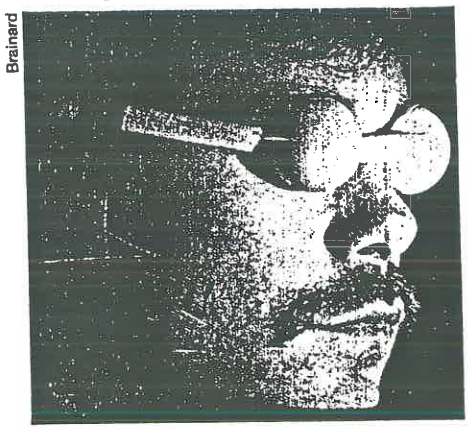
Exposure to light at night can disrupt the body's production of melatonin, a brain hormone best known for its daily role in resetting the body's biological clock (SN: 5/13/95, p. 300). Secreted primarily in the brain, and at night, melatonin triggers a host of biochemical activities, including a nocturnal reduction in the body's production of estrogen. Some researchers have speculated that chronically decreasing nocturnal melatonin production—as with light—might increase an individual's risk of developing estrogen-related malignancies, such as breast cancer.

Two studies in Nordic populations now offer tentative support for this idea.

According to neuroendocrinologist Russel J. Reiter of the University of Texas Health Science Center at San Antonio, the emerging science indicates that, functionally, "light is a drug"—and that "by abusing it, we risk imperiling our health."

Light entering the eye allows our brains to sense the shape, size, color, and motion of objects around us. It also summons, albeit imperceptibly, a cadre of other biological sentinels. These go on to trumpet light's presence to distant tissues—organs and cells lacking the means to detect illumination directly.

When these biochemical fanfares occur late at night, they can alter the timing of melatonin's peak output, as a landmark study in 1980 showed. Alfred J. Lewy and his colleagues at the National Institute of Mental Health in Bethesda, Md., shut down melatonin production in men by waking and exposing them to 2,500 lux of white light at 2 a.m., when synthesis of the hormone was at its peak. (For perspective, 100 lux may be found in a comfortably dim living room, whereas sunlight at high noon on a cloudless day can blast the eyes with 100,000 lux.) At the Oregon Health Sciences University in Portland, 8 years later, Lewy and George C. Brainard, now at Thomas Jefferson University in Philadelphia, found that just 50 lux could do the same trick—if it is green light.



Brainard

Not all light is equally effective at suppressing nighttime melatonin production. The shade of green depicted in this test has proved especially potent.

At about the time this work was going on, Richard G. Stevens of the Energy Department's Pacific Northwest National Laboratory in Richland, Wash., was developing a controversial theory now known as the melatonin hypothesis. It holds that long-term environmental perturbations in natural rhythms of melatonin secretion—by exposure to electromagnetic fields (SN: 1/10/98, p. 29) or to light at night—might increase cancer risk, especially in the breast, by increasing estrogen exposure.

Since the theory's debut, researchers have shown in animals that melatonin also functions as an antioxidant (SN: 8/14/93, p. 109) and an anticarcinogen. Some rodent studies have also demonstrated that certain nascent cancers grow more rapidly when the animals encounter even low levels of light at night (see sidebar).

The first preliminary evidence linking light to cancer in people emerged 8 years ago in a report by Robert A. Hahn of the Centers for Disease Control and Prevention in Atlanta. After combing statistics from a national survey on women who had been hospitalized between 1979 and 1987—including some 11,700 with breast cancer—he computed the incidence of this malignancy in blind and sighted women. If light alters cancer risk through some disruptive effect on melatonin, the epidemiologist reasoned, people whose eyes can't detect light should prove resistant. As a further test, he looked at heart-disease incidence, where melatonin should play no role.

In the May 1991 EPIDEMIOLOGY, Hahn reported that although the profoundly blind women proved as likely as the sighted women to get heart disease, they appeared only half as prone to develop breast cancer.

Probing this idea in more detail, Maria Feychting and her colleagues at the Karolinska Institute in Stockholm have just compared cancer incidence in 1,600 profoundly blind men and women with that in 13,000 people having severe visual impairment. Because members of the second group could still perceive light, Feychting explains, they should resemble sighted people in terms of any light effects on melatonin.

In the September EPIDEMIOLOGY, her team now reports finding that, as predicted, cancer incidence among the visually impaired individuals was virtually identical to that in Sweden's general population. People who were unable to detect light faced only 70 percent of that cancer risk.

Among profoundly blind men, the lower incidence showed up largely in cancers of the prostate, stomach, colon, rectum, skin, and lung. Among profoundly blind women, less cancer occurred in the breast, ovaries, and stomach.

The variety of cancers affected was unexpected. Feychting had anticipated that any change in cancer rates would trace to melatonin's influence on the body's production of estrogen (SN: 7/3/93, p. 10). High lifetime exposure to estrogen can spur the development of certain cancers, notably breast cancer. Instead, she now observes, melatonin may have a more general cancer-suppressing role.

A new Finnish study also compares cancer incidence among profoundly blind

light's effects. "When the melatonin hypothesis was first presented," the pair notes, "no putative melatonin receptors [on cells] were known." Since then, three types have been identified.

In the March MOLECULAR CARCINOGENESIS, they lay out the molecular basis for concerns that light at night might prove an endocrine disrupter with the potential to increase cancer risk. They note that recent findings in several laboratories working with cells and with tissues removed from animals indicate that a reduction of melatonin can alter the production of other hormones, may suppress the immune system's ability to recognize and respond to newly emerging cancers, and appears to spur the growth of at least some tumor tissues.

By studying which cells possess melatonin receptors and how cells use them to respond to the hormone—as Barrett's team and others are now doing—science may resolve whether nighttime illumination truly threatens health, and if so, how much and in whom.

Studies now under way are also testing which wavelengths—or colors—are most biologically active. For instance, blue and green light appear especially effective at inhibiting melatonin synthesis in healthy young men, according to studies by Brainard. Indeed, he notes that for some colors, "17 lux was sufficient to produce strong melatonin suppression in these men—and some had full suppression with exposure to as little as 5 lux." The latter "is a little more illumination than what you'd have with full moonlight."

Brainard notes that the payoff for finding out what wavelengths are most hormonally disruptive could be insights on how "to tailor nighttime lighting to provide good vision without interfering with the melatonin rhythm." He says that "it may also help us develop more effective lights for use in treating winter depression and sleep disorders." □

How much light is too much?

At least in rats, a little light throughout the night can have a dramatic impact on cancer, observes David E. Blask of the Mary Imogene Bassett Research Institute in Cooperstown, N.Y.

Tumors can grow especially rapidly in rodents exposed to constant light, he notes—presumably because of a near-total suppression of their melatonin. To test just how much light was necessary to enhance tumor growth, he implanted liver-cancer cells into rats.

His team housed one group of caged animals in a room illuminated around-the-clock with about 850 lux of white light, which is roughly equivalent to an office with medium lighting. A second group of animals spent their days in 850 lux but their nights in total darkness. A third group encountered almost the same light-dark cycle. The only difference: 0.2 lux leaked in at the bottom of the door to their room from a hallway outside—illumination well below that typical of a moonless night, he says.

In the October 1997 LABORATORY ANIMAL SCIENCE, Blask's team reported that tumors in animals exposed to the crack of light coming under the room's door grew almost twice as fast as those in animals getting a night of total darkness. Indeed, he says, "animals exposed to the low-level light contamination had a tumor-growth rate virtually identical to that in the animals exposed to bright, constant light." He has just replicated the findings in an experiment in which the lighting was more rigorously controlled. —*J.R.*

Biology

Diabetes drug stirs cancer confusion

New research has offered hope that troglitazone, a widely prescribed diabetes drug, could become a new colon cancer therapy, but some scientists also express concern that the drug may trigger the cancer in genetically susceptible people.

This seemingly contradictory story emerges from several studies in the September NATURE MEDICINE. In one, Bruce M. Spiegelman of the Dana-Farber Cancer Institute in Boston and his colleagues report that troglitazone and other compounds that activate an intracellular protein called PPAR-gamma can transform colon cancer cells into nonmalignant cells in test-tube experiments. The drug also inhibited growth of tumors formed from human colon cancer cells implanted into mice.

PPAR-gamma normally regulates cell proliferation and specialization. Spiegelman and his colleagues hope soon to test whether troglitazone can help patients with colon cancer. The drug has already shown some promise in people with liposarcoma, a different cancer, says Spiegelman.

Curiously, however, two research groups have found that PPAR-gamma activators increase the incidence of cancer in certain mutant strains of mice. One group, led by Ronald M. Evans, a Howard Hughes Medical Institute investigator at the Salk Institute for Biological Studies in La Jolla, Calif., tested such compounds on mice with mutations in a tumor-suppressor gene called *APC*. These animals are generally predisposed to cancer of the small intestine. People with *APC* mutations almost invariably develop cancer of the colon.

The scientists had hoped that the PPAR-gamma activators might reduce cancer risk, but treated mice developed many more precancerous polyps in the colon than untreated ones. "What we found was exactly opposite what we had expected," says Evans. Yet normal mice receiving the PPAR-gamma activators had no greater incidence of cancer. Similar results have emerged from studies conducted on *APC* mutant mice by a group led by Johan Auwerx of the Pasteur Institute in Lille, France.

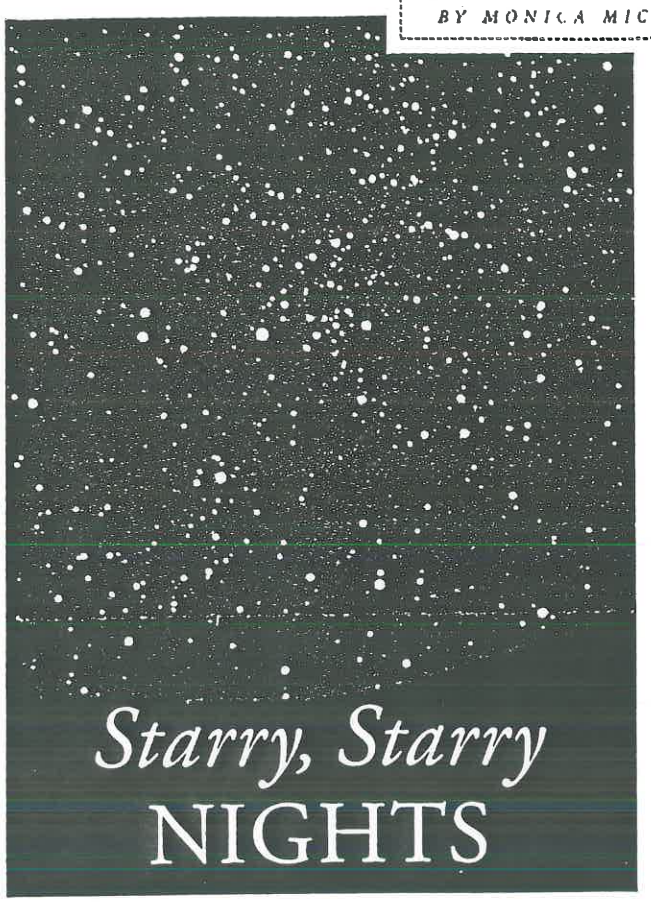
Since fats can activate PPAR-gamma, these studies may explain the finding that diets high in fat increase a person's risk of colon cancer. Evans also warns that people with diabetes who take troglitazone, especially those with a family history of colon cancer, should be carefully monitored for any signs of the disease. Spiegelman, however, notes that the mice may not reflect how colon cancer develops in people and that only those with *APC* mutations may face an increased cancer risk. "There's no evidence that [troglitazone] induces polyps in normal people or mice," he says. —*J.T.*

Rats have too much on their minds

Students cramming for an exam sometimes feel as if their brains can't absorb any more information. That overloaded feeling is shared by rodents studied by Edvard I. Moser of the Norwegian University of Science and Technology in Trondheim and his colleagues. The scientists used electrodes to stimulate memory-forming regions of rat brains. The stimulated animals fared poorly on a spatial-learning task that involves swimming for a hidden platform in a water tank, the researchers report in the Sept. 25 SCIENCE.

The overstimulation seems to prevent a strengthening of the connections between brain cells, known as synapses, that occurs after repeated stimulation. Many neuroscientists now believe that this strengthening, called long-term potentiation or LTP, is the primary mechanism by which animals form memories. The overstimulation experiments confirm that LTP can strengthen the synaptic connections between brain cells only so much. Moreover, if a brain reaches maximum stimulation, any learning is difficult if not impossible. "People are now focusing on how such changes in synaptic strength allow memories to form. That's the next issue, and it's a formidable question," says Moser. —*J.T.*

BY MONICA MICHAEL WILLIS



Starry, Starry NIGHTS

Preserving the beauty of the night sky depends on curbing light pollution

A CENTURY AGO, AMERICANS WHO STEPPED OUTdoors on clear, moonless nights were greeted by the grandeur of a black sky illuminated by thousands upon thousands of twinkling stars. With little to mar their view of the heavens, these men and women experienced the sky above them in much the same way their ancestors had. On any given night, it was possible to sight a meteor racing across the horizon or gaze in wonder upon the vast, hazy Milky Way.

For those of us who live in or around one of America's major cities, things are much different. While every schoolchild learns about the Milky Way in science class, few suburban youngsters can actually see it from their backyards. In fact, the chance of spotting more than a few dozen stars is pretty slim on most nights.

Who stole the stars? You can place the bulk of the blame on light pollution—the glow and glare collectively emitted by everything from car lights and streetlamps to neon signs, office buildings, baseball fields, and private homes.

Astronomers were the first to recognize that our view of the heavens was being blocked by excessive and misdirected light. For most of us, though, it takes a trip to a remote location far from any source of artificial light before the full impact of what we've been missing hits us.

Not even America's wildlands have entirely escaped light pollution. A study recently conducted by the National Parks and Conservation Assn. suggests that light pollution often interferes with visitors' ability to observe the night sky in many of our national parks—among the few remaining public places where Americans can go to experience solitude and a semblance of wilderness.

"Protecting the darkness of the night skies in our national parks is as vital as protecting clean air, water, wildlife, and the sounds of nature," says Thomas Kiernan, president of the National Parks and Conservation Assn. "Stargazing is a connection to humanity's earliest curiosity about our place in the universe. But now, clear night vistas in our national parks are literally fading from sight."

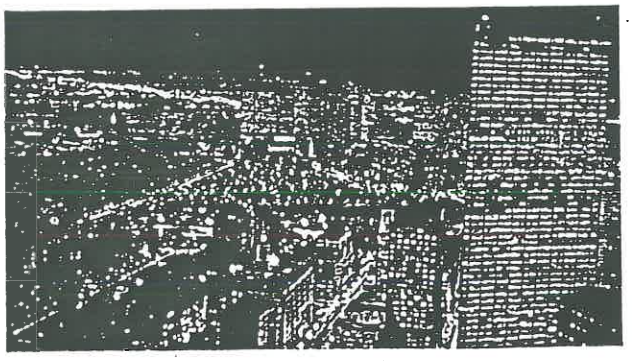
Kids learn about the Milky Way, but few of them can see it from their backyards.

Light pollution does not just impact stargazers and astronomers. It can hurt wildlife, too. "Light pollution along the Southeastern coast of the United States, especially in Florida, is devastating to marine turtles," says David Godfrey, executive director of the Florida-based Caribbean Conservation Corps. "We're dealing with a creature that has evolved over 100 million years. In none of that evolutionary experience has it come across a shoreline that is lit up. The turtles sense that something isn't right and abandon their nesting attempts."

As a result of the lights, sea turtles—all species of which are listed as either threatened or endangered—have trouble finding quiet, dark spots in which to nest. The glow produced by seaside condominiums, houses, and hotels discourages female turtles from coming ashore to lay their eggs, and it also disorients hatchlings. Instead of heading to sea, these newborn turtles wander inland where they dart into traffic, mistake swimming pools for the ocean, or are simply more vulnerable to predators.

Migrating birds (especially small insect eaters, such as the white-throated sparrow and the ovenbird) that fly by

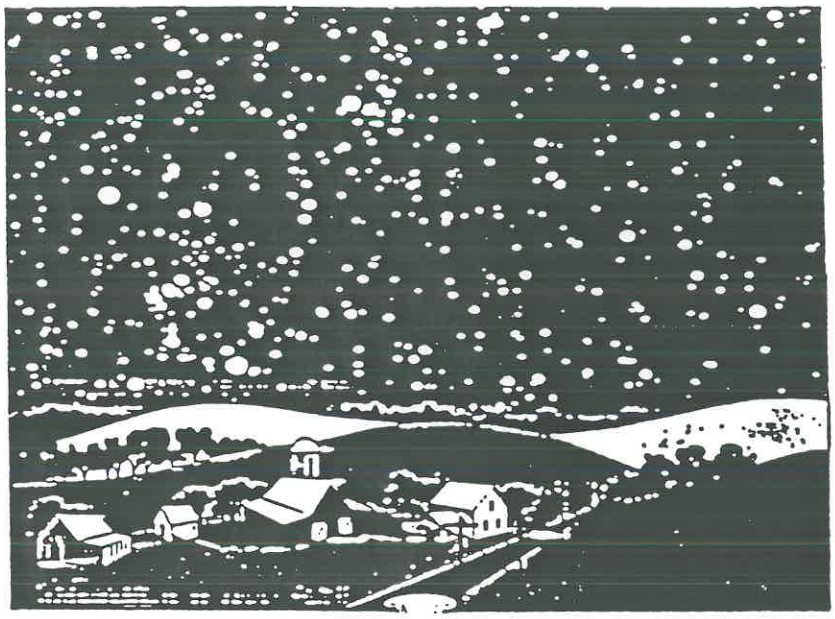
Continued on page 50



Stargazing is nearly impossible in most major cities today.

Good Neighbor Outdoor Lighting

A GUIDE TO SELECTING AND INSTALLING EFFICIENT, COST-EFFECTIVE, AND UNOBTRUSIVE OUTDOOR LIGHTING FIXTURES



Compiled by the
New England Light Pollution Advisory Group (NELPAG)
and International Dark-Sky Association

Seventh Draft, May 1995

Web page: http://www.darksky.org

2. It uses "fully-shielded" lighting fixtures, fixtures that control the light output in order to to keep the light in the intended area.

Such fixtures have minimum glare from the light-producing source. "Fully-shielded" means that no light is emitted above the horizontal. (High-angle light output from ill-designed fixtures is mostly wasted, doing no good in lighting the ground but still capable of causing a great deal of glare. Of course, all the light going directly up is totally wasted.)

Fully-shielded light fixtures are more effective and actually increase safety, since they have very little glare. Glare can dazzle and considerably reduce the effectiveness of the emitted light.

3. It has the lighting fixtures carefully installed to maximize their effectiveness on the targeted property and minimize their adverse impact beyond the property borders.

Positioning of fixtures is very important. Even well-shielded fixtures placed on tall poles at a property boundary can cast a lot of light onto neighboring properties. This "light trespass" greatly reduces and invades privacy, and is difficult to resolve after the installation is complete.

Fixtures should be positioned to give adequate uniformity of the illuminated area. A few bright fixtures (or ones that are too low to the ground) can often create bright "hot spots" that make the less-lit areas in-between seem dark. This can create a safety problem. When lighting signs, position the lights above and in front of the sign, and keep the light restricted to the sign area; overlit signs are actually harder to read. Buildings ought to be similarly lit in a way to offer an attractive, safe environment without overkill.

4. It uses fixtures with high-efficiency lamps, while still considering the color and quality as essential design criteria.

High-efficiency lamps used for lighting not only save energy — which is good for a cleaner environment — but reduce operating costs. Most high-efficiency lamps last a long time, reducing costly maintenance. Highly-efficient fixtures usually cost more initially, but the payback time is very short, and such fixtures will save you lots of money in a short time.

Balancing against high efficiency, though, is the quality of the light emitted. In some applications, the yellow light cast by low-pressure (LPS) or high-pressure (HPS) sodium lamps may not be as desirable as a less-efficient, but much whiter, compact-fluorescent, metal-halide, or even incandescent light source. In other applications, color is not of importance, and LPS or HPS lamps do a very good job at very low cost. Well-designed shielded lights can usually be lower in wattage, saving even more energy and money. They will actually light an area better than unshielded lights of higher output, because they make use of all the light rather than wasting some (or much) of it.

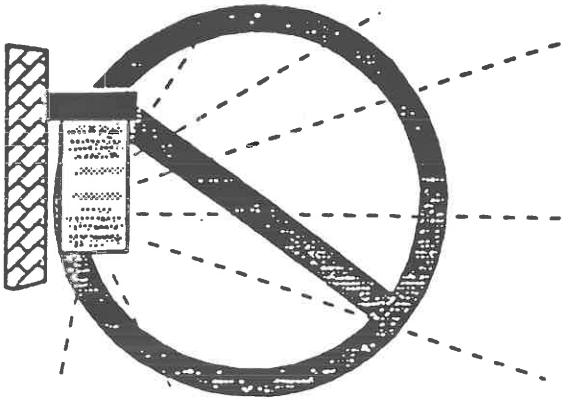
Why are these characteristics so important? How do they factor into a design?

Good lighting means that we save energy and money, and we avoid hassles. A quality lighting job makes us a "good neighbor." And we have a safer and more secure nighttime environment.

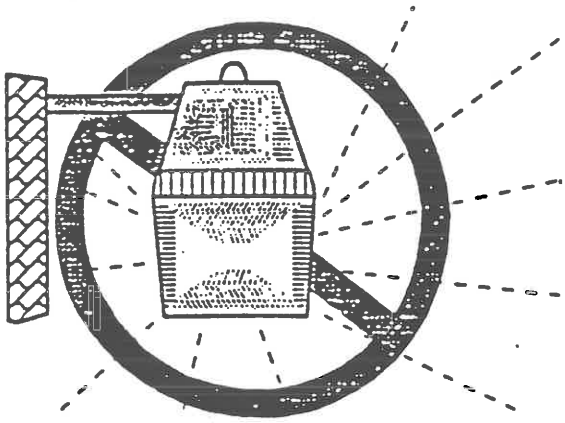
Always remember that lighting should benefit people. Controlled, effective, efficient lighting at a home or business will enhance the beauty, while providing visibility, safety, and security. Poorly-installed, bright lighting is offensive and gives a very poor image.

EXAMPLES OF SOME COMMON LIGHTING FIXTURES

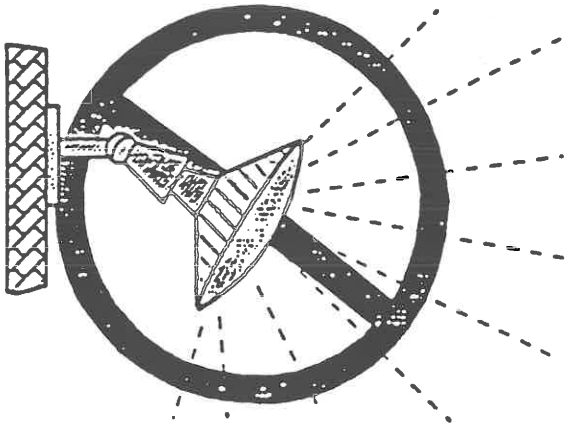
POOR



Typical "Wall Pack"

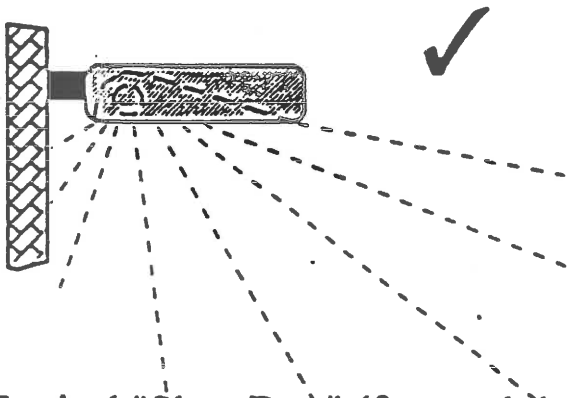


Typical "Yard Light"

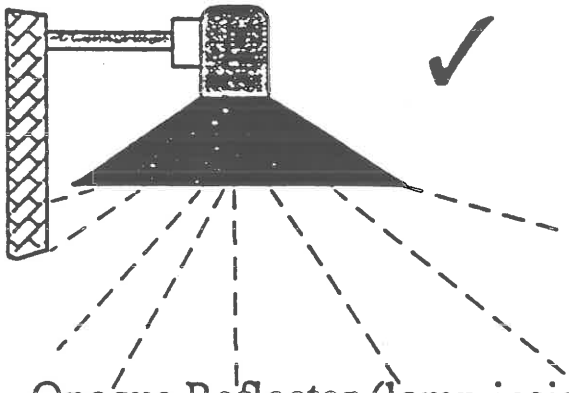


Area Flood Light

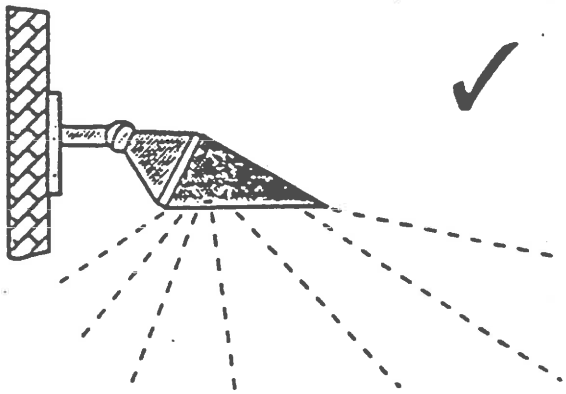
GOOD



Typical "Shoe Box" (forward throw)



Opaque Reflector (lamp inside)



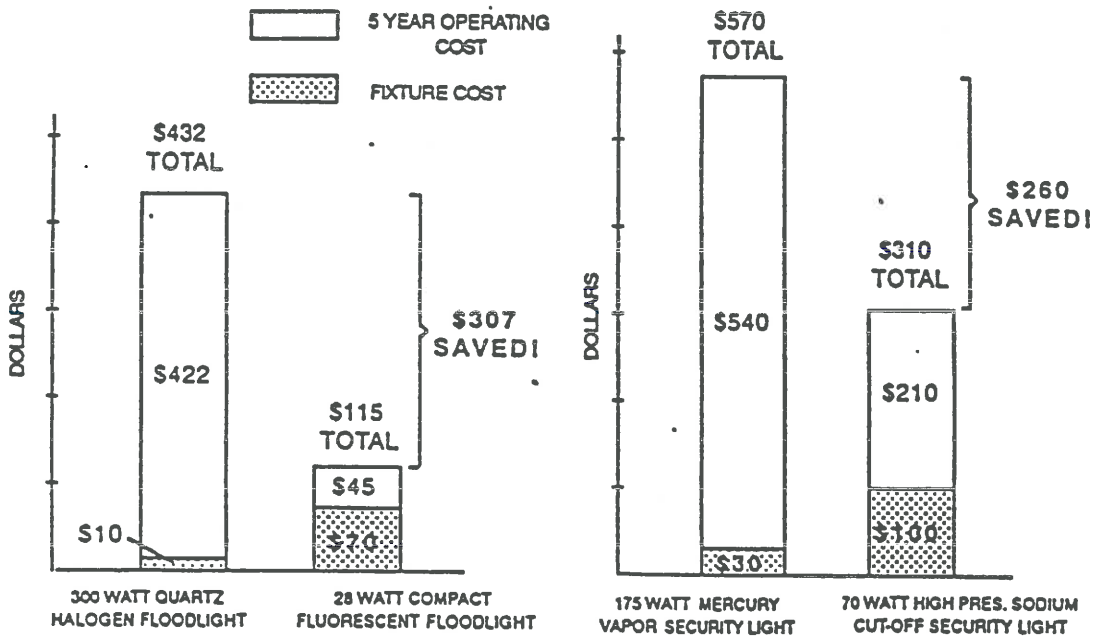
Area Flood Light with Hood

Some Thoughts on Cost: Money Talks!

There are many cheap lighting fixtures available from most discount warehouse stores and from electrical suppliers. Are these good deals?

- Most cheap fixtures have poor control of the light output, and they produce a lot of glare. It usually takes better and more-costly internal reflectors to get light out without glare and to give better light distribution. Modifying installed fixtures to reduce glare, or installing more fixtures to get better coverage, can be expensive.
- Cheap fixtures often have inefficient lamps and short lamp life, so they use far more energy than needed. Paying for more electricity than needed is expensive, as is the higher maintenance costs of these so-called "cheap" fixtures.

Some cost comparisons:



SIGN LIGHT AREA LIGHT

Some Basic Considerations

- Always remember that lighting should *benefit people*. Controlled, effective, efficient lighting at your home or business will enhance the surroundings and give a sense of safety and security. People don't appreciate poorly-installed, overly-bright lighting.
- Check your site at night before installing lighting and note the existing light levels. If the area has low levels of lighting, then modest levels of light will work well for you and will fit more hospitably in the neighborhood.
- Try to keep the lighting uniform and *reduce glare* as much as possible. Lights that make bright "hot spots" and ones that have glare make it hard to see well — especially for older people.
- Be aware that light fixtures can have different lighting patterns. (Some patterns are long and narrow light cones, while others are more symmetrical.) Some fixtures have internal

International Dark-Sky Association

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Green Lights -- EPA's Program to Encourage Energy Efficient Lighting

Information Sheet 49, July 1996

Green Lights is an innovative program sponsored by the United States Environmental Protection Agency (EPA). The program is designed and implemented to encourage major corporations (and others) to install energy efficient lighting, using the best of the new technologies, thereby dramatically reducing energy consumption while delivering equal or better lighting. This new program is voluntary and non-regulatory. While much of the current emphasis is on interior lighting (that is where most of the energy used for lighting goes), outdoor lighting can and should be part of the package.

Green Lights is producing multiple benefits by addressing critical issues of energy efficiency, pollution prevention, and economic competitiveness. Corporations which make a commitment to Green Lights will profit by lowering their electricity bills, improving lighting quality, and increasing worker productivity. They will also reduce the air pollution caused by electricity generation, which includes carbon dioxide, sulfur dioxide, and nitrogen oxides.

When a corporation joins the Green Lights program as a Green Lights Partner, it signs a Memorandum of Understanding with the EPA. This agreement commits the corporation to survey all of its facilities and to install new lighting systems that maximize energy savings to the extent that they are profitable and do not compromise lighting quality. There are no technology prescriptions. The corporation agrees to complete these upgrades within five years and to document the improvements it makes.

The EPA commits to help corporations with technical support projects which benefit Green Lights Partners, help strengthen the infrastructure of the energy efficient lighting industry, and lower the barriers to energy efficient lighting.

The EPA has established a national lighting product information program in conjunction with utilities and

List of IDA Information Sheets (IDA Info Sheet No. 14, 30 Jan 97)

No.	1st Date	Title
1	Dec 88	Astronomy's Problem with Light Pollution
2	Dec 88	Light Pollution - A Problem for All of Us
3	Dec 88	Why We Don't Like the 175 WattMercury Fixture
4	Jan 89	Operating Data And the Economics of Different Lamps
5	Jan 89	Cities & Counties in Arizona with Outdoor Lighting Codes
6	Jan 89	Advice on Working with Community Leaders, Officials, and Others
7	Jan 89	As a Non-Profit Organization, IDA Needs Help
8	Jan 89	Local Sections for IDA: Why? How?
9	Jan 89	Glossary of Basic Terms and Definitions
10	Feb 89	Summary of the IAU Colloquium No. 112
11	Nov 89	Estimating the Level of Sky Glow Due to Cities
12	Dec 89	Recommendations about Effective Outdoor Lighting
13	Dec 89	Summary of San DiegoStreet Lighting Conversion
14	Dec 89	Fact Sheet on the International Dark-Sky Association
15	Dec 89	List of Information Sheets Available as of This Date
16	Dec 89	Slide Sets and Other Items Available from IDA
17	Dec 89	Vast Orbiting Displays .. A Letter by Robert Dixon
18	Jan 90	Theft of the Night .. Text of a Dec 1989 NAS Op-Ed Press Release
19	Jan 90	The American Astronomical Society's Position on Light Pollution
20	Jan 90	Sky Glow Effects on Existing Large Telescopes
21	Jan 90	Poster Paper: Light Pollution, Another Threat to the Environment
22	Jan 90	Sample Letter to Help Build Awareness and Ask or Help
23	Mar 90	Campus Lighting, and Other Such Applications
24	Mar 90	Security Lighting. Let's Have Real Security, Not Bad Lighting
25	Feb 90	How To Talk To Your Neighbor Who Has a Bad Light
26	Feb 90	Economic Issues in Wasted and Inefficient Outdoor Lighting
27	Feb 90	Control of Outdoor Lighting at Wesleyan University
28	Feb 90	An Introduction to Light Pollution
29	Mar 90	Turtles and Outdoor Lighting in Florida
30	Mar 90	Partial List of Good Lighting Fixtures
31	Mar 90	'Does Stanford Need More Outdoor Lighting?' Letter by Dan Schroeder
32	Mar 90	Telling the Differences Between Different Lighting Sources
33	Mar 90	Talking Hasn't Worked. Shall I Sue Them?
34	Mar 90	We All Need Good Outdoor Nighttime Lighting
35	Jan 91	Billboards
36	Jan 91	Golden Bay Outdoor Lighting Control Ordinance
37	Jan 91	City of San Diego Outdoor Lighting Control Ordinance
38	Jan 91	Tucson/Pima County Outdoor Lighting Control Ordinance (See IDA IS No. 91 for the update version)
39	Jan 91	Koyaanisqatsi -- Life Out of Balance
40	Jan 91	How to Get Started ...
41	Jan 91	Oh Beautiful for Spacious Skies -- Not Near a City !
42	Jan 91	Some Lighting Myths
43	Jan 91	Some Resolutions for the Coming Year -- by Frank Olsen
44	Oct 91	IAU Colloquium No. 112, Table of Contents
45	Oct 91	1988 IAU Resolutions About the Issues
46	Mar 92	State of Maine Act to Improve Outdoor Lighting
47	Mar 92	The IES -- Illuminating Engineering Society of North America (IESNA)
48	Mar 92	The CIE -- Commission Internationale de l'Eclairage (Int. Comm. on Illumination)
49	Mar 92	Green Lights -- The EPS's New Program to Encourage Energy Efficient Lighting
50	Apr 92	The Earth at Night -- Description of the Poster of a Satellite Nighttime View of the Earth
51	Apr 92	Lighting and Crime
52	Apr 92	Efficient Outdoor Lighting
53	Apr 92	WARC-92: Principal Results of Importance to Radio Astronomy
54	May 92	Dark Campus Programs Reduce Vandalism and Save Energy
55	May 92	City of Tempe, Arizona, Lighting Ordinance
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57	Oct 92	Who We Are -- The IDA Board of Directors and Officers
58	Oct 92	Star Watching Program
59	Oct 92	Report on the Star Watching Program Results, 1991/1992
60	Mar 93	Communities Initiate Steps to Illuminate Streets, Not Skies
61	May 93	Quality Street Lighting -- A Talk by George Eslinger -- October 1992
62	May 93	Promoting Dark Skies During Public Star Parties
63	Jun 93	US Dept of Justice Study of Street Lighting and Crime
64	Jun 93	What You Get for Your Membership
65	Jun 93	Ontario Hydro Leaflet on Light Pollution
66	Jun 93	What To Do About Those !@#$%* Streetlights
67	Jun 93	Let Us (Not) See The Light
68	Jun 93	Help Us Save the Stars ! (A sign-up sheet)
69	Jun 93	Quote by Michael Crichton !
70	Jun 93	Space Billboards Threaten The Night Sky
71	Jun 93	Grass Root Oppostion To Space Billboards
72	Sep 93	The BAA Campaign for Dark Skies
73	Sep 93	UK Guidance Notes for the Reduction of Light Pollution
74	Sep 93	Keeping the Skies Dark: An Australian Plan
75	Sep 93	IESNA Lighting Handbook, 8th Edition
76	Sep 93	Exterior Lighting: Glare and Light Trespass
77	Oct 93	Recommended Lighting Levels, Exterior Lighting
78	Oct 93	Basic Lighting Laws and Some Notes on Pole Spacing Geometry
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80	Oct 93	List of Slides Available from IDA
81	Oct 93	Captions for Slide Set A, ASP/IDA Standard Set
82	Oct 93	Captions for Slide Set B, Supplementary Set 1
83	Oct 93	Captions for Slide Set C, Satellite Images
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85	Oct 93	Captions for Slide Set E, Light Sources
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87	Oct 93	Captions for Slide Set G, Mostly Bad Lighting Examples
88	Oct 93	Sample Talks One and Two
89	Oct 93	Dark Skies and the Bible, from Wade Thompson
90	Oct 93	Light Pollution -- Theft of the Night (A Handout Sheet)
91	Apr 94	Revised Tucson and Pima County Arizona Outdoor Lighting Control Ordinances
92	Apr 94	Eatontown NJ Light Pollution Ordinance
93	Apr 94	Comments on the Eatontown Ordinance
94	Apr 94	Flagstaff AZ Outdoor Lighting Code
95	Apr 94	Quote by Mary Stewart
96	May 94	How to Get an Outdoor Lighting Ordinance
97	Jul 94	Tips on Nighttime Photography
98	Jul 94	Outline of Nighttime Photography Topics
99	Dec 94	Terminology and Units in Lighting and in Astronomy
100	Dec 94	An Efficient Timetable for Combating Light Pollution
101	Dec 94	Mini-tour of Tucson Outdoor Nighttime Lighting
102	Dec 94	Two New Cambridge Univ Press Books on the Issues
103	May 96	A Retrofit Solution to the Dusk-to-Dawn "Insecurity Light"
104	May 96	Rethinking the Conventional Wisdom of Security Lighting
105	May 96	Starlight Lost - A Poem
106	Jun 96	Advice Before Installing an Outdoor Lighting System
107	Jun 96	Return of the Night, by Harrell Graham
108	Jun 96	Sleep Thieves, by Stanley Coren
109	Jul 96	Impact of Outdoor Lighting on Moths
110	Aug 96	Unused Light, Overused Energy, Wasted Money
111	Sep 96	Impressions of a Night Sky Unaffected by Light Pollution
112	Oct 96	More About Sky Glow Calculations Using Walker's Law
113	Nov 96	Count the Stars! An Activity for Grades 4 to 6
114	Nov 96	Illumination Levels Then And Now
115	Dec 96	Lighting Efficiency, Then and Now
116	Jan 97	Sanibel Island, FL - City Without Streetlights
117	Jan 97	State DOT Roadway Lighting Survey Results

To order, please enclose a donation of $0.25 for each information sheet to help cover the cost of reproduction and mailing. Minimum donation is $1.00; any extra donations are most welcome! (USA dollars only)

Write to IDA, Inc., 3545 N. Stewart, Tucson AZ 85716 U.S.A.

INFORMATION SHEET NUMBER 24 (Edition No. 1, March 1990):

INTERNATIONAL DARK-SKY ASSOCIATION
3545 N. Stewart, Tucson AZ 85716 U.S.A.

Security Lighting. Let's Have Real Security, Not Just Bad Lighting.

Clearly what we want is security and safety at night, at home and when we are away from home, for ourselves, our families, our homes and property, and for all others. The task is to *be* safe, not to just to feel safe. This means that we need effective and efficient lighting. Visibility is the goal. We want to be able to see, not just have the criminal be able to see. This goal exists for us at home, on the streets, in parking lots, at work, wherever. Good lighting can be a help, poor lighting always compromises safety.

Most crime in most places occurs during the day, or inside buildings. However, we want the feeling and the reality of being safe outside at night. That does *not* mean putting in the brightest light we can find, blinding everyone in the area, creating light trespass and lighting up the sky. What we do need is effective lighting, lighting that puts light where we need it (and no where else) and where it will help visibility. That means: no glare, no light trespass, no up light, no harsh shadows, no steep transitions from light to dark, etc. Lighting in itself does not insure safety. Is there more crime in the "well lit" centers of large cities or in smaller towns with much less lighting? A cynic would derive a positive correlation of crime with light: the more light, the more crime. We don't think so. Current and past studies by competent law authorities can be summarized as follows: "The paucity of data preclude any definitive statement regarding the relationship of lighting and crime, but there is a strong indication that lighting decreases the fear of crime." Quality lighting rather than poor lighting is essential for any real security.

Here are some examples of bad security lighting, lighting that often compromises safety. These poor quality fixtures can give the illusion of safety or the feeling of security, but in reality they don't add to safety at all; they may even make things worse. They are beacons to the criminal: "Come and get me, my lighting will help you, not me."

1. The 175 watt dusk-to-dawn "security light." This fixture was designed in the old days when energy was cheap, when there were no good lighting fixture design programs, and when the adverse effects of bad lighting were not well appreciated. It sells for $29.95 or less, but uses over 200 watts of power. That means it costs about $70 per year to operate in most locations, much more in high electricity cost areas. Much of the light output is wasted, going up or sideways where it does no good at all. It has a great deal of glare, often blinding the homeowner and others. It splatters light everywhere, alienating neighbors. It casts harsh shadows behind trees and buildings, allowing criminals plenty of dark areas to hide in. It is a prime example of bad lighting. But it is in use by the millions throughout the country. Why? It's cheap, and bright. We see lots of glare so we think there is lots of light. But it's a most ineffective and inefficient light. (See IDA Information Sheets Nos. 3 and 26 for more information.)

2. Globes. Again, light is splattered everywhere. Because it wastes so much light, one must put a high wattage lamp inside to get any light on the ground. That means a great deal of glare is produced, so much that often one can't then see the ground! Why are so many of these inefficient fixtures used? Mainly because they look good in the daytime! If

Information Sheet Number 110 (August 1996)

International Dark-Sky Association
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crawford@darksky.org http://www.darksky.org

Unused Light, Overused Energy, Wasted Money

Let's start this article about common-sense outdoor lighting with an "equation":

GLUT = Glare + Light Trespass + Uplight + Too Much Light

These are four negative factors often found with outdoor lighting. Not only does GLUT have a negative impact on our nighttime environment—the "nightscape" if you will—but it just doesn't make economic sense, either.

First, we'll take a brief look at each component of GLUT, and then we'll discuss some of the economic issues involved.

The 8th edition of the IESNA Lighting Handbook (1993) defines **glare** as *the sensation produced by luminance within the visual field that is sufficiently greater than the luminance to which the eyes are adapted to cause annoyance, discomfort or loss of visual performance and visibility*. It stands to reason, then, that any good outdoor lighting design will minimize glare. If the light source itself is more apparent than what it is illuminating, then you have bad lighting.

Light trespass is light that is distributed where it is not wanted or needed. Streetlighting, for example, should light streets and sidewalks, not shine into second floor bedroom windows or illuminate rooftops. Also known as spill light, light trespass occurs whenever light shines beyond the intended target and onto adjacent properties.

Uplight is, in the truest sense of the word, wasted light. Light that goes directly up into the night sky is "lost in space" and serves no useful purpose. Uplight is the bane of astronomers and the occasional stargazer because atmospheric scattering artificially brightens the night sky, making distant celestial light sources difficult or impossible to see. Uplight often results from light fixtures which also produce glare and light trespass.

Too much light results when light levels exceed that needed for the task. Too much light often results from an unexamined "more is better" philosophy, or less innocent motives such as businesses trying to outshine their competitors.

Glare, light trespass, uplight, too much light—all of these things waste energy. And energy costs money. And the money involved is significant, because the operating cost of a light fixture throughout its lifetime is usually much greater than the initial cost of the fixture. Besides, even when energy is cheap, each kilowatt-hour wasted produces the same amount of unnecessary environmental pollution due to the production of that energy, regardless of its cost.

It is interesting to note that a great deal of attention has been paid in recent years to light source efficiency, but relatively little consideration has been given to the equally important subject of light fixture efficiency. Granted, many lighting manufacturers and lighting designers are enlightened about the virtues of using efficient light fixtures, but for some reason the message is simply not getting out to the majority of electrical contractors, lighting suppliers, builders, developers, architects, government officials, and homeowners.

It is also important to note that an inefficient light source used infrequently costs less to operate than an efficient light source operated dusk-to-dawn, 4100 hours per year. There are many situations where dusk-to-dawn lighting is often not required: security lighting, task lighting, parking lot lighting, to name a few. Time controls, occupancy sensors, or manual switches should be used whenever possible, with an appropriate light source, of course.

The most energy efficient light source available is low pressure sodium, but it is often criticized because of its monochromatic nature. But mix in a little metal halide or fluorescent light, and color rendering is much improved. The potential exists to utilize multiple light source types to achieve greater energy efficiency and a lower life cycle cost than with traditional single-source designs.

Finally, let's take a look at spectral power distribution as another dimension of lighting economy. Is it really necessary for a "white" light source to pump out photons at nearly every wavelength from 380 to 780 nm, as metal halide does? Our eyes are basically tetrachromatic: maximum sensitivity for red-sensitive cones is at 570 nm, green-sensitive cones at 535 nm, rods at 505 nm, and blue-sensitive cones at 445 nm. Could not an efficient pseudo-white light source be constructed that would emit virtually all of its spectral power at these four—or another set—of wavelengths? Astronomers would love that, because most of the visible spectrum would be unaffected by our outdoor lighting, and a small number of narrow spectral lines would be relatively easy to filter out.

To summarize: maximum utilization of light output where and when it is needed at IESNA recommended levels makes good economic sense and will minimize adverse environmental impacts. Avoiding outdoor lighting GLUT (glare, light trespass, uplight, and too much light) will take us a long way towards that end.

Information Sheet Number 76 (July 1996)

International Dark-Sky Association
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Exterior Lighting: Glare and Light Trespass

by Andrew S. Kosiorek, Centerior Energy, Cleveland, Ohio

The Problem

The increasing desires to light exterior areas for safety, security, amenities, commercial activities, and sports events makes the problem of light trespass more frequent and complex. The multitude of lighting products, very often misapplied, badly aimed, or poorly designed, results in many complaints. Glare may be visible from nearby or distant areas. Frequently the lighting is not confined to the originating property. Spill light falling over property lines can illuminate adjacent grounds or buildings in an objectionable manner. These are probably the most frequent light trespass complaints.

The gradual increase of ordinances indicate that communities feel that light trespass is a problem that must be addressed. This can and has resulted in the creation of laws and penalties which are often subjective and even overly restrictive. This fact may well hinder the process of getting affordable quality lighting installations in the regulated areas due to fear of liability and/or the time and cost to research the design of an installation.

The Illuminating Engineering Society of North America (IESNA, or IES) has established a committee to research the problems of light trespass, glare, and sky glow, and, hopefully, will set guidelines that the lighting industry and communities can follow. As of 1996, there is not yet a published report. Several other IES committees are also addressing the issues.

Solutions

Because light trespass and glare are quite subjective, they are difficult to eliminate, but they can be minimized through good design practices. In many cases, all that is required is the proper placement of poles, selection of luminaire optics, and shielding accessories. The fact that light trespass is a concern can be reasonably stated in municipal codes. However, overly rigid regulations are just as undesirable as light trespass itself. Codes must allow for design flexibility through a reasonable review process.

Requirements should be written using available measurable parameters. Terms such as "glare", "eye discomfort", and "excessive brightness" are subjective terms without scientific backup or guidelines. Luminaire optic restrictions should be defined through mathematical criteria, not the generalized term "cutoff". Mounting heights and lighting levels should follow recognized industry practices, but they should have provisions to allow a review body to impose restrictions or allow exceptions for special circumstances.

Recommended Criteria for Exterior Lighting Ordinances

- Direct Glare: Direct glare is defined as the visual discomfort resulting from insufficiently shielded light sources in the field of view. One should "see the effect, not the light source".

International Dark-Sky Association
3545 N. Stewart, Tucson AZ 85716 USA

We All Need Good Outdoor Nighttime Lighting

Here's why: So we can see better at night, of course. Then we can do more, as well as feel and be safer in our cities, homes, and while driving.

Good lighting means:

- No glare! Glare always harms visibility.
-
- Using the right amount of light, not overkill and not too little.
- Using fairly uniform lighting, so our eyes can adjust easily.
- Avoiding deep shadows. We need smooth transitions from light to dark.
- Avoiding light trespass: light going where it's not wanted or needed.
- Minimizing the up light. We don't live up in the sky. Save the Stars!
- Avoiding the clutter and trashy look of areas with poor quality lighting.
- Saving energy. We waste far too much light, light that produces glare, bright skies, light trespass. We can save over a Billion Dollars a year in the U.S.A. alone.

How to get good nighttime lighting:

- Use quality lighting fixtures, ones that control the light output, putting it only where it is needed and wanted. Never use fixtures that spray light everywhere.
- Use the right amount of light, not overkill.
- Use energy efficient lighting sources.
- Use time controls and dimmers where possible.

The Result: Quality lighting will give us all a more efficient, safer, aesthetic nighttime environment. We also save a great deal of energy and money by using the light, not wasting it. **We all win !**

For more information on the issue, write to:
International Dark-Sky Association, 3545 N. Stewart, Tucson AZ 85716 U.S.A.

Information Sheet Number 54 (May 1992):

International Dark-Sky Association
3545 N. Stewart, Tucson AZ 85716 U.S.A.

Dark-Campus Programs Reduce Vandalism and Save Money

Conventional wisdom suggests that light reduces crime. That's why outdoor lights are often called "security lights." School districts across the U.S. are turning conventional wisdom on its head by turning off lights on school grounds.

The results have been impressive. Annual energy savings can add up to hundreds of dollars per school. Significant decreases in vandalism have been documented since the "Dark Campus" policies have gone into effect. Here are three examples.

The San Antonio (Texas) School District was one of the first to try this idea back in 1973. The annual cost of repairing damage caused by vandalism dropped from $160,000 to $41,000 in just a few years.

"I remember as a kid, we never hung around in the dark," says Sam Wolf, director of security for the district. "We hung around a street light. We wanted to see who was with us." The thrill of vandalism is partly in seeing a window shatter or watching paint cover a wall. Darkness takes away the thrill.

The 4-J School District in Eugene, Oregon has eight schools participating in their Dark Campus program. Since it began as an experiment in 1989, vandalism has virtually disappeared in certain problem schools.

At one school annual energy savings totaled $300. That was just icing on the cake compared to time saved on repairing and cleaning up damage caused by vandalism. The district also researched their insurance requirement and found that turning off all the lights, including exit signs, was okay when nobody was in a facility.

In California, the Livermore Joint Unified School District reports energy savings of about ten percent along with a slight decrease in vandalism. Cupertino Union School District reported that vandalism dropped 29 percent, while energy savings totaled $8,190 during the 1981-82 school district. For both districts, the campus blackout was part of a larger anti-vandalism strategy.

Why Dark Campus Works

There's no scientific evidence that night time blackouts cause a reduction in vandalism. However, it seems to work well, especially in upper and middle class neighborhoods. When everyone gets used to dark school grounds, lights of any kind will arouse suspicion.

To be effective, turn off all the lights to make the campus as dark as possible. This may be difficult to do in some buildings, and rewiring may be required.

To make Dark Campus work you have to do more than just turn out the lights. Communication is the key component of the program. You need to be sure that students, staff, neighbors and police know what you're doing. Expect skepticism. Bring proof hat the idea works.

Information Sheet Number 90 (October 1993)

International Dark-Sky Association
3545 N. Stewart, Tucson AZ 85716 U.S.A.
Web: www.darksky.org

Light Pollution -- Theft of the Night

I. Introduction: Have you looked up at night lately? The universe is going away, gone already for many. The universe is an important part of the environment, to astronomy and to the general public.

For most people on earth, the dark skies our ancestors had have disappeared. The problem is urban sky glow, due mostly to too much bad lighting.

With good lighting, we all win. We help preserve the dark skies, we see better (and are safer and more secure), we have a more pleasant and comfortable nighttime environment, and we save a great deal of energy and money doing so. Neither astronomers nor the public, anywhere, need any of the adverse environmental effects of poor lighting.

II. Why night lighting? To see at night, for security, safety, utility, and for an attractive nighttime environment around us. But not all lighting is good lighting.

III. What are the adverse impact of poor nighttime lighting?

1. Urban sky glow (the brightening skies over our heads), destroying our view of the universe. We don't live up there in the sky; we don't need all that light up there.

2. Glare. Glare never helps visibility, but it is far too common in all of our cities. We should strive for a glare free environment.

3. Light trespass. Many present lighting installations bother us as much or more than they help. The wasted light shines into our yards, our windows, even our telescope buildings. As with noise pollution, we don't need any of this bad light.

4. A trashy looking, confusing nighttime environment. We should, all of us, be striving for a good looking nighttime environment, just as we should be doing in the daytime. Such poor environments are part of the stress of today's life. We should help with the problem, not compound it. Remember, the night is part of the environment too.

5. Energy waste. We waste an astronomical amount of energy and money by all this bad lighting, shining it where it is not needed or wanted (including up into the sky) and by using energy inefficient light sources and lighting designs. Better to use such money for improving our world, not mucking it up.

We all suffer from these problems. But we need not.

IV. So What To Do?

1. Use good lighting. Such quality designs are really all just common sense approaches to lighting. Let's not tolerate all the bad lighting; let's get rid of it.

2. Shine the light down, where it is needed. Control the light output to locations where it is needed; don't waste it. Use quality lighting fixtures.

detrimental effects. Unless conforming to the above dark background preference, total lamp wattage per property shall be less than 41 watts in Area A.

4. For the purposes of this Code, quartz lamps shall not be considered an incandescent light source.
5. Warm white and natural lamps are preferred to minimize detrimental effects.
6. For filtering requirements for metal halide fixture lamp types see Section 6.
7. Fully shielded and installed metal halide fixtures shall be allowed for applications where the designing engineer deems that color rendering is critical.

Section 6. Filtration. Metal halide fixture lamps types shall be filtered. "Filtered" means any outdoor light fixture which has a glass, acrylic, or translucent enclosure of the light source (quartz glass does not meeting this requirement).

Section 7. Outdoor Advertising Signs.

Sec 7.1. Top Mounted Fixtures Required. Lighting fixtures used to illuminate an outdoor advertising sign shall be mounted on the top of the sign structure. All such fixtures shall comply with the shielding requirements of Section 5 and the time controls of minor Section 9.5. (The County has made an exception for some of the largest signs, but tight restrictions are given for lighting performance.)

Sec. 7.2. (City only.) Prohibitions. See Section 9.5 for prohibitions.

Sec. 7.2. (County only.) Compliance Limit. Existing outdoor advertising structures shall be brought into conformance with this Code within three years from the date of adoption of this provision.

Sec. 7.3. (County only.) Prohibitions. Electrical illumination of outdoor advertising off-site signs is prohibited in Area A. Electrical illumination of outdoor advertising off-site signs between the hours of 11:00 p.m. and sunrise is prohibited in Area A.

Section 8. Submission of Plans and Evidence of Compliance with Code-Subdivision Plats.

Sec 8.1. Submission Contents. The applicant for any permit required by any provision of the laws of this jurisdiction in connection with proposed work involving outdoor lighting fixtures shall submit (as part of the application for permit) evidence that the proposed work will comply with this Code. The submission shall contain but shall not necessarily be limited to the following, all or part of which may be part or in addition to the information required elsewhere in the laws of this jurisdiction upon application for the required permit:

1. plans indicating the location on the premises, and the type of illuminating devices, fixtures, lamps, supports, reflectors, and other devices;
2. description of the illuminating devices, fixtures, lamps, supports, reflectors, and other devices and the description may include, but is not limited to, catalog cuts by manufacturers and drawings (including sections where required);
3. photometric data, such as that furnished by manufacturers, or similar showing the angle of cut off or light emissions.

Sec 8.2. Additional Submission. The above required plans, descriptions and data shall be sufficiently complete to enable the plans examiner to readily determine whether compliance with the requirements of this Code will be secured. If such plans, descriptions and data cannot enable this ready determination, by reason of the nature or configuration of the devices, fixtures, or lamps proposed, the applicant shall additionally submit as evidence of compliance to enable such determination such certified reports of tests as will do so provided that these tests shall have been performed and certified by a recognized testing laboratory.

Sec. 8.3. Subdivision Plat Certification. If any subdivision proposes to have installed street or other common or public area outdoor lighting, the final plat shall contain a statement certifying that the applicable provisions of the Tucson/Pima County Outdoor Lighting Code will be adhered to.

Sec 8.4. Lamp or Fixture Substitution. Should any outdoor light fixture or the type of light source therein be changed after the permit has been issued, a change request must be submitted to the building official for his

Section 11. Temporary Exemption

Sec 11.1. Request;Renewal;Information Required. Any person may submit a written request, on a form prepared by the jurisdiction, to the building official for a temporary exemption request. A temporary exemption shall contain the following information:

1. specific exemption or exemptions requested;
2. type and use of outdoor light fixture involved;
3. duration of time requested exemption;
4. type of lamp and calculated lumens;
5. total wattage of lamp or lamps;
6. proposed location on premises of the outdoor light fixture(s);
7. previous temporary exemptions, if any, and addresses of premises thereunder;
8. physical size of outdoor light fixture(s) and type of shielding provided;
9. such other data and information as may be required by the building official.

Sec. 11.2. Approval; Duration. The building official shall have five business days from the date of submission of the request for temporary exemption to act, in writing, on the request. If approved, the exemption shall be valid for not more than thirty days from the date of issuance of the approval. The approval shall be renewable at the discretion of the building official upon a consideration of all the circumstances. Each such renewed exemption shall be valid for not more than thirty days.

Sec 11.3. Disapproval; Appeal. If the request for temporary exemption is disapproved, the person making the request will have the appeal rights provided in Section 13.

Section 12. Other Exemptions.

Sec 12.1. Nonconformance

1. Mercury vapor lamps in use for outdoor lighting on the effective date of the ordinance codified in this chapter shall not be so used.
2. (City.) Bottom-mounted outdoor advertising sign lighting shall not be used.
2. (County) Bottom-mounted outdoor advertising sign lighting shall not be used, except as provided in Section 7.
3. All other outdoor light fixtures lawfully installed prior to and operable on the effective date of the ordinance codified in this chapter are exempt from all requirements of this Code except those regulated in Section 7 and in minor Sections 9.3 and 9.4 and in Section 10. There shall be no change in use or lamp type, or any replacement or structural alteration made, without conforming to all applicable requirements of this Code.

Sec. 12.2. Fossil Fuel Light. All outdoor light fixtures producing light directly by the combustion of natural gas or other fossil fuels are exempt from all requirements of this Code.

Sec 12.3. State and Federal Facilities. Outdoor light fixtures installed on, and in connection with those facilities and land owned or operated by the federal government or the state of Arizona, or any department, division, agency or instrumentality thereof, are exempt from all requirements of this Code. Voluntary compliance with the intent of this Code at those facilities is encouraged.

Section 13. Appeals.

Any person substantially aggrieved by any decision of the building official made in administration of the Code has the right and responsibilities of appeal to the Advisory/Appeals Board of this jurisdiction.

Section 14. Law Governing Conflicts.

Where any provision of federal, state, county, or city statutes, codes, or laws conflicts with any provision of this code, the most restrictive shall govern unless otherwise regulated by law.

Section 15. Violation.

It shall be a civil infraction for any person to violate any of the provisions of this Code. Each and every day during which the violation continues shall constitute a separate offense.

Information Sheet Number 104 (May 1996)

International Dark-Sky Association
3545 N. Stewart, Tucson, AZ 85716-1241 USA
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Rethinking the Conventional Wisdom of Security Lighting

Too Much Light

To help maximize the effectiveness of security lighting, security professionals should consider another strategy—turning off unnecessary lights.

Regardless of the light source and its energy efficiency, most nighttime lighting goes unused. It neither lights the way for normal users of the environment in question nor assists witnesses in seeing something worthy of being witnessed. The light simply falls on the ground and is wasted.

This effect becomes particularly evident during long weekends in the winter. For example, on one occasion a blanket of fresh snow that fell on a Friday in the factory area of Mississauga, Ontario remained unbroken until the workers returned to work on Monday morning. No one used the well-lit area for three days, yet throughout the weekend the lights burned from dusk till dawn.

Immunity to Light

The ubiquitous effort to eliminate the dark of night makes the public immune to security lighting. As a result, security lighting has lost the ability to turn heads and grab the attention of a potential witness. In response to this phenomenon, some law enforcement officials now advocate parking vehicles in unlit areas under certain circumstances. They conclude that the light, rather than alerting witnesses, only illuminates the criminal's work area.

Security professionals who question this view need only ask themselves whether a person looks more suspicious standing under a light or in the dark with a flashlight. Yet in remote factory areas and large municipal parks, security designers continue to provide bright lighting.

The alternative to the current lighting strategy is not necessarily darkness. Technology is now available that will supply white light only when it is needed by using motion sensitive devices. Lighting on demand may not be as energy conscious as some of the energy efficient high intensity discharge (HID) sources, but it saves energy by not being on when light is not required. It also has the ability to attract attention to an area when attention is required by reducing the public's immunity to light. Witnesses can more easily identify culprits because the light reacts to any movement in the area.

Not only can motion sensitive devices be used in conjunction with conventional white light sources, but their effectiveness for security purposes can be greatly increased by having them activate rapidly flashing strobe lights when an intruder is detected. Not only will this surprise and disorient the would-be criminal, but it will also draw immediate attention to the perpetrator for blocks—or even miles—around.

Street, park, commercial, and factory lighting on private and public land should all be considered part of the same security and safety strategy. Lighting a roadway in a remote factory area for vehicular traffic makes sense. Lighting all the buildings adjacent to this roadway that are not in use after hours does not make sense and reduces the effectiveness of streetlights.

By leaving the buildings dark, the security design delineates a clear path of travel and reinforces the existence of forbidden and dark areas, particularly around the rear of buildings. Motion sensitive lights highlight the trespasser, and make him or her stand out. The lights may also increase police patrol efficiency by emphasizing key areas in need of checking.

Off the roadway, where witness potential exists, HID lights connected to occupancy sensors can be used that supply a minimal amount of light to the area but have instant full output capability when motion is detected.

The strategy for security lighting has often been "more is better". Instead, security professionals should rethink current lighting strategies and their effect on human behavior. It is time to question conventional wisdom and examine the alternatives.

This information sheet is primarily excerpted from an article by Henri Bérubé, constable with the Peel Regional Police Department in Brampton, Ontario.

Copy of an article in the London Time 13 August 1996

Under our starless skies, by Libby Purves

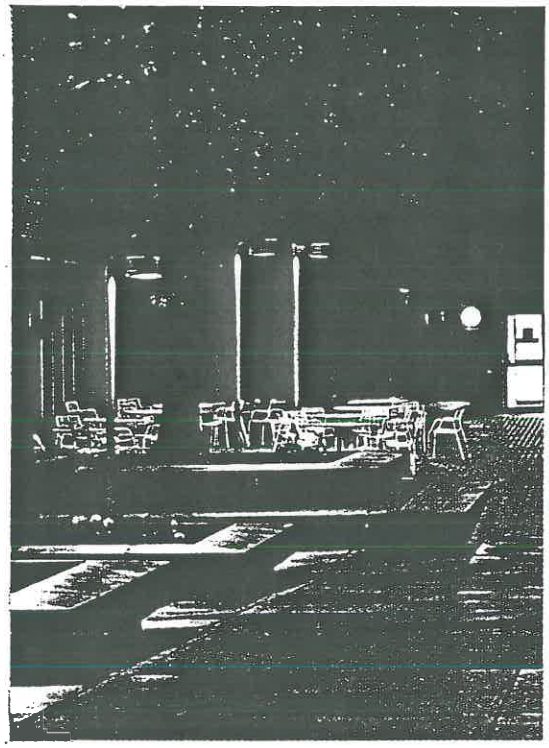
We are all in the gutter, but some of us are looking at the stars. When Oscar Wilde tossed that immortal scrap into *Lady Windermere's Fan,* it was 1891. A century later, the image does not work. Any part of Britain sophisticated enough to have gutters will have no view whatsoever of the stars: it will be so garishly overlit that even Venus cannot compete, let alone the Milky Way. The prospect from the average gutter by night is of a neon and sodium haze pierced by golden McDonald' arches, improbable pink skyscrapers, winking corporate logos, the floodlit dereliction of construction sites, and the surly, fearful rottweiler lights of nervous householders.

It is called "light pollution" and is not confined to cities. On a clear night, a satellite picture of mainland Britain shows very few areas which do not glare relentlessly at the sky: darkness rules only over Dartmoor, parts of Cornwall and Wales, the Yorkshire Moors, bits of Lincolnshire, slivers of East Anglia, the Border Country, and the Highlands of Scotland. Over the greater part of the land, sprawling conurbations, suburbs, motorways, public buildings, bridges and industrial sites surround themselves with garish lighting. Most of it is so badly designed that it throws nearly as much light upwards as downwards. Against this, even the brightest moon is a anemic anachronism, and the stars have no chance at all.

There are industrial farms with cold sad lighting along their grim aisles and barns; power stations shine across tracts of wild coast, rural housing estates install bright suburban lighting as a matter of course. Even old villages, where inhabitants for centuries passed quietly through the night with lanterns, have street lighting imposed on them by fussy councils. Householders, conned by the industry, surround their homes with ultra-bright "security" lights, which actually (as even the Home Office Crime Prevention Unit admits) make life easier for burglars, who can move freely around in the deep shadows at the edges of these blinding corridors. Yet 20 years ago it was a commonplace of village life that you did not go down the lane after dusk without slipping a torch in your pocket; as for outside lighting, few people bothered to switch on the dim iron lantern in the porch unless they positively expected company. It was a velvet solemn darkness that fell each night; a full moon gave useful light as well as inspiration, a distant lighthouse might loom beyond the cliffs, and the church tower's shape carved a black ancient shape against the stars.

There are still such villages, but they grow rarer every year and most of them have a view of something ovelit. If they are lucky, at least it is only the church floodlit into Disneyland unreality, the fretful flashing of security lamps, and the Big House's electronically triggered runway-style drive lights. If they are unlucky, they have some more obtrusive glare on the horizon, ensuring that no star can be seen until it is at its zenith. London blots out most of the stars for 50 miles around it, and tens of millions of homes will never -- short of a catastrophic national power cut -- lie naked to a real night sky. Thus, in cities and in the countryside, we have lost something precious without ever deciding to. The stars have been taken from us by default.

These things have been pointed out energetically for some years now by the UK Dark Skies campaign, by the British Astronomical Society, and by the Council for the Protection of Rural England. Even the Government's own Rural White Paper last year mentioned the value of wild unlit landscape. However, regulation and law never caught up with technology, and light is still not regulated as a pollutant or something that needs planning permission. This is historically understandable: electric light is a very new



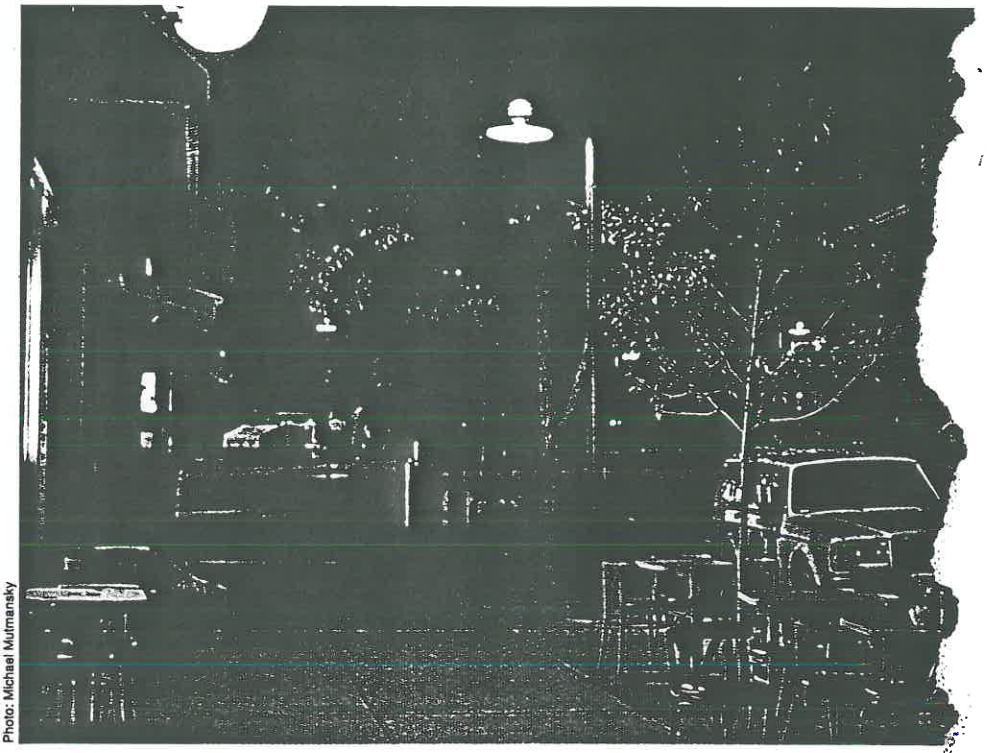


Photo: Michael Mutmansky

AUG -2 1999

Shielding Light

Local ordinances and fully shielded lighting specs curb offensive illumination

By BARBARA HORWITZ
Assistant Editor

When a national car dealership, gas station or fast-food chain moves into a town like Tucson, Ariz., it's almost a given that the uninitiated owner will attempt a bright, flashy exterior lighting design to attract customers. Inevitably, it's not long before this newcomer is reprimanded by authorities citing the city's accepted lighting practice which has been devised to guard against what is known as *light trespass*.

"When out-of-town chain stores try that, they're quickly put on notice—that's not acceptable here," explains Chris Monrad, a lighting designer with Monrad Engineering, Inc., Tucson.

A growing number of cities are becoming less tolerant of intrusive light which creates glare and unwanted illumination on neighboring property.

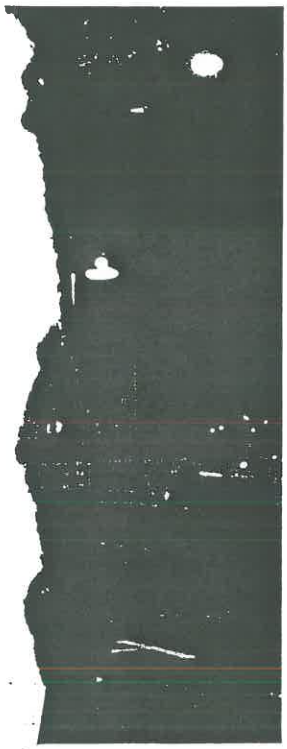
Why is light trespass so objectionable? What is being done to discourage it? And what do lighting designers and engineers need to know about specifying fully shielded lighting to combat this light menace?

The answers, in many instances, involve the application of common sense.

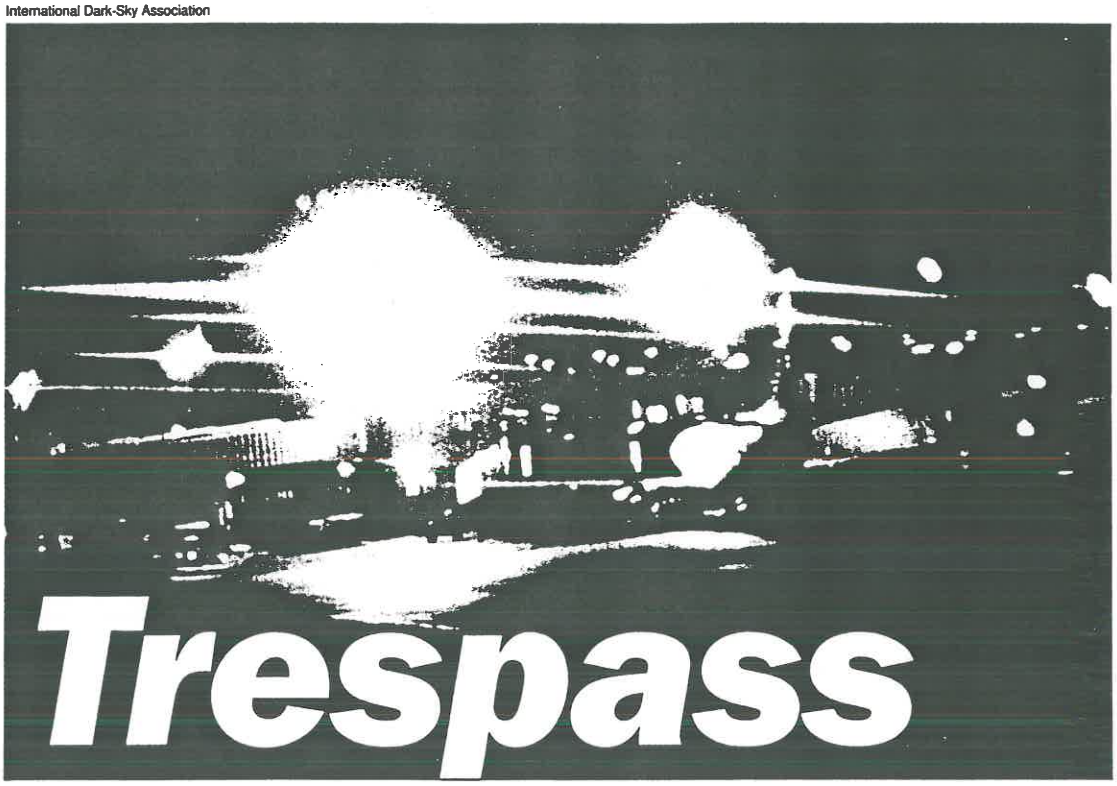
Lose the light

If one were to water their lawn with a misdirected sprinkler, not only would the next-door neighbor express displeasure at the unwanted shower on his or her property, but it would take a large amount of water to adequately hydrate the lawn. According to Russel Leslie, associate director of the Lighting Research Center, Troy, New York, poorly designed lighting works in the same way. "It costs money and energy to produce light," Leslie says. "If it's not lighting the objects you want to see, it's a waste of light."

Good examples of low-glare, shielded lighting vs. poor, glare intensive design.



International Dark-Sky Association



from Trespass

A popular myth, according to Nancy Clanton, P.E., IALD, IES, who runs her own lighting design firm in Boulder, Colo., is that significantly exceeding minimum lighting levels is a good thing to do. "What we're seeing are areas that are way overdesigned. It's not necessary for every single nook and cranny to be illuminated."

Another undesirable side effect of light trespass, notes Clanton, is glare—a phenomena that can be particularly dangerous for drivers. When a building's exterior or parking lot lighting is more than 20 times the road's lighting level, an individual can be blinded for a few seconds while the eye adapts to the change in brightness. Besides the danger of low driving visibility, glare also makes it difficult for police to see potential perpetrators lurking around. Consequently, the common-sense notion that more lighting is better doesn't necessarily apply here.

It's not the designer's problem, is it?

Even if an owner requests lots of flashy exterior lighting, the engineer or designer should propose lighting possibilities that make more sense, suggests Ron Kurtz, IALD, IES, of Randy Burkett Lighting Design, St. Louis. As it happens, owners and even designers commonly take a "one-size-fits-all" approach when it's very feasible to design a desirable lighting scheme—even with floodlights—in a much more responsible manner, says Kurtz.

Another common challenge, according to Clanton, is pressure to reduce a project's overall costs. After crunching the numbers it may appear that the best way to cut costs is to use poorly designed luminaires and light fixtures with inferior optics.

"Engineers should be sensitive to the environment in which they're designing lighting," says Monrad. "The engineer should consider if he'd like to live, drive or work near a location where he is designing a lighting installation."

In a situation where the engineer is not careful to consider light trespass at the outset, there may be repercussions.

Al Borden, IALD, president of The Lighting Practice, Inc., Philadelphia, points out that spending some extra time evaluating the neighborhood and reviewing local codes and ordinances can prevent costly corrections which may come up down the line. "I think what tends to happen is the neighbors force the owner to plant trees, change the wattage of the fixtures, etc...This forces the owner to spend more money, which may ultimately make it back to the designer," says the principal. "The biggest liability is that you could lose your clients."

Designing responsibly

By taking a proactive approach, potential conflict and expenses can most likely be avoided.

Leslie suggests the following steps:

- Identify what you need to see within the property area.

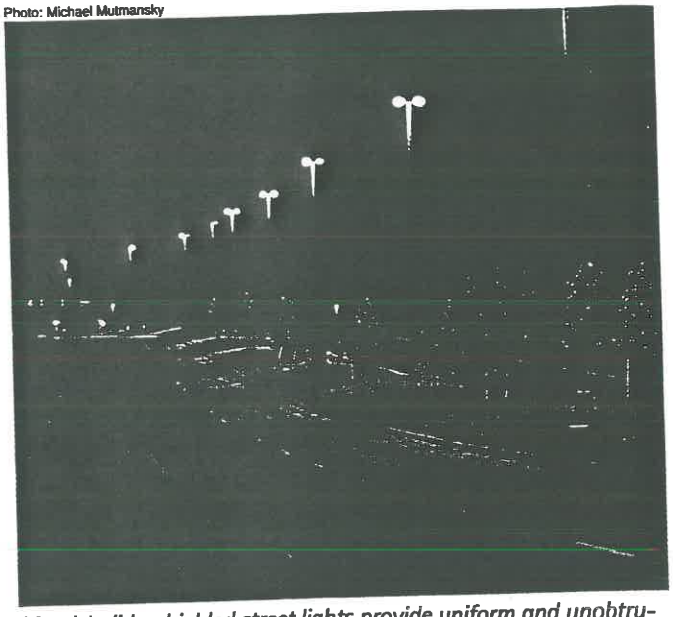
Clanton's IES committee recently published a recommended practice for outdoor lighting (see "IESNA's Practice Addresses Light Trespass).

"There were a lot of questions to IES from municipalities asking about the organization's stance on light trespass and how to write a lighting ordinance. This recommended practice will help with these issues," explains Clanton. "We've taken a strong stance on light trespass to actually give some guidance to designers."

In an effort to provide a comprehensive guide for municipalities and designers, the document covers a wide range of applications including outdoor lighting for parking lots, malls, retail stores, hospitality establishments, outdoor sports parks and plazas, to name a few.

Kurtz, whose firm has been actively working with governments to help develop lighting ordinances, agrees that light trespass is a hot topic. "Many municipalities are jumping onto that bandwagon, especially newer municipalities who have the opportunity to start fresh."

Photo: Michael Mutmansky



Metal-halide, shielded street lights provide uniform and unobtrusive low-level nighttime lighting.

HARNESSING THE LIGHT

While light trespass is not a desired element, there are applications where it can be beneficial, says Leslie. "Glare and trespass can be a conscious strategy like in a cases where it's used to successfully keep thieves away from a junkyard."

Additionally, in towns where trespass is strictly legislated, the burden of responsibility for security is shifted to property owners who are then expected to adequately illuminate their property to ensure security in the neighborhood. "Ambient light in a city is indeed very useful and important to your sense of security. It's a trade-off," Leslie adds.

The researcher also points out that an ordinance demanding zero light trespass is unachievable because some light will always bounce off the property, even in the best-case scenario.

IESNA's Practice Addresses Light Trespass

As a compilation of recommended lighting practices, the Illuminating Engineering Society of North America's recently published, "Lighting for Exterior Environments" (RP-33-99), looks to be a useful resource for designers.

Concerning light trespass, Section 5.2 classifies the phenomena as falling into one of two categories:

- Adjacent property receives unwanted light (high illuminance levels).
- Excessive brightness occurs in the normal field of vision (nuisance glare).

To help control light trespass, the manual provides the following suggestions:

- Inspect areas adjacent to the lighting design location to identify and consider any potential problems involving residences, roadways and airports.
- Select luminaires with tightly controlled candela distributions, using sharp-cutoff reflectors and refractors.
- Contain light within the design area by carefully selecting, locating and mounting the luminaires.
- Use well-shielded luminaires (or select equipment that can be shielded), if a potential problem is found after installation.
- Keep floodlight aiming angles low so that the entire beam always falls within the intended lighted area during (and after) the design and installation process.

To obtain a copy of "Lighting for Exterior Environments" (RP-33-99), contact the Illuminating Engineering Society of North America, 120 Wall Street, New York, NY 10005, (212) 248-5000.

ENERGY-EFFICIENCY POSSIBILITIES

Even though the prospect of saving energy is appealing, most designers say it is not a major factor.

"An efficiency issue is embedded, but people don't do it to save energy," says Borden. "They do it to maintain the quality of their environment."

Taking a different approach, Kurtz points out that light trespass-sensitive design might not reap energy savings in every case. Depending upon the requirements of a particular design for certain numbers of fixtures or wattages, energy consumption could actually increase. "Sometimes, in order to achieve one parameter, you may have to make certain sacrifices to others," the designer says.

As the numbers of lighting ordinances increase, designers are predicting that light trespass will decrease. Even in large cities where light trespass runs rampant, Monrad conjectures, "All it takes is one person to design a shielded system and people will catch on." |cse|

Environmental Effects of Roadway Lighting

by Carl Shaflik, BASc, PEng

Technical Paper prepared at University of British Columbia, Department of Civil Engineering

Information Sheet 125, August 1997

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ABSTRACT

Environmental impacts resulting from transportation infrastructures have been the subject of research for many years. One environmental aspect of transportation facilities largely ignored is that of light pollution. In many areas light pollution has become an important aspect of both planning and design. Neighborhoods are becoming more sensitive to the stray light that is being directed towards their property and windows. Astronomers and observatories are becoming more concerned with the increase in the sky glow around urban areas.

It has been estimated by some researchers that up to 50% of all light pollution may be the result of roadway lighting. This firmly puts light pollution in the hands of traffic engineers, and it will become their responsibility to find adequate and economic solutions.

We will see that by employing some simple solutions, using today's technology, the effects of light pollution can be brought under control. All that is required, and this may be the most difficult part, is the political will to act.

INTRODUCTION

The environmental effects of transportation systems are becoming of increasing importance to traffic engineers and designers. While engineers are well aware of the problems associated with air and noise pollution a widely neglected area associated with transportation systems is that of light pollution. Although some may feel that lighting is not the area usually associated with traffic engineering, it has been estimated that 35% to 50% of light pollution is caused by roadway lighting. This, coupled with the fact that roadway lighting design and construction is handled by the traffic engineering sections of municipal and provincial engineering departments makes it the responsibility of traffic engineers.

Light pollution is a broad term associated with three major areas of potential concern. These include light trespass, glare, and urban sky glow. A few of the more minor but related problems consist of confusion caused by light sources, adverse aesthetic effects caused by clutter, energy waste, and general annoyance. All of these problems can have adverse effects not only on the general public but also can affect the safety of the driving motorist. In this paper the three major effects of poor or improperly designed roadway lighting will be explored. The minor effects will be briefly considered. General remedies and mitigation procedures have been researched over the past several years by

and lateral light distributions apply primarily to the shape of the roadway area to be illuminated. Both of these distributions can be important when determining the amount of light trespass from a source. Figure 1 illustrates four basic distributions of roadway lighting fixtures.

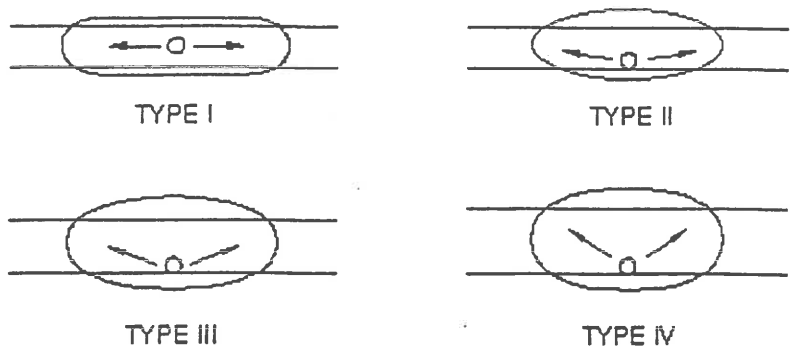

Figure 1. - Roadway Lighting Fixture Distributions

The control of the distribution above the maximum candlepower, known as the cutoff, is important for determining the amount of glare emitted by a fixture. A non-cutoff roadway fixture typically has a dropped lens (a refractor). This allows the light to be more easily distributed from the fixture and permits the illumination design to be less precise, however it produces more undesirable glare. A full cut-off fixture typically has the dropped refractor replaced with a flat glass, while the reflecting elements inside the fixture have been redesigned to provide control of the light output. This provides much better glare control; however the illumination design must be much more precise to maintain lighting uniformity. Figure 2 illustrates the effect of non-cutoff and full cut-off luminaires.

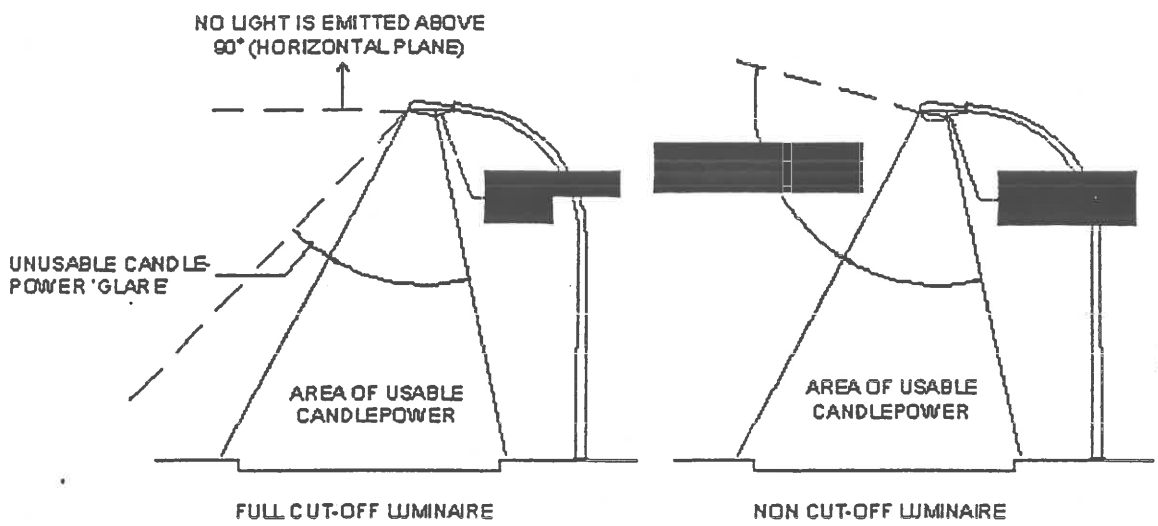

Figure 2. - Effects of Full Cut-off and Non Cut-off Luminaires

The Illuminating Engineering Society is the recognized authority for the setting of various illumination recommendations, including those for roadway lighting. These standards, as listed in ANSI/IES PR-8, have been well researched and established as the minimum requirements for the safety of roadways. Several studies have been undertaken in recent years involving test targets placed on roadways (Ref 10). The IES standards have been confirmed during these studies as the minimum requirements for proper illumination with respect to stopping sight distances. To give some idea of

mounting height, and the observer's position. The basic empirically derived formula for roadway glare (veiling luminance) is as follows:

$$L_v = \sum_{i=1}^{n} \frac{10E_{vi}}{\theta^2 + 1.5\theta}$$

where:

L_v = glare (veiling luminance) at the observer location in cd/m^2

E_v = vertical illuminance on the plane of pupil of the observer's eye

θ = angle between the line of sight and luminaire in degrees

n = number of luminaires in sight

Glare calculations again are very complex and best handled by the commercially available computer programs. The importance of glare as a component of light pollution will be further explored in following sections of this report.

LIGHT POLLUTION

Light pollution has increasingly become a major concern as an environmental impact of transportation facilities. It has been estimated that between 35% to 50% of all light pollution is produced by roadway lighting (Ref 13). Misdirected or misapplied outdoor lighting has prompted many jurisdictions in the United States and Canada to enact control bylaws to alleviate the problems associated with the poor or improper designs.

Roadway lighting, as a supplement to vehicular headlights, is considered essential in all our cities and towns. When the lighting design principles are properly applied, the increased visibility provided on the roadways can provide social and economic benefits to the public, including:

- Reduction of nighttime accidents
- Aid to police protection
- Facilitation of traffic flow
- Promotion of businesses
- Inspiration of community growth
- Safety for pedestrians

Light pollution is a generic term that encompasses many different aspects of improper lighting. Each aspect will be discussed separately below. The three major components of light pollution are light trespass, glare, and urban sky glow.

• LIGHT TRESPASS

Light trespass can be described as the effects of light or illuminance that strays from its intended purpose. On a roadway lighting system, it is desirable to have all the light directed onto the roadway and not on the adjacent area. Poor quality lighting fixtures, which are generally of a non-cutoff type, will allow some of the light to fall on areas away from the road such a lawns and houses. A poor lighting design, which has employed the wrong luminaire distribution, can also lead to unwanted light

such as luminance meters.

Glare can be easily reduced, although not completely eliminated, by the proper use of cut-off luminaires. Even in the areas not directly related to driver safety, glare is reported as the most annoying aspect of roadway lighting (Ref 2).

• URBAN SKY GLOW

Urban sky glow is the result of stray light being scattered in the atmosphere brightening the natural sky background level. This effect is extremely detrimental to astronomers as well as annoying to many people in the general public. It is sometimes difficult to comprehend the effect of sky glow and the sensitivity of astronomical instruments. Human eyes can barely discern a star of the 6th magnitude which is about 15 million times brighter than a 24th magnitude star that astronomers observe. A candle flame (luminous intensity of approximately one candela) observed at a distance of about one kilometer is as bright as a 1st magnitude star and easily seen by the naked eye. This candle is about 1.5 billion times brighter than the limits of astronomical instruments.

Street lighting has been blamed for up to 50% of the urban sky glow due to 95% of the light directed down toward the pavement being reflected upward at reflectance rates ranging from 6% for asphalt to 25% for concrete (Ref 1). Urban sky glow has been reported to be increasing around 30% annually in some American cities (Ref 5).

An empirical formula has been developed in California by Merle Walker known as Walker's Law (Ref. 5) which is used to estimate the sky glow at an observing site, looking at a zenith angle of 45 degrees toward an urban source r kilometers away.

$$I = 0.01 \times P \times r^{-2.5}$$

where:

I = the increase in sky glow level above the ambient background

P = the population of the urban center

r = distance in kilometers from the urban center

For a city with a population of 300,000 (Greater Victoria) and an observing site 25 km away (Sannich Observatory):

$$I = 0.01 \times 300{,}000 \times 25^{-2.5} = 0.96$$

The increase in sky brightness, at a 45 degree angle, over the natural background is approximately 96%, half of which may be caused by roadway lighting.

Another source of sky glow, possibly of greater consequence (although studies to date are scarce), is the direct luminance from the luminaires above the horizontal plane. Many of the poor non-cutoff luminaires emit up to 10% of their light above the vertical angle of 90 degrees, with up to 30% of their light above a vertical angle of 80 degrees. Full-cutoff luminaires on the other hand emit no light above 90 degrees and considerably reduce the contribution to sky glow.

Other problems related to sky glow comes from the radiation outside the visual spectrum emitted by roadway luminaires. The traffic engineering profession has been mostly concerned with visible light,

RELATED ENVIRONMENTAL ASPECTS

Besides light pollution, the installation of roadway lighting has several other negative side effects which can be loosely associated with environmental impacts. These include color of the lighting sources used, visual intrusion associated with the lighting structures, and the roadside hazards the structures impose on the highways. Although not dealt with in depth by this report, it is beneficial to be aware of these items when designing a roadway lighting system. A properly designed lighting system should be able to minimize all of the light pollution aspects.

• COLOR

Various different light sources for roadway lighting exhibit different color characteristics. Mercury vapor luminaires produce a bluish white light, which is pleasing to some designers, architects, and town planners. The problem with mercury vapor luminaires is that they are very energy inefficient compared to some of the other sources. Metal halide luminaires produce a more energy efficient white light. These full spectrum lights are also disliked by astronomers, as opposed to more monochromatic luminaires. High pressure sodium luminaires produce the familiar amber or pinkish light used by most roadway lighting installations today. This light is more monochromatic than mercury vapor and has poor color rendition. For this reason, it is not as well liked by some planners, architects, and much of the general public. Low pressure sodium lamps have no coloring rendering at all, but they are liked by astronomers, who can more easily filter out monochromatic light. The HPS luminaires are about twice as energy efficient for the same lumen output as mercury vapor. The metal halide luminaires produce a full spectrum light similar to mercury vapor and give good color rendition. Their energy consumption per lumen is about half way between that of HPS and MV. The lamp life for metal halide is shorter than the other lamps and they fall out of favor with maintenance personnel. Many jurisdictions have compromised by using mercury vapor or metal halide in downtown and people oriented areas and high pressure sodium along arterial routes and highways.

• VISUAL INTRUSION

Lighting structures add to the visual intrusion and negatively impact the aesthetics of an area. This is a very subjective matter and difficult to quantify. As streetlight poles are tall but very narrow they do not fit easily into the standard visual intrusion prediction formulas using the solid angle predictor. Designers should however be aware that complaints may arise from using particularly large lighting structures, such as high-mast lighting poles near residential areas.

• ROADSIDE HAZARDS

The large number of lighting poles along roadways significantly adds to the hazards for the driver. From a safety aspect, it is preferable to use fewer taller poles with higher wattage lighting sources. A trade off is made, however, with visual intrusion, light trespass, and glare.

CONCLUSIONS

Light pollution is becoming an increasing problem in our modern urbanized society and must be dealt with. For many years it has been generally overlooked by engineers, possibly because items such as air and water pollution have attracted much more attention from the public. As 35% to 50% of all light pollution is caused by roadway lighting it now becomes the responsibility of the traffic engineer to face the problem and find solutions. The solutions to the problem are quite simple, they only require the political will to act.

IES, New York, June 1992.

3. Crawford, David, PhD, Statement on Light Trespass (Draft), March 1991.

4. Batinsey, John, "Light Pollution: The Neglected Problem", New Jersey Municipalities, May 1995.

5. IDA Information Sheets, International Dark-Sky Association, Tucson, AZ:

   "Why We Don't Like the 175 Watt Mercury Fixture", No. 3, December, 1989.

   "Operating Data and the Economics of Different Lamps", No. 4, January, 1990.

   "Estimating the Level of Sky Glow Due to Cities", No. 11.

   "Sample Letter to Help build Awareness and Ask for Help", No. 22, January, 1990.

   "Economic Issues in Wasted and Inefficient Outdoor Lighting", No. 26, February, 1990.

   "An Introduction to Light Pollution", No. 28, February, 1990.

   "Discussion and Partial List of Lighting Fixtures", No. 30, March, 1990.

   "Lighting and Crime", No. 51, April, 1992.

   "Efficient Outdoor Lighting", No. 52, April, 1992.

   "Exterior Lighting: Glare and Light Trespass", No. 76, September, 1993.

   "Light Pollution - Theft of the Night (A Handout Sheet)", No. 90, October, 1993.

6. "NELPAG Circulars No. 2 to 11", New England Light Pollution Advisory Group, Cambridge, MA, December 1993 - February 1995.

7. The CIE - Commission Internationale de l'Eclairage (International Commission on Illumination), Publications:

   "Guidelines for Minimizing Urban Sky Glow Near Astronomical Observatories", Publication CIE 01-1980.

   "Recommendations for the Lighting of Roads for Motorized Traffic", 2nd ed., Publication CIE 12.2-1977.

   "Standardization of Luminance Distribution on Clear Skies", Publication CIE 22-1972.

   "International Recommendations for Motorway Lighting", Publication CIE 23-1973.

   "Glare and Uniformity in Road Lighting Installations", Publication CIE 31-1976.

   "Road Surfaces and Lighting", Publication CIE 66-1984.

   "Road Lighting as an Accident Countermeasure", Publication CIE 93-1992.

   "Recommendations for the Lighting of Roads for Motor and Pedestrian Traffic",

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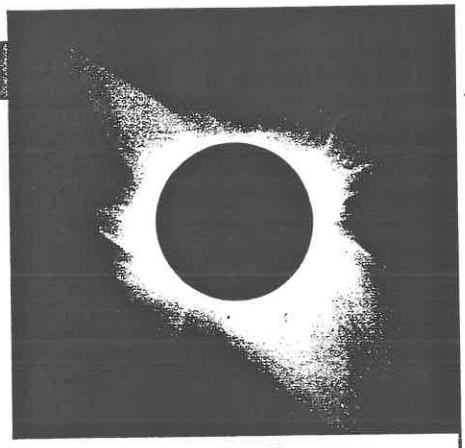

An Eyewitness Account

Virtually everyone who saw the 1991 eclipse was overwhelmed by its grand spectacle. What appeared when the Moon covered the last speck of Sun was, by many accounts, the most spectacular corona seen in this century. Bright coronal streamers, some at non-radial angles to the Sun's limb, were combined with vivid, neon pink, naked-eye prominences for a view never to be forgotten. Incredibly fine coronal detail was visible to the unaided eye, and the view through binoculars and small telescopes was even more dramatic.

— Dennis di Cicco

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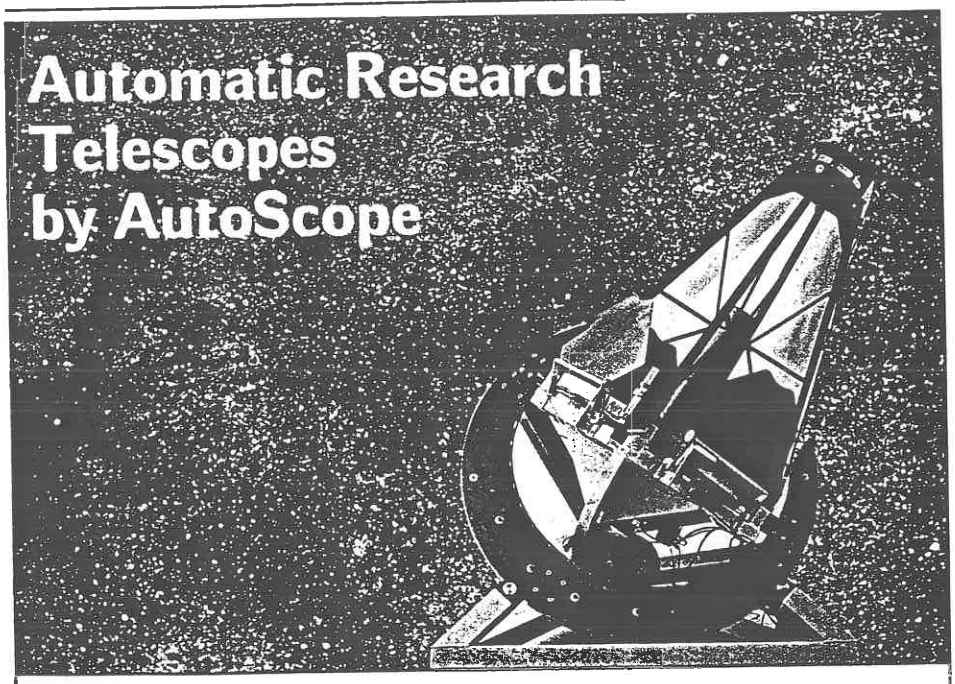

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color of cars. Lemos helped solve this problem by adding a few fluorescent lights to provide better color balance, while preserving the cost savings and astronomical benefit. The IDA is very excited about this application, since car lot owners in Tucson are troubled by the law to convert to low-pressure sodium — "white" light is needed for nighttime sales.

Amateur astronomers need to establish better contacts with local news reporters and editors, says *Arizona Daily Star* science reporter James Erickson. The news media are interested in hearing your point of view. So don't be shy. Erickson suggests that you call up newspapers and radio and television stations with any light-pollution news. Just be patient and persevere.

George Eslinger, an official for the city of Los Angeles, California, reported that his department is responsible for 225,000 streetlights, many of them quite old. Three years ago his bureau started installing fully shielded fixtures in the hillside areas of Los Angeles to reduce glare and light trespass. Now all new streetlights in the city utilize such fixtures. Unfortunately, it will take 40 years to complete most of the conversion. Nevertheless, the IDA believes this is a definite step in the right direction.

John Mickel formerly headed the city's streetlighting program in Glendale, Arizona. He engineered the conversion of mercury-vapor lamps there to low-pressure sodium. This project has been very successful, with 75 percent of the city's 8,000 streetlights having been switched. By and large, Glendale's citizens have not complained about the strongly yellow sodium lights, and there has been no outcry from the police department.

One meeting highlight was a two-hour light-pollution tour of Tucson. This city prides itself on being one of the darkest urban centers in the world. Although Tucson has a population approaching 700,000, the Milky Way can be seen faintly from the downtown district, and the sky at Kitt Peak, only 40 miles away, remains very dark. With its light-pollution ordinances and long-standing commitment to preserving dark skies, Tucson is a model city for astronomers.

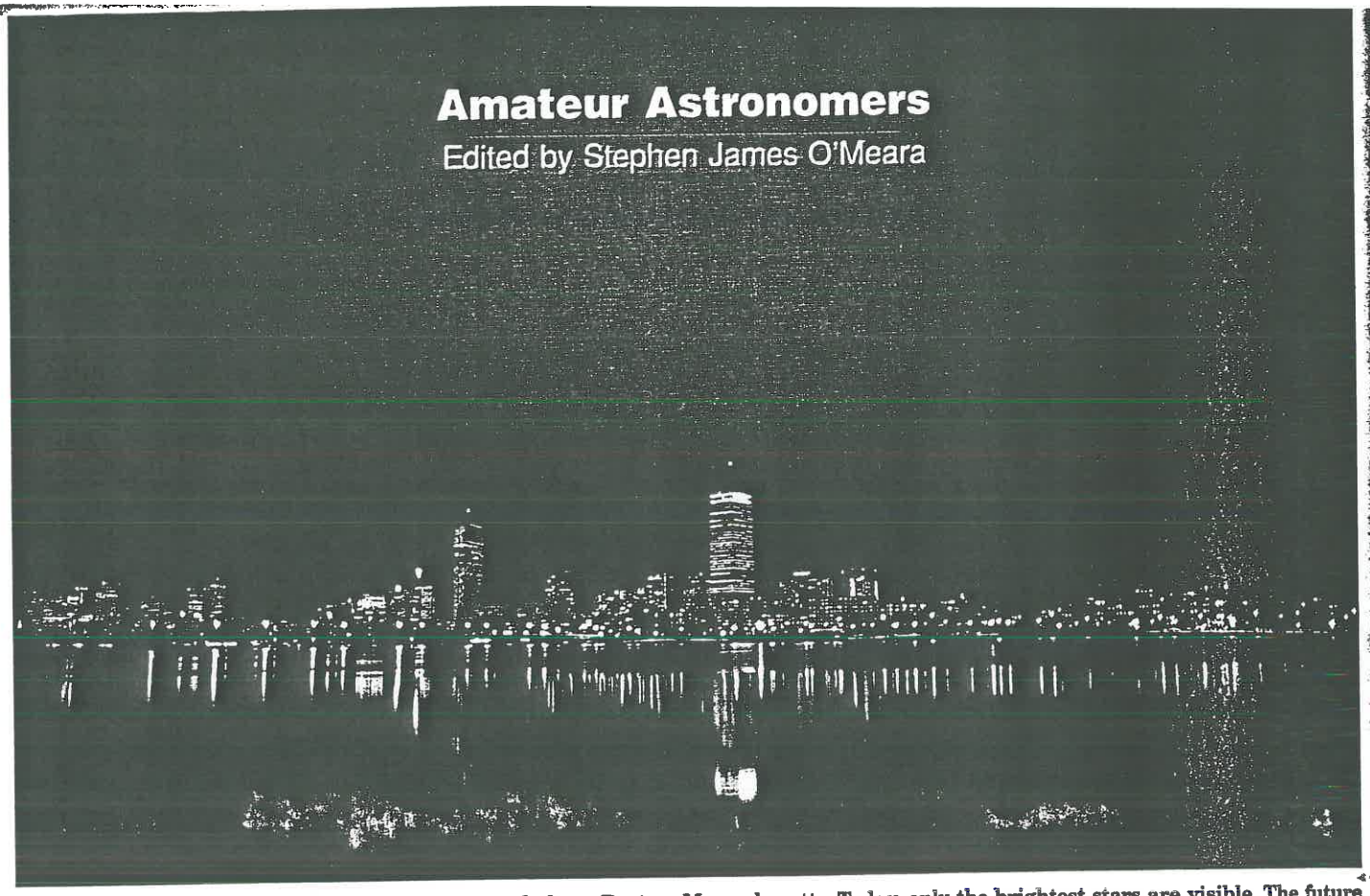
But the city is far from perfect, and plenty of poor lighting situations remain uncorrected.

Light pollution continues to be a very serious threat to astronomy, and the problem will not be solved soon. It is possible to have proper nighttime lighting that does not degrade the environment, as long as we do not give up the fight.

TIM HUNTER
International Dark-Sky Association
3545 N. Stewart St.
Tucson, Ariz. 85716

Amateur Astronomers

Edited by Stephen James O'Meara



Twenty years ago the Milky Way could be glimpsed above Boston, Massachusetts. Today, only the brightest stars are visible. The future looks darker, though, because the city is gradually installing cut-off fixtures along its roadways. All photographs are by Chuck Baker.

A Timetable for Better Lighting

ONE OF the more pervasive myths shadowing light pollution is that the problem is too big and our efforts to solve it too little too late. But this is not true. Many concerned amateur astronomers have been combating bad lighting for years now, and finally the fruits of their labors are being seen.

Take the East Coast, for example, one of the most brightly lit regions on Earth. Boston and its surrounding communities are gradually installing cutoff fixtures along their roadways. Lighting engineers in the region are creating shielded fixtures to replace wallpacks and other high-glare security lights. These are not tremendously dramatic achievements, and the improvement they represent has yet to be realized fully. But they are small steps toward a larger goal. Light pollution took a generation to reach its present state, and it will take a generation to reverse the trend. It can take decades to grow a large tree — yet we still plant trees.

SETTING GOALS

To be most effective we must devise timetables for our light-pollution-reduction goals, both for the short term (achievable in a year or less) and the intermediate term (1 to 10 years). Much can be accomplished by setting up practical objectives and agendas. This not only paves the way for real progress but also keeps us from becoming discouraged when we are not victorious immediately or, worse, suffer a setback. To maximize success, however, we must thoroughly know the subject, be prepared to expend effort, always tell the truth, offer people solutions not problems, and attack bad lighting not people.

Tackling short-term goals *can* lead to immediate relief or a sense of achievement. Think of how much we could accomplish if every amateur astronomer and every astronomy club were to resolve to undertake at least one simple project every year to help reduce light pollution. Stephen J. O'Meara of *Sky & Telescope* first suggested this idea at the 1992 Adverse Environmental Impacts on Astronomy meeting at UNESCO in Paris. He recommended that every amateur astronomer strive to accomplish one short-term goal — something modest like replacing or removing an offending porch light, installing a cutoff fixture for an elderly neighbor, or offering support (through individual membership) to the International Dark-Sky Association.

Clubs, on the other hand, could work toward slightly more challenging goals. Some examples are increasing public awareness through public lectures or newspaper articles, and educating children in the classroom about good outdoor lighting.

The IDA applauds these ideas and would like to add that involving schoolchildren in observing programs can help you gain considerable community respect and clout. We've encountered several examples of amateur astronomers, together with friends and neighbors, who have persuaded city authorities to remove, or properly shield, a streetlight that interfered with their observing site.

Site preservation is a good intermediate-term goal for a club. Many amateurs and astronomy clubs own observatories in dark-sky locations. No matter how remote these sites may seem they are susceptible to light pollution. If left unchecked, skyglow or light trespass could affect every observatory in the next decade. The area could experience

ORDINANCE 1966, SERIES 1998

AN ORDINANCE AMENDING CHAPTER 6 OF THE DAVIS MUNICIPAL CODE PERTAINING TO OUTDOOR LIGHTING CONTROL

THE CITY COUNCIL OF THE CITY OF DAVIS DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Article VIII of Chapter 6 of the Davis Municipal Code is hereby added as follows:

Article VIII. OUTDOOR LIGHTING CONTROL

Sec. 6-58. Findings.

The purpose of this article is to create standards for outdoor lighting to minimize light pollution, glare, and light trespass caused by inappropriate or misaligned light fixtures, while improving nighttime public safety, utility, and security, and preserving the night sky as a natural resource and thus people's enjoyment of looking at the stars.

Sec. 6-59. Definitions.

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this article, shall have the meanings designated in this section:

(a) "Building Official" shall mean the Building Official of the City of Davis or his/her representative.

(b) "Fully Shielded" shall mean a technique or method of construction and/or manufacture which does not allow any light dispersion to shine above the horizontal plane from the lowest light emitting point of the light fixture. In addition, the light emitting, distributing, reflecting and refracting components of the light fixture, i.e. lamp, lens, reflective surface, etc., shall not extend beyond the shielding of the fixture. Any structural part of the light fixture providing this shielding shall be permanently affixed to the light fixture.

(c) "Glare" shall mean artificial light that causes annoyance, discomfort, or loss of visual performance and visibility.

(d) "Installed" shall mean the initial installation of outdoor light fixtures defined herein, following the effective date of this article. A project with an approved building permit prior to the effective date of this ordinance is excluded from compliance with the article for the initial installation only.

shielding, and directional lighting methods, including, but not limited to, fixture location and height.

(b) All outdoor light fixtures installed after the effective date of this article and thereafter maintained upon public property or in the public right-of-way shall be fully shielded. In addition, light trespass and glare shall be limited to a reasonable level through the use of shielding, and directional lighting methods, including, but not limited to, fixture location and height.

(c) Externally illuminated signs, advertising displays, billboards, and building identification shall use top mounted light fixtures which shine light downward and which are fully shielded.

(d) Low-pressure sodium lighting by itself shall not be used in outdoor light fixtures due to poor color rendition and the need by public safety personnel to identify color in the nighttime environment. A combination of low pressure sodium lighting and other type(s) of lighting, such as, fluorescent, may be used if color rendition can be maintained.

(e) Outdoor light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a very narrow cone of light for the purpose of confining the light to the object of interest and minimize spill-light and glare.

(f) Outdoor light fixtures used for outdoor recreational facilities shall be fully shielded except when such shielding would cause an impairment to the visibility required in the intended recreational activity. In such cases, partially shielded fixtures and directional lighting methods shall be utilized to limit light pollution, glare and light trespass to a reasonable level, as determined by the Building Official, without diminishing the performance standards of the intended recreational activity. Illumination from recreational facility light fixtures shall be shielded to minimize glare extending toward roadways where impairment of motorist vision might cause a hazard.

(g) In addition to the provisions in this article, all outdoor light fixtures shall be installed in conformity with all other applicable provisions of this municipal code.

Sec. 6-61. Exemptions.

(a) All outdoor light fixtures existing and legally installed prior to the effective date of this article are exempt from the provisions of this article, provided, however, that no replacement, structural alteration, or restoration of outdoor light fixtures shall be made unless it thereafter conforms to the provisions of this article. However, exemptions shall be granted to this conformance standard if:

The request shall state fully the circumstances and conditions relied upon as grounds for an administrative exemption and shall be accompanied by adequate plans and a legal description of the property involved. In addition, the request shall contain at a minimum the following information:

(1) Name, address, and telephone number of the applicant;

(2) Location of the outdoor light fixture(s) for which the exemption is required;

(3) The nature of the circumstances which necessitate the administrative exemption;

(4) Use of the outdoor light fixture(s) involved;

(5) Type of outdoor light fixture to be used, including total lumen output and character of the shielding, if any; and

(6) Such other data and information as may be required by the Building Official or Public Works Director as appropriate.

(b) The Building Official or Public Works Director, as appropriate, may grant an administrative exemption from the provisions of this article when it appears from the facts contained in the application, and from any other relevant information available to the Building Official/Public Works Director that all of the following conclusions can be reached:

(1) There are special circumstances or conditions applying to the land, buildings, or outdoor light fixtures for which the administrative exemption is sought, which circumstances or conditions are peculiar to such land, buildings or outdoor light fixtures and do not apply generally to the land, buildings or outdoor light fixtures in the neighborhood;

(2) The aforesaid circumstances or conditions are such that the strict application of the provisions of this article would deprive the applicant of the reasonable use of the land, buildings or outdoor light fixtures and that the administrative exemption granted by the Building Official or Public Works Director, as appropriate, is the minimum exemption that will accomplish this purpose; and

(8) Such other information as the Building Official may request.

(c) The Building Official shall rule on the application within five (5) business days from the date of submission of the request and notify the applicant in writing of his/her decision.

(d) The Building Official may grant one (1) renewal of the application for up to an additional thirty (30) days if he/she finds that, because of an unanticipated change in circumstances, a renewal would be in the public interest. The Building Official is not authorized to grant more than one (1) thirty (30) day temporary exemption and one (1) renewal for up to a thirty (30) day period for the same property within one (12) month period.

Sec. 6-65. Appeals.
All appeals of decisions applicable to this article shall be made pursuant to section 29-274 et seq. and within the times set forth therein for the filing of such appeals.

Sec. 6-66. Enforcement.
The Building Official is hereby empowered and directed to administer and enforce the provisions of this article relating to outdoor light control for commercial, industrial, and multi-family development as well as public buildings. The Public Works Director is hereby empowered and directed to administer and enforce the provisions of this article relating to outdoor light control for streetlighting, bike paths, and public parking lots.

Sec. 6-67. Violations and penalties.
(a) Violation of any provision of this article shall be and is hereby declared to be unlawful and a public nuisance. Any violation of any provision of this article shall be subject to summary, administrative or judicial abatement of the nuisance by the city, and be subject to fines, penalties, fees and costs imposed by the city or the court pursuant to the summary or administrative abatement procedures contained in this Code or any other provision of law.

(b) Any person, firm, corporation or other entity, whether owner, lessee, sublessor, sublessee, or occupant of any premises that violates the provisions of this article shall be guilty of a misdemeanor for each day such violation continues, and upon conviction thereof, shall be punishable by a fine not to exceed one thousand dollars ($1,000) per day, or by imprisonment of not longer than six (6) months, or both;

(c) Every day that any such violation continues shall constitute a separate offense. (Ord. No. 1769, § 1(part).)

ATTACHMENT TO LETTER 32

Joe Heidrick Farms
36826 County Road 24
Woodland, CA 95695
(530) 662-3046

May 19,1998

Tom Lumbrazo
Turn of the Century, a Delaware LLC
609 Court Street
Woodland, CA 95695

RE: Cancellation of Williamson Contract

Dear Tom,

This letter is to document the farming history for the 160 acres owned by the Russell family North of County Road 25A.

Joe Heidrick Farms has been farming this parcel on behalf of the Russell family since January 1993. The parcel has not been actively farmed for the past six years, and no income was generated from it other than from the set-aside program.

We have not farmed this parcel as it is not economically feasible to farm because of its poor soil.

I believe that cancellation of the Williamson Act on this 160 acres would not cause the adjacent lands, owned by the Russell family, to be removed from agricultural use.

Sincerely

Joe Heidrick Jr.

Joe Heidrick Jr.

HEIDRICK FARMS, INC.
18284 COUNTY ROAD 97
PHONE (530) 662-8647
WOODLAND, CALIFORNIA
95695

May 5, 1999

Mr. Tom Lumbrazo
609 Court Street
Woodland, CA 95695

RE: Russell Property

Dear Tom:

This letter is to confirm that Heidrick Farms, Inc. conducted the farming operations for the Russell family properties for approximately 40 years prior to the current tenant which is Joe Heidrick Farms. During that 40 year period, despite our best efforts, we had difficulties farming the 162 acres generally located North of County Road 25A because of the poor soil quality. Many years the acreage wasn't farmed, but instead fallowed and used as "set-aside" for the government support program.

Sincerely,

Robert Eoff

Robert Eoff
Heidrick Farms, Inc.

July 27, 1992

H. Peter Faye, Chairman and Members of the
Yolo County Local Agency Formation Commission

REORGANIZATION REPORT
(Gibson Ranch Reorganization to the City of Woodland)
(LAFCO Proceeding No. 845)

BACKGROUND

This application for reorganization was first submitted to the Local Agency Formation Commission on November 19, 1991 by Lester Clark of the firm MacKay and Somps. Mr. Clark is acting as agent for the landowners seeking the reorganization. That proposal (LAFCO #842) was deemed invalid after thirty days had elapsed from the Yolo County Auditor's report, without an agreement being reached between the City of Woodland and Yolo County on the property tax apportionment.

A second application was submitted by Lester Clark on March 23, 1992. As provided by law, the application is in the form of a petition filed pursuant to the provisions of the Cortese-Knox Local Government Reorganization Act of 1985, California Government Code §56000 *et seq* (Attachment A is a copy of the application). The petition proposes that 469 acres of land be annexed to the City of Woodland, and concurrently detached from the Springlake Fire Protection District and the Yolo County Resource Conservation District. There are 20 parcels of land in the proposal area with 15 different landowners . The proposal area is east and south of the city limits of the City of Woodland and north of Gibson Road, west of County Road 102, south of Main Street and east of County Road 101. Map A shows the area.

The property tax exchange was completed on April 7, 1992. The environmental review was completed by the City of Woodland on September 27, 1990 and the prezoning was completed by the Planning Commission of the City of Woodland on November 20, 1990. The applicant was aware of potential problems that could occur with this proposal that would render the proposal incomplete. Therefore, the application was not submitted until November of 1991. A Certificate of Filing was issued by the Executive Officer on June 25, 1992. Notice of this proposal has been provided to all affected individuals and agencies.

ANALYSIS OF FACTORS THAT MUST BE CONSIDERED

Government Code §56841 (Cortese-Knox Act) and the Yolo County Local Agency Formation Commission Standards of Evaluation (LAFCO Resolution No. 92-3) require that certain factors must be considered in the analysis of this proposal. The reference

EFFECT ON OPEN SPACE AND AGRICULTURAL USES

The soil in the area is composed of four general soil types: sycamore silty clay loam, drained (St); sycamore silty loam, drained (Sp); yolo silt loam (Ya); and Yolo silty clay loam (Yb). Each of these soil classifications are soil capability Class I and none has a Storie Index of less than 77. A small area in the proposal is (Ya) which has a Storie Index of 100, for which there is no higher rating.

The U.S. Department of Agriculture Soil Conservation Service identifies the agricultural capability or productivity of nearly all of the project area on the basis of the Important Farmland Inventory as comprising "Prime" farmland. Soils of land in this category are moderately permeable, with very slow surface runoff, negligible erosion hazards, high natural fertility, well-drained, and having slopes of less than one percent.[7] The majority of the agricultural land in the project area ....has been planted in field crops such as barley, beans, alfalfa, grains, sugar beets, safflower, milo and wheat, or in vegetable crops, such as asparagus, melons and tomatoes.[8]

This annexation will effectively remove this acreage from agricultural use. Because of its large size, the area has remained agriculturally viable even though there is development on three sides of the proposal and a mobile home park abutting into the area. This development; however, has probably hampered aerial spraying and harvesting and cultivation may present irritants to residents of the area.

The proposed development is consistent with the City of Woodland goal of directing development to the areas east of town that contain less prime soils. This annexation will enable the City to continue its growth in that direction.

PROXIMITY TO OTHER POPULATED AREAS
EFFECT ON ADJACENT AREAS

The area to the north and west of the proposal is inside the city limits of the City of Woodland. The area south of Gibson Road is designated Phase III Residential Urban Reserve and is within the City of Woodland Urban limit line.

The area south of the proposal area is shown in the Woodland General Plan as Phase III. It comprises six parcels totalling 313 acres. The parcel at the southeast corner of County Road 101 and Gibson Road consisting of 155.5 acres is currently under Williamson Act contract. There has been an inquiry and initial study of environmental impact on this parcel for the construction of the intermediate school originally slated

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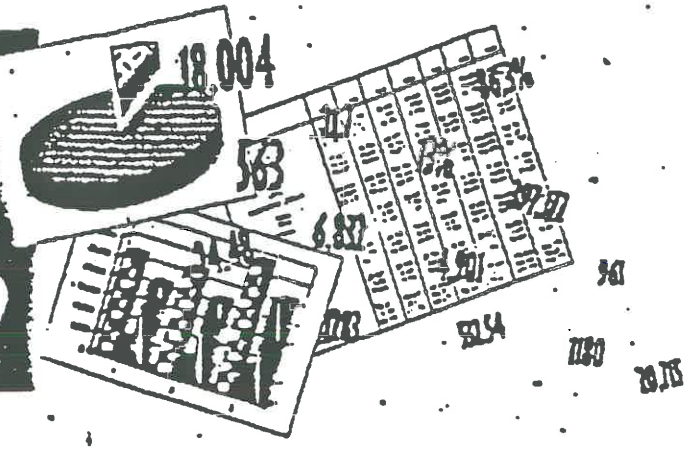
[7] Southeast Area Specific Plan Draft E.I.R. - Third paragraph, Page 99.

[8] Southeast Area Specific Plan Draft E.I.R. - First paragraph, page 101.

FACTS & FIGURES



Number of Farms and Farm Acres 1987-1992

March 1996

According to the 1992 Census of Agriculture, the six county region of El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba had a total of 6,235 farms with 1,650,659 acres of farmland and an average farm size of 271 acres. Between 1987 and 1992, the region lost 425 farms and 102,262 acres of farmland.

El Dorado County, had 690 farms, 102,028 acres of farmland and an average farm size of 148 acres in 1992. The county had 11.1 percent of the farms in the region and 6.0 percent of the acres devoted to farm use. Since 1987, the number of farms in El Dorado County have been reduced by 48, with a loss of 26,107 acres. The average farm size has decreased by 26 acres. In the region, El Dorado County had the largest percentage decrease in farmland, with a decline of 20.4 percent.

Placer County, had 1,125 farms, 137,723 acres of farmland and an average farm size of 122 acres in 1992. The county had 18.0 percent of the region's farms and 8.1 percent of the region's farmland. Since 1987, the number of farms have decreased by 108 and the farmland has decreased by 30,500 acres. The average farm size has decreased by 14 acres.

Sacramento County, in 1992, had the greatest number of farms in the region, with 1,427, or 22.9 percent. Over the past five years, the number of farms have decreased by 159. In 1992, Sacramento County had 379,044 acres used for farming, 22.4 percent of the region's farmland. Since 1987, this has decreased by 33,181 acres. The average farm size grew by six acres, from 260 acres in 1987 to 266 in 1992.

Sutter County, in 1992, had 1,362 farms, 318,156 acres of farmland and an average farm size of 234 acres. The county had 21.8 percent of the region's farms and 18.8 percent of the region's farmland. Since 1987, the number of farms have decreased by 76 or 5.3 percent, while the acres of farmland declined by 37,817, or 10.6 percent. The average farm size dropped from 248 acres in 1987 to 234 in 1992, a loss of 14 acres or 5.6 percent.

Yolo County, experienced a decrease in the number of farms but an increase in the acres of farmland since 1987. The number of farms declined by 99, bringing the number of farms to 912, or 14.6 percent of the region's farms. Acres of farmland increased by 13,310, for a 1992 figure of 518,907 or 30.7 percent of the region's farmland. In the region, Yolo County had the largest increase in farmland during the five period. Average farm size increased by 69 acres, from 500 in 1987 to 569 in 1992. Yolo County had the greatest amount of acres devoted to farm use of the six counties in 1987 and 1992.

Yuba County, between 1987 and 1992, had an increase in farms and acres of farmland, but a decrease in average farm size. In 1992, Yuba County had 719 farms, 11.5 percent of the region's farms, and 234,781 acres of farmland or 13.9 percent of the regional total. The number of farms increased by 9.9 percent and farm acres by 5.4 percent. The average farm size decreased by 14 acres, from 341 acres in 1987 to 327 in 1992, a loss of 4.1 percent.

Source

U.S. Department of Commerce, Bureau of the Census, 1992 Census of Agriculture. Since 1982, the Census of Agriculture has been taken every five years and will continue to be taken in years ending in two and seven.

Note: The Census of Agriculture defines a farm as any place from which $1,000 or more of agricultural products were sold, or normally would have been sold during the census year.

Data Center Contacts:

To obtain data: Florine Kunder 457-2264. Questions regarding the 1992 Census of Agriculture: Trish Duncan 457-2264

More Information:

Data is available by county for a variety of items related to agriculture. Information may be obtained at the SACOG office. Historical information is also available.

Facts & Figures is a monthly release produced by the SACOG Regional Data Center. For further information regarding Facts & Figures contact Trish Duncan 457-2264.

Table 7. Harvested Cropland by Size of Farm and Acres Harvested: 1997 and 1992—Con.

[For meaning of abbreviations and symbols, see introductory text]

Farms with harvested cropland	Tehama	Trinity	Tulare	Tuolumne	Ventura	Yolo	Yuba
Farms.....number, 1997..	831	63	4 812	62	2 019	747	426
1992..	897	58	4 718	49	1 988	724	423
acres harvested, 1997..	62 038	1 754	639 578	1 295	111 375	324 291	79 586
1992..	60 380	635	607 361	968	107 157	286 085	70 006
HARVESTED CROPLAND BY SIZE OF FARM							
1997 size of farm:							
1 to 9 acres ..... farms..	174	14	987	21	787	103	78
acres harvested..	605	26	3 745	40	2 234	351	234
10 to 49 acres ..... farms..	365	15	1 876	16	718	225	87
acres harvested..	5 460	49	40 041	113	13 389	3 825	1 527
50 to 69 acres ..... farms..	50	5	338	3	99	40	23
acres harvested..	1 898	28	17 186	(D)	4 116	1 762	1 007
70 to 99 acres ..... farms..	37	3	288	8	93	40	33
acres harvested..	2 196	8	20 441	61	6 429	2 449	1 905
100 to 139 acres ..... farms..	23	3	257	-	90	48	36
acres harvested..	1 387	(D)	25 849	-	7 240	4 400	3 060
140 to 179 acres ..... farms..	27	8	180	2	38	26	26
acres harvested..	2 609	406	25 064	(D)	3 778	2 858	3 168
180 to 219 acres ..... farms..	20	1	123	2	37	19	14
acres harvested..	2 443	(D)	20 233	(D)	4 824	3 318	2 441
220 to 259 acres ..... farms..	19	1	100	-	26	20	14
acres harvested..	3 241	(D)	20 288	-	4 251	2 688	2 997
260 to 499 acres ..... farms..	44	6	301	1	55	64	55
acres harvested..	10 351	173	93 949	(D)	12 708	17 735	14 223
500 to 999 acres ..... farms..	33	4	198	4	42	53	36
acres harvested..	10 753	330	122 914	43	15 189	30 190	16 572
1,000 to 1,999 acres ..... farms..	14	2	105	-	21	43	10
acres harvested..	7 921	(D)	110 807	-	20 737	49 001	11 058
2,000 acres or more ..... farms..	25	1	59	5	13	66	14
acres harvested..	13 174	(D)	139 061	820	16 480	205 714	21 394
1992 size of farm:							
1 to 9 acres ..... farms..	167	13	954	14	768	66	56
acres harvested..	602	22	3 693	30	2 202	248	212
10 to 49 acres ..... farms..	415	14	1 804	13	722	221	100
acres harvested..	6 191	78	38 268	104	13 440	4 060	1 710
50 to 69 acres ..... farms..	41	8	341	2	104	37	21
acres harvested..	1 673	53	16 707	(D)	4 780	1 539	896
70 to 99 acres ..... farms..	46	2	349	4	86	47	38
acres harvested..	2 556	(D)	24 460	147	5 245	2 585	2 420
100 to 139 acres ..... farms..	36	3	237	1	61	33	40
acres harvested..	2 818	42	23 663	(D)	4 652	2 358	3 962
140 to 179 acres ..... farms..	23	5	176	2	50	29	27
acres harvested..	1 572	20	23 339	(D)	4 911	3 112	3 343
180 to 219 acres ..... farms..	22	3	121	5	37	26	20
acres harvested..	3 092	(D)	20 210	177	4 753	3 524	2 800
220 to 259 acres ..... farms..	18	1	63	-	22	17	12
acres harvested..	2 489	(D)	12 786	-	3 041	2 842	2 492
to 499 acres ..... farms..	46	6	292	-	59	68	50
acres harvested..	8 260	127	83 364	-	12 832	17 847	12 664
500 to 999 acres ..... farms..	37	2	206	2	46	84	38
acres harvested..	12 728	(D)	118 672	(D)	17 941	48 071	18 152
1,000 to 1,999 acres ..... farms..	20	-	111	2	19	42	12
acres harvested..	9 896	-	119 764	(D)	11 225	46 374	9 713
2,000 acres or more ..... farms..	26	1	64	4	14	54	9
acres harvested..	8 503	(D)	122 435	201	21 935	153 525	11 642
HARVESTED CROPLAND BY ACRES HARVESTED							
1997 acres harvested:							
1 to 9 acres ..... farms..	312	45	1 290	43	950	177	113
acres..	1 327	124	5 629	132	3 070	750	385
10 to 19 acres ..... farms..	158	4	705	8	286	80	36
acres..	2 102	45	10 000	101	3 919	1 181	507
20 to 29 acres ..... farms..	66	1	448	3	200	68	27
acres..	1 499	(D)	10 240	65	4 566	1 575	621
30 to 49 acres ..... farms..	76	3	597	2	194	65	26
acres..	2 828	92	22 869	(D)	7 327	2 463	999
50 to 99 acres ..... farms..	85	2	593	4	177	71	60
acres..	5 682	(D)	41 029	237	12 496	4 714	4 344
100 to 199 acres ..... farms..	53	6	474	1	99	80	59
acres..	7 662	758	65 777	(D)	12 756	11 279	8 340
200 to 499 acres ..... farms..	57	2	406	-	75	80	71
acres..	17 853	(D)	125 507	-	21 358	25 835	22 319
500 to 999 acres ..... farms..	18	-	181	1	21	47	19
acres..	12 441	-	127 290	(D)	15 039	34 740	13 308
1,000 acres or more ..... farms..	6	-	118	-	17	79	15
acres..	10 644	-	231 237	-	30 844	241 754	28 763
1992 acres harvested:							
1 to 9 acres ..... farms..	328	42	1 215	28	913	137	95
acres..	1 416	109	5 212	(D)	2 946	597	338
10 to 19 acres ..... farms..	166	7	720	7	314	80	41
acres..	2 156	93	10 266	86	4 303	1 083	575
20 to 29 acres ..... farms..	79	5	437	1	182	63	22
acres..	1 832	113	9 894	(D)	4 186	1 426	487
30 to 49 acres ..... farms..	98	1	601	7	205	71	31
acres..	3 675	(D)	22 774	236	7 715	2 660	1 208
50 to 99 acres ..... farms..	88	1	621	3	174	82	64
acres..	5 967	(D)	43 205	214	11 742	5 344	4 875
100 to 199 acres ..... farms..	58	2	451	3	99	70	74
acres..	7 976	(D)	62 611	330	13 249	9 703	10 469
200 to 499 acres ..... farms..	54	-	371	-	63	80	61
acres..	16 166	-	116 028	-	18 976	26 334	18 581
500 to 999 acres ..... farms..	20	-	187	-	26	70	27
acres..	12 722	-	128 794	-	17 622	48 195	17 796
1,000 acres or more ..... farms..	6	-	115	-	12	71	8
acres..	8 470	-	208 577	-	26 418	190 743	15 677

Rural California Report

Newsletter of the California Institute for Rural Studies

SPRING 1999 VOLUME 10, NO. 2

Did you Know?

California's farmers increased the value of their production by 24 percent from 1992 to 1997, while farm production expenses rose just 5 percent in the same period.

In 1992 farmers spent $13.8 billion to produce $17.1 billion worth of agricultural commidities.

In 1997 farmers spent $14.5 billion to produce $21.1 billion worth of agricultural commidities (1997 figures in 1992 dollars).

Source: *1997 Census of Agriculture*

IN THIS ISSUE . . .

VILLAREJO TO RETIRE AFTER 22 YEARS AS EXECUTIVE DIRECTOR—reflections on CIRS's greatest accomplishments: Mechanization and Farm Labor, Pesticide Issues, Reclamation Law, Into the Fields, More than Just a Newsletter, Organic Cotton, A Safe Agricultural Workplace, A Training Ground, The Land Grant System, Small-Farmers and Farm Workers 2

DIRECT MARKET SALES CLIMB 84% IN FIVE YEARS—big growth for a small segment of California agriculture 4

COASTAL BERRY WORKERS STILL DIVIDED AFTER THREE UNION ELECTIONS—strawberry workers and the UFW 4

NEW CIRS PUBLICATIONS 8

Trends in California Farmland Use

California agriculture is growing, despite urbanization

by Don Villarejo & Shaw Perrin

Many Californians are convinced that agriculture in the Golden State is in decline and that urbanization will someday doom the state's remaining farms. Efforts to preserve existing farmland have gained national attention and are now of concern even among urban and suburban residents. The nonprofit American Farmland Trust has ranked Central Valley farmland "the most endangered" by urbanization in the U.S. (*Farming on the Edge*, 1997). Indeed, the fast growing urban areas of the Central Valley are visibly displacing farmland in the periphery of cities such as Fresno, Modesto, Sacramento and Bakersfield. Demographers suggest another 4 million residents will be added to the Central Valley by 2025, threatening much of the best remaining cropland.

The 1997 Census of Agriculture shows that California agriculture continues to experience remarkable growth, despite urbanization. The Census data, based on surveys submitted by the state's farms, reports a major increase (10%) in the state's harvested cropland, by more than 780,000 acres since 1992 (see table below). California farmers are now harvesting more cropland than ever before in the history of the state's agriculture, according to the Census.

As acres devoted to crops is increasing, pastureland is decreasing. Some of this pastureland is being urbanized, but much of it is being converted to intensive crop production, explaining why more pastureland is being lost than total farmland. For example, thousands of acres of newly planted vines and trees now stretch toward the horizon on both sides of Highway 5 in the region north of Lodi. Much of this land was formerly used as pasture. Statewide, farmland devoted to orchards increased 336,000 acres in just five years, reaching the highest total in California history. In 1997 vegetables were harvested on a record total of 1,209,259 acres, up 19% from the 1992 harvest.

Data collected by California County Agricultural Commissioners (CAC) support these findings from the Census. For example, while the Census records a 640,000 acre increase in Central Valley harvested cropland during 1992-97, CAC data report an increase of 550,000 acres in the same period (see graphs, page 5).

Farmland Use Patterns in California, Acres, Census of Agriculture

	1992	1997	Change
Total Land in Farms	28,978,997	27,698,779	-1,280,218
Pastureland	17,418,180	15,630,917	-1,787,263
Harvested Cropland	7,760,773	8,543,159	+782,386
Land in Orchards	2,245,781	2,582,084	+336,303
Vegetables Harvested	1,016,744	1,209,259	+192,515

see FARMLAND *page 5*

FARMLAND *from page 1*

The difference between the two data sets is accounted for by non-bearing trees and vines (included by the Census but not by the CAC), and by acres on mutiple cropped land (included by the CAC but not by the Census).

These findings from the Census and the CAC underscore the most important trend in the state's agriculture: the intensification of agricultural production. This trend is evident not only in the increasing acres devoted to higher-valued fruit, nut, vegetable and nursery crops, but also in the state's livestock industry. As acres devoted to pasture decreases, the state's dairy and beef industries continue the trend toward fewer operations with more animals. The average size dairy herd in California (602), for example, is ten times the national average and increased 50% from 1992 to 1997. California is now the nation's leading dairy state.

The reason for the intensification and continued growth of farm production in California, and for the unexpected increases of harvested cropland, is not hard to find. In 1997, farmers received more income from the sales of agricultural products than ever before, up by 24 percent in real terms over 1992 figures. The greatest increases in farm sales were reported for vegetable, fruit, nut and berry crops. And farmers reported record high prices and record high production in a number of important crops, most notably wine grapes.

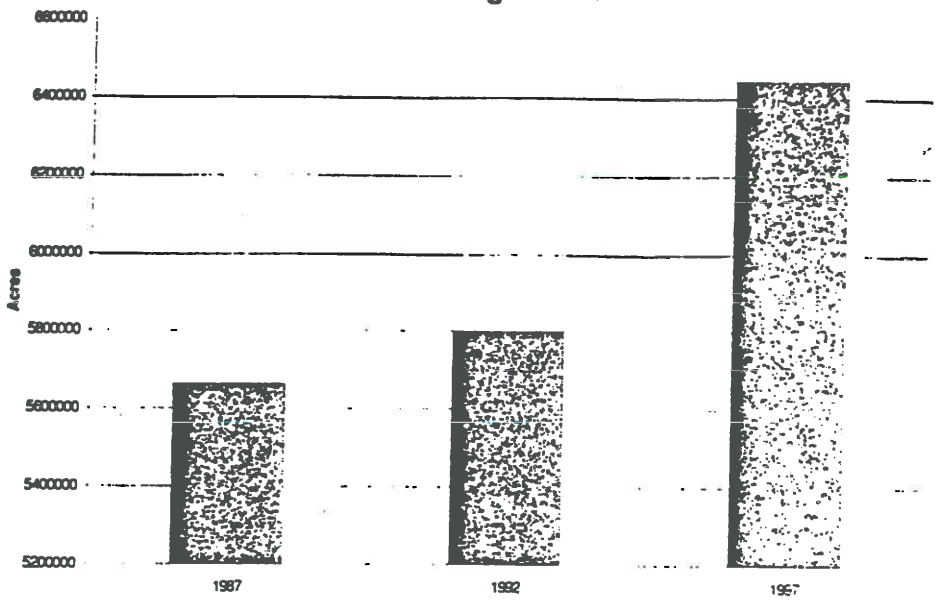
The sheer size of California's farm economy is difficult to grasp. The California Department of Food and Agriculture (CDFA) reports that in 1997 farm cash receipts totaled $26.8 billion, three times bigger than the combined box office receipts of the entire U.S. motion picture industry.

As farmers in other parts of the U.S. complain about the lowest grain prices since the Great Depression, and hog farmers bitterly protest prices that have fallen by a factor of three in the last year alone, California farmers have quietly planted more vegetables, trees and vines than ever before. Expanded consumer demand for fresh fruits and vegetables, as well as increased access to foreign markets, present an exciting opportunity for farmers able to pursue these markets. Urbanization and population growth in fact help farmers by expanding markets.

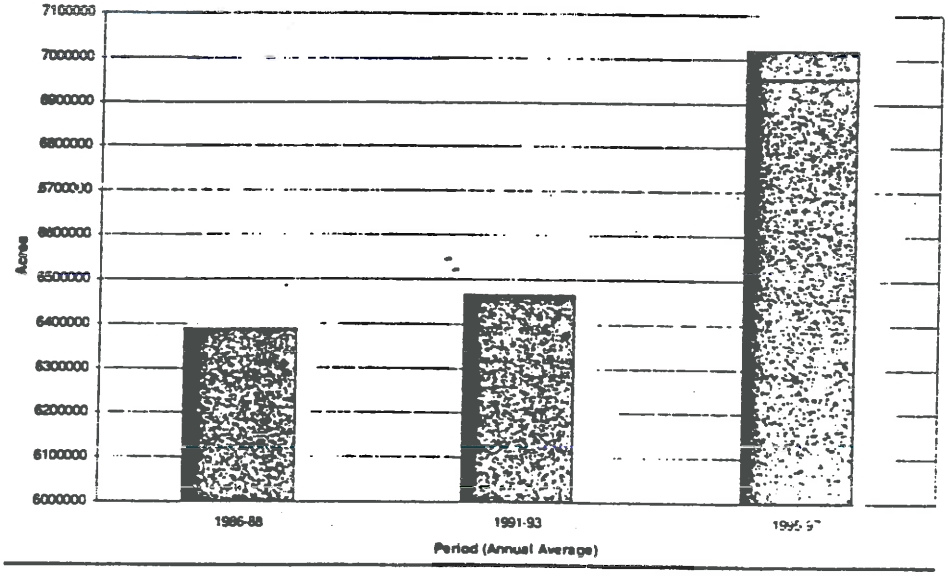
The key to the success of California agriculture has been its ability to muster the resources needed to take advantage of the mild climate, excellent soils and key location to access Pacific Rim markets. The most important of these resources are reliable water supplies, labor and an infrastructure that can assure prompt marketing of highly perishable commodities.

The protection of these resources to insure a healthy California farm economy is far more pressing than the threat of urbanization. ❖

Harvested Cropland, 19 Central Valley Counties
Census of Agriculture



Harvested Crop Acres, 19 Central Valley Counties
Agricultural Commissioner Reports



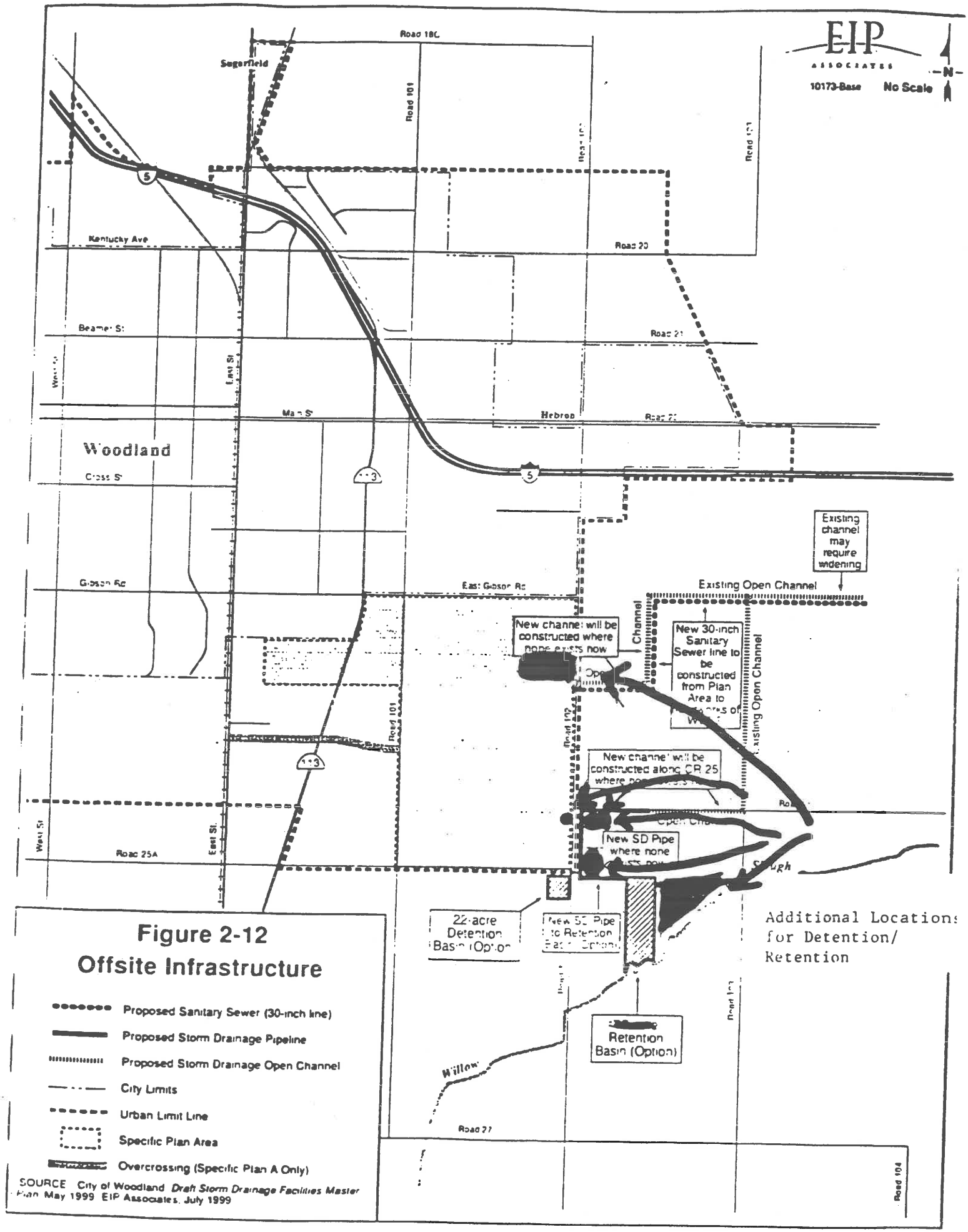
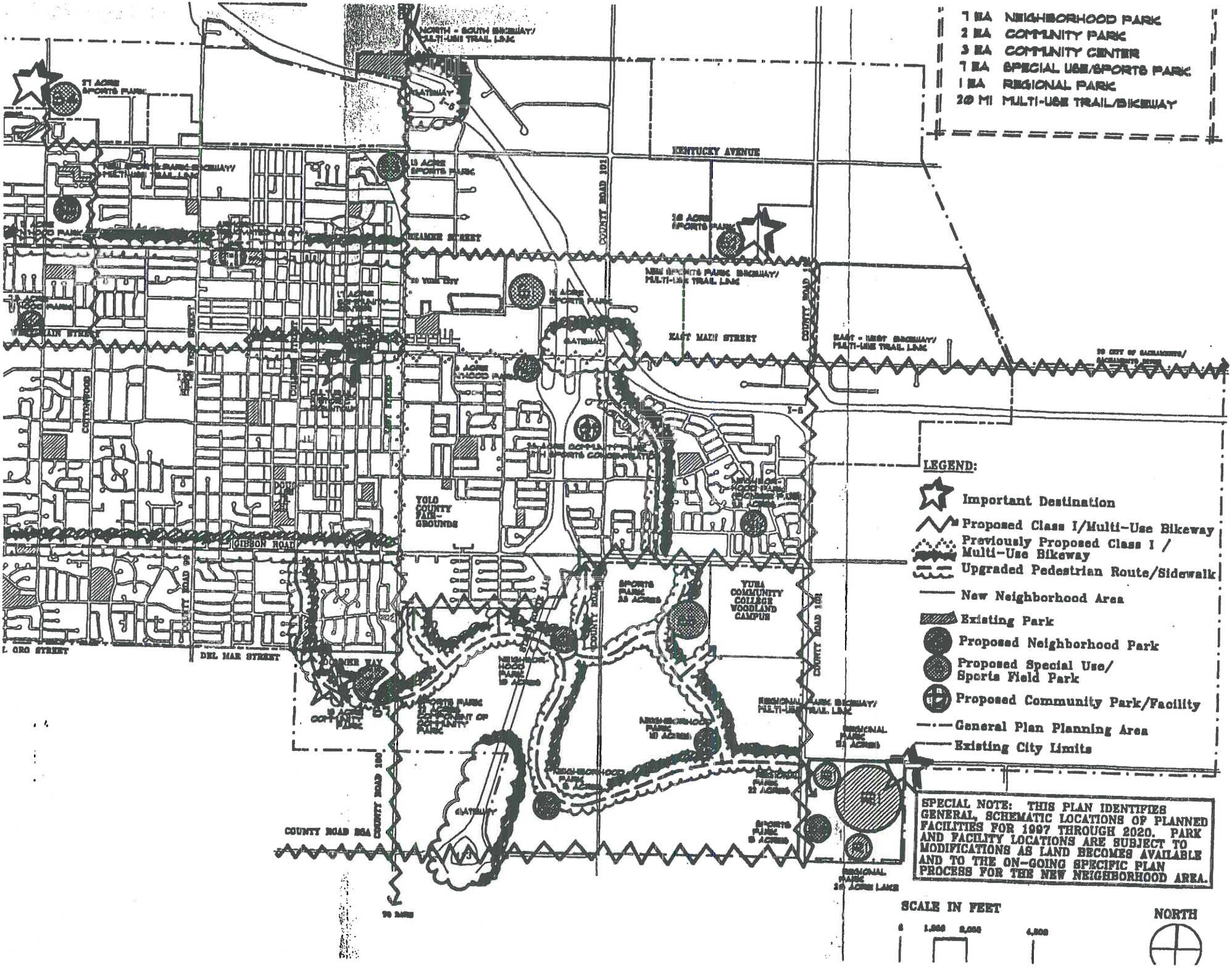


Figure 2-12
Offsite Infrastructure

- Proposed Sanitary Sewer (30-inch line)
- Proposed Storm Drainage Pipeline
- Proposed Storm Drainage Open Channel
- City Limits
- Urban Limit Line
- Specific Plan Area
- Overcrossing (Specific Plan A Only)

SOURCE City of Woodland *Draft Storm Drainage Facilities Master Plan* May 1999 EIP Associates, July 1999


7 EA NEIGHBORHOOD PARK
2 EA COMMUNITY PARK
3 EA COMMUNITY CENTER
7 EA SPECIAL USE/SPORTS PARK
1 EA REGIONAL PARK
20 MI MULTI-USE TRAIL/BIKEWAY
KENTUCKY AVENUE
EAST MAIN STREET
GIBSON ROAD
DEL MAR STREET
COUNTY ROAD 102
COUNTY ROAD 95
COUNTY ROAD 100
COUNTY ROAD 90A
YOLO COUNTY FAIR-GROUNDS
YUBA COMMUNITY COLLEGE WOODLAND CAMPUS
I-5
LEGEND:
Important Destination
Proposed Class I/Multi-Use Bikeway
Previously Proposed Class I / Multi-Use Bikeway
Upgraded Pedestrian Route/Sidewalk
New Neighborhood Area
Existing Park
Proposed Neighborhood Park
Proposed Special Use/ Sports Field Park
Proposed Community Park/Facility
General Plan Planning Area
Existing City Limits
SPECIAL NOTE: THIS PLAN IDENTIFIES GENERAL, SCHEMATIC LOCATIONS OF PLANNED FACILITIES FOR 1997 THROUGH 2020. PARK AND FACILITY LOCATIONS ARE SUBJECT TO MODIFICATIONS AS LAND BECOMES AVAILABLE AND TO THE ON-GOING SPECIFIC PLAN PROCESS FOR THE NEW NEIGHBORHOOD AREA.
SCALE IN FEET
NORTH

Guidelines respond directly to policies and programs of the Woodland General Plan which emphasize the design of new neighborhoods that preserves and enhances the qualities that make Woodland a unique and desirable place. Programs 1.6 and 1.14 call for the preparation of residential and commercial design guidelines to *"...promote walking, bicycling, and transit use and access"* in new expansion areas, recognizing the importance of integrating new neighborhoods into the fabric of the community.

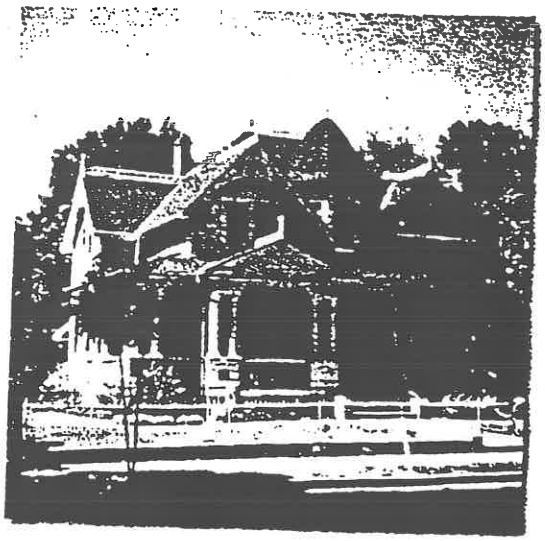
These Guidelines also apply to new development (and modifications to existing development) along major street corridors and city entryways, which include Main Street, East Street, Interstate 5, State Route 113 and County Road 98. Policies 1.K.1 through 1.K.11 of the General Plan emphasize the use of landscaping, screening, sign control, and other techniques to improve and enhance the visual qualities of these key corridors and entryways so that a visitor's first impression of the City is a positive one.

In some instances the Guidelines are fairly precise. However, they are not rigid and inflexible, nor are they intended to stifle creativity by imposing a formula for the design of new development. Their main purpose is to ensure that new development in these key areas enhances the quality of life in Woodland and preserves its image as a desirable place to live, work and visit. It is not the intent that staff or the Planning Commission will design the project – that is the responsibility of the applicant.

The vision embodied by these Guidelines can only be achieved through a cooperative effort among the City, private property owners and the community. The City's responsibility is to provide timely review of new projects, and to help foster private investment by implementing public improvements that enable development to occur. These Design Guidelines help achieve the former by providing a greater measure of predictability to the design review process. The role of the community is to be a sounding board with regard to new development so that decision-makers remain in touch with the preferences of Woodland citizens.

Historical Development and Community Form

Woodland (originally called Yolo City) was settled in the 1850s. Farmers and ranchers, financed in part by earnings from the gold fields, began moving to the area to take advantage of the cheap land, rich soils and year-round growing season. Not surprisingly, the first buildings erected in town were occupied by businesses catering to the needs of surrounding farmers and ranchers.



The City form is based on a grid of north-south and east-west streets radiating outward from the traditional town core bounded by Sixth Street, College Street,

ATTACHMENTS TO HEARING COMMENTS

Good Evening members of the City Planning Department, I am Mike O'Kane, and have come tonight representing the Woodland/Davis Aeromodelers. I would like to take this time to present some projects we accomplish at the Mavis Henson Flying Field to better acquaint you with our activities.

We are organized as a "not for profit" club with the interest of promoting Sport Aeromodeling to the youth and interested organizations in and around Woodland, Davis and Yolo County. We hold organized demonstrations at various elementary schools through out the year and host numerous Scouting groups at MH Field. WDA offers Flight demonstrations and educational instruction sessions at the flying field as well. Our most recent Scouting group was Camp Kyous which was attended by approximately 100 Scouts for 4 consecutive nights at the Flying Field. Along with there scheduled activities WDA offered one night of glider demonstration and another night of powered flight

demonstration.

A Free introduction flight is offered by the Club as well as no cost flight instruction and club trainer use if one decides to join the club. All members are required to join the Academy of Model Aeronautics (AMA), this membership in the AMA includes a 2 ½ million dollar liability insurance policy to that member. The WDA is also a chartered Club of the AMA and is provided Site insurance through the AMA as required in the Lease Agreement.

We acquired use of this flying site through a lease agreement with the Parks and Recreation Department in 1984, entered into a new lease agreement in October of 1995 and amended that agreement in August 1997. Current expiration of this lease is June 27, 2007, with an option for a 5 year extension. The draft EIR incorrectly lists our lease expiration as 2002. All site maintenance, improvements, development and planning is carried out by volunteers of the WDA. County Parks and Rec's conducts periodic audit inspections to

ensure facility conditions are kept in order. Development of this property over the past 15 years has been in the order of Hundreds of thousands of Dollars all provided by donation and labor to bring this Regional Park Flying site to the premier status it is today. No other sites in the Norther California region offer a facility with a lake for Float Flying, U-control circles and a paved runway of this Qaulity. We invite you all to walk through MH Field and see the facility first hand.

An equal share of our 1999 membership is made up of senior citizens whose modeling experience dates back to the beginning of the Aeromodeling Sport in 1939.

The Senior citizens are the majority users of the facility during the summer weekday before the heat of the day builds. Weekend flying is mainly used by members who work during the week and most flying is typically finished by early afternoon.

Flying events are held on some weekends through out the year and

are well attended by the public, it is these events that make up a large portion of our operating revenue. The improvements we recently completed have already strengthened our membership and we are looking forward to offering more scheduled events in the future.

The expansion of developments has been an ongoing concern to Sport Aeromodeling, as developments approach flying areas it creates conflicts and has become a major concern for all Modeling Members. The AMA recognizes these concerns and has assisted its members with understanding the views of all parties, the most important fact being courteous and willing to work with all agencies involved in studies like the TOC. The WDA would like to make comments toward this the process.

1. Include large growth trees along the road 102 corridor, this will disperse the noise patterns that carry over from passing traffic as

well as Airborne noises. Samples of our airborne noise patterns taken by our members showed that noise from agriculture traffic exceeded the noise from the aircraft when flown directly along the inbound side of the power lines.

2. The noise from model aircraft is listed as a buzzing noise and is recommended it be reduced an additional 5dBa. Most aircraft engines do not represent a buzzing noise, all long stroke, 4 cycle model engines are ½ the frequency output of 2 cycle engines. These engines are extremely quite and comparative noise from a neighborhood lawn mower or hedge trimmer is many times louder. The study provided in the EIR was a vary small sample of flying activity due to heavy wind conditions on one of the study days. The recommendation is un-warranted.

3. WDA and its members feel that our Field activity will not cause any annoying hardship on respective residents. This could be improved on by developing the required Greenbelt acreage and Set Backs to be adjacent to the Field assuring a wider margin between

THIS method we feel would CREATE A NEGATIVE IMPACT

our facility and any proposed homes.

4. The loss of water from the Farmers Central canal and the Yolo County Flood Control and Water District will deplete the water level in the Lake. How will water be allowed to enter the ~~Regional~~ Community Park Lake during the summer agriculture season?

5. Traffic Control at the proposed road across the Highway from the WDA entrance has no mention of traffic control, turn lanes, lights etc. Safety improvements are recommenced.

I would like to conclude by saying The Woodland/Davis Aeromodelers is a good neighbor to the peoples of Yolo County and in particular its young and Seniors. This Flying Park deserves to have consideration towards it while the project is in the development stages. With proper planning and cooperation we feel the Mavis Henson Flying Field and its WDA membership can adjoin the TOC Group in a amicable solution during this development phase.

STATE OF CALIFORNIA – THE RESOURCES AGENCY

DEPARTMENT OF CONSERVATION

801 K Street, MS 24-02
Sacramento, CA 95814
(916) 445-8733 Phone
(916) 324-0948 Fax
(916) 324-2555 TDD

GRAY DAVIS, Governor

To: Bob M.
From: John B
Yolo Co.

July 19, 1999

Yolo County Board of Supervisors
Mr. Tommy J. Davis, Director of Planning and Public Works
292 West Beamer Street
Woodland, CA 95695-2598

Subject: Proposed Williamson Act Contract Rescission and Easement Dedication

Dear Honorable Board of Supervisors and Mr. Davis:

This letter responds to your request for the Department of Conservation's input on a proposed division, and subsequent rescission, of a Williamson Act contract (contract number 71-067) on land southeast of the City of Woodland. Consistent with our statutory charge to provide advice on the implementation of the Williamson Act, and to review and approve Williamson Act contract rescissions, we offer the following preliminary comments to assist you in evaluating this proposal.

We understand that you have before you a request to divide a contracted parcel, presently comprising 320 acres, which, if approved, will result in two separate Successor-in-Interest Agreements, consisting of 162 acres and 158 acres, respectively. Following the land division, the proposal calls for rescinding the resulting successor contract on the 162-acre parcel pursuant to Government Code section 51256 of the Williamson Act. As required by this provision of the Act, this proposed rescission is accompanied by a proposal to dedicate a replacement conservation easement in lieu of the payment of contract cancellation fees. The proposed division and rescission is intended to allow for the development of "high-end" single family housing on the 162 acre parcel. The contracted property proposed for division and rescission is not in Williamson Act contract nonrenewal status.

Government Code section 51256, which was added to the Williamson Act in 1996, permits the rescission of a contract, and simultaneous execution of an agricultural conservation easement, if specified findings can be made regarding the contract to be rescinded and the conservation easement to be dedicated. Besides approval of the local board or council, and the Director of Conservation, the requirements that must be met for a section 51256 land swap to occur, include the making of findings that:

1. The rescission "will not result in discontiguous patterns of urban development";
2. The rescission will not be growth inducing with respect to adjacent agricultural lands;
3. The proposed easement dedication will be consistent with the criteria set forth in the Agricultural Land Stewardship Program's enabling statutes;
4. The size and quality of land to be placed under the easement is at least equal to that of the land from which the Williamson Act contract is being rescinded; and,
5. The cash value of the easement is at least equal to the amount of the cancellation penalty had the contract been terminated via contract cancellation.

At least three significant issues are raised by the project in question. Perhaps most significantly, and as Mr. Davis has correctly observed in his June 22, 1999 memorandum to the Board, the project, if approved, will result in development that is not contiguous with existing urbanization of the City of Woodland. As noted, Government Code section 51256(a) requires that a rescission agreement "not result in discontiguous patterns of urban development." The project proponent seeks an expansive reading of the concept of contiguity, and asks you to find that the project is contiguous with urban development because it is contiguous with an undeveloped agricultural area that is planned for *future* urbanization. Such a broad interpretation would largely undermine the contiguity requirement and allow leapfrog development with its attendant negative impacts on farmlands on all sides of the project. Based on our preliminary review of the facts, the Department agrees with the planning staff's conclusion that the proposal represents discontiguous urban development and does not, therefore, comply with section 51256(a).

In our view, the project proposal also has difficulty in meeting the second test for contract rescission (section 51256(b)); i.e., that the rescission will not likely to result in the removal of adjacent land from agricultural use. Parcels to the north and west of the property are currently zoned for agricultural operations and open space; some of these parcels are also under Williamson Act contracts. Approval of this project will result in the extension of urban services and infrastructure, not to mention the intrusion of urban uses, into an agricultural area. Conflicts between agricultural and urban land uses, and the probable increases in property values with the extension of urban amenities and services, will in all likelihood result in the acceleration of the urbanization of adjacent agricultural lands. This impact is an anathema to a basic purpose of the Williamson Act (Government Code section 51220(c)).

Furthermore, the valuation of the property for cancellation fee calculation purposes appears to be in error. The County's Planning Department staff state that the cancellation fee "could not be based on an after development valuation of the site as potentially residential rather than the current land use of agriculture." In fact, the

Williamson Act requires that the valuation reflect the current fair market value as if unrestricted by contract. The impending nature of the instant development proposal will normally affect the current fair market value. We therefore disagree with the inference of the staff that the proposed cancellation appraisal must be based on agricultural use. The staff's conclusion is inconsistent with statute, which requires that the appraisal acknowledge the full transitional development value as of the date of the rescission. As a result, based on the current market forces on comparable lands in the immediate project area, the cancellation value appears to be underestimated.

Finally, we are troubled by the Planning Department's conclusion that the proposed agricultural conservation easement is proposed for land which "has little opportunity for urban development." Agricultural Land Stewardship Program easement acceptance criteria (Public Resources Code section 10251(d)) are incorporated into the Williamson Act for evaluating land exchanges such as that proposed here. These criteria, among other things, require that an agricultural conservation easement restrict land that is "likely to be converted to nonagricultural use in the foreseeable future." Given the insight of the planning staff regarding the limited utility of the proposed location of the agricultural conservation easement, it is doubtful that the easement dedication requirement for the proposed rescission could be met.

The above analysis is preliminary, and by no means exhaustive. Our comments are offered in response to the County's request, and as a courtesy to alert you early in the process of the Department of Conservation's concerns should this project eventually be forwarded for our review and approval. However, without a complete and final application, we cannot assure you that the above issues would be the only ones to be raised, or that future changes to the project would not resolve issues raised by the above comments. In the meantime, if the Department can be of further assistance to your evaluation of the project, or in clarifying the above comments, please contact me at (916) 4458733.

Sincerely,

FOR

Pat Meehan
Deputy Director

cc: Patricia Gatz
Division of Land Resource Protection

APPENDIX B

AGRONOMIC STUDY OF TURN OF THE CENTURY PROPERTY, NORTH HALF OF YOLO COUNTY ASSESSOR'S PARCEL NUMBER 042-003-003

Agronomic Study

of

Turn of the Century Property
North half of Yolo County Assessor's Parcel
Number 042-003-003

August 17, 1998

by

House Agricultural Consultants
Gregory A. House, AFM, ARA, CPAG

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I. Executive summary

To assess the agricultural productivity of the subject property, a 160-acre parcel located in Yolo County, California, about one mile south of the city of Woodland, House Agricultural Consultants

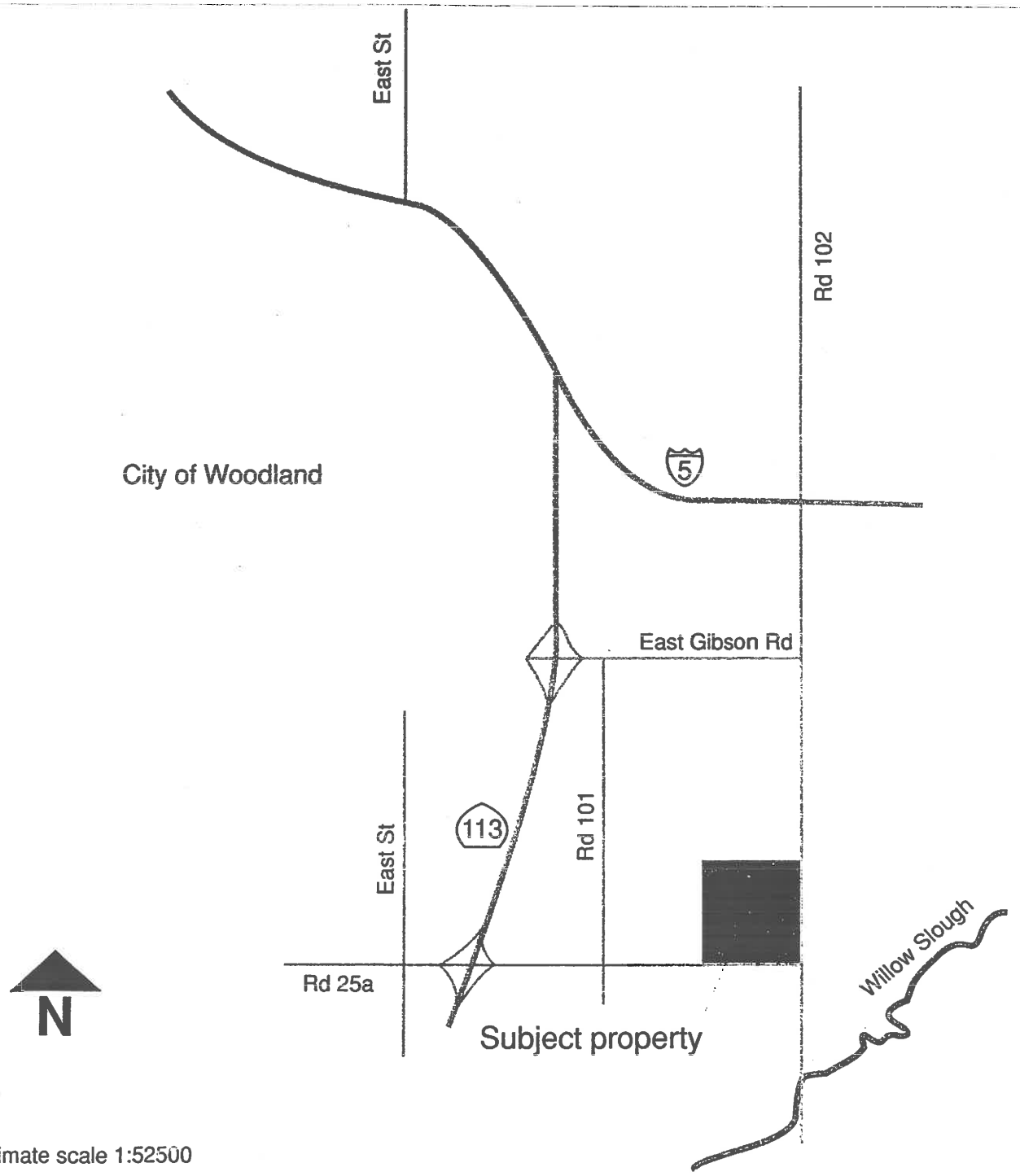
- Researched the soils and geology of the subject, using aerial photographs, the US Soil Conservation Service *Soil Survey of Yolo County, California*, and maps and topographic information from the US Geological Survey;
- Researched the use and crop history of the subject,
- Conducted a site reconnaissance of the subject;
- Collected thirty soil samples representative of the entire property and had them analyzed by a professional laboratory for soil chemistry and agricultural suitability;
- Compared the agricultural productivity of the soils of the subject to other representative soils of Yolo County; and
- Compared the economic potential of the subject to Yolo County averages.

The soil analyses reveal that the subject is severely limited in its agricultural productivity by extremely high pH, excessive sodium, excessive boron, and high salts in its soil. Because these problems are not limited to a discrete area but rather are prevalent throughout the property, the production problems that these conditions impose severely limit agricultural utility of the property. Due to the physical nature of this soil, there are no economically feasible solutions to these problems.

The choice of crops, yield potential, and uses to which the subject can be put are severely limited. The agricultural income potential of the property is very low compared to other land in Yolo County. Annual production of a mixed oat and wild grass hay crop is the property's historical use, and the only use to which it is fully adapted. This generates approximately $170 per acre gross income annually.

Site map

Subject property and vicinity



Approximate scale 1:52500

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II. Property Description

Identification & location

The agricultural property that is the subject of this report is the northeast quarter of Section 10, Township 9 north, Range 2 east, Mount Diablo Baseline and Meridian. Alternately it can be described as the northern half of Yolo County Assessor's Parcel Number 042-003-003. It is approximately 160 acres in size.

This property is located at the southwest corner of the intersection of County Road 25 and County Road 102, which lies approximately one mile south of the southeast corner of the city of Woodland, California.

Access & roads

A native base road at the south boundary of this property provides access to the property. This road lies in the middle of the Assessor's Parcel Number 042-003-003 (off County Road 102) and extends along the southern boundary to the western boundary. There are no other roads on the property.

Site description

The subject property is roughly a square, about one-half mile on each side. Its topography is flat, leveled into three roughly equal-sized benches that drain to the east. The Yolo County Farm Service Agency reports that the property contains 151.6 farmable acres.

There are no building improvements. The sole agricultural improvement is a fence along County Road 102.

Current use & crop history

The subject property is currently leased to Joe Heidrick Farms, Inc., which rents the large tract of land known as the Russell Ranch of which the subject is part. Joe Heidrick Farms, Inc. sublets the property most years to S&S Farms, which uses the property as set-aside for the USDA Farm Commodity Program, as well as for dry-land (non-irrigated) oat and mixed-species hay.

The Yolo County Farm Service Agency reports the following five-year history for the subject property:

1994: Fallow
1995: Oat and mixed hay
1996: Fallow
1997: Oat hay
1998: Safflower on west third; east two-thirds fallow

Soils & geology

Composition of soil

According to the *Soil Survey of Yolo County, California*, published by the Soil Conservation Service, a division of the United States Department of Agriculture, the soils of

the property consist of roughly eighty-five percent *Capay silty clay* and fifteen percent *Pescadero silty clay, saline–alkali*. In addition, there is a negligible amount (less than one percent) of *Riz loam*. A map in the addenda to this report illustrates the distribution of these soil units on the property.

These soils are a type found in basins and on basin rims. A basin, or flood basin, is a topographic feature that is nearly level but contains small depressions and low ridges formed by stream channels and tributaries that empty into the basin. South central Yolo County has several such basins, which are collectively known as the Capay–Clear Lake association.

The soils of the property were formed in the geologic past when minor streams flowing from the Coast Range reached flood stage and emptied into these low areas, depositing a fine alluvium of silt and clay particles. Occasionally the Sacramento River would overflow and fill the tributaries as well. As each flood subsided, water drained into main channels. Before reclamation, the basins of the Capay–Clear Lake association were swamps and wetlands vegetated with tules, marsh grasses, sedges, and other wetland species. The basin rims supported vegetation similar to the prairies of higher-elevation land, chiefly native perennial grasses.

Capay silty clay

Capay silty clay is a soil of basin rims. Thus it formed at slightly higher elevation than the low lying center of the basin. Average slope is less than one percent. The alluvium that formed this soil originated from the weathering of sedimentary rocks in the Coast Range. The soil surface is grayish-brown.

Permeability — the quality of a soil that permits water and air to move through it — is slow for this soil type. Surface runoff is very slow; the erosion hazard is none to slight. The available water-holding capacity is 6.5 to 8.0 inches; the effective rooting depth is more than sixty inches. Soil reaction is mildly to moderately alkaline (pH 8.0 to 8.3).

This soil is used agriculturally for irrigated pasture and to produce rice, sugar beets, tomatoes, dry-land barley, and dry-land safflower. Another use for this soil is wildlife habitat.

The capability unit of this soil is IIs-5 in the USDA Soil Capability Classification System. This system rates soils for agricultural utility on a scale of I to VIII. As the Roman numerals ascend, the limitations to agricultural utility increase: class-I soils have few or no limitations that restrict their use, whereas class-VIII soils have no utility for agriculture. Soils in class II have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

The chief limitation of capability unit IIs-5 is its fine soil texture. With its high clay content, this soil has a large shrink-and-swell action, which is a challenge for irrigation because swelling soil can damage crop roots. Soil compaction, puddling, and sealing are other common problems if the soil is tilled when wet. On the other hand, this soil can be difficult to work when dry; there is therefore a narrow range of optimum soil moisture for tillage.

The Storie index of this soil is fifty. The Storie index is an alternative soil rating system that expresses numerically, on a scale of zero to one hundred, the relative suitability of a soil for intensive agriculture. The rating is based on soil characteristics only as they occur in the native, unmodified state. While a Storie index rating of one hundred is considered ideal, a rating of fifty is merely average.

Pescadero silty clay, saline–alkali

Pescadero silty clay, saline–alkali lies in basins with less than one percent slope. This soil formed of alluvium derived from sedimentary rocks. This soil suffers from high salinity that

has resulted from poor drainage over geologic time. The sodium content of this soil is excessively high; the name *alkali* refers to this. The soil surface is light gray.

Permeability of this soil is slow. Surface runoff is very slow; the erosion hazard is none to slight. The available water-holding capacity is four to six inches in areas that have been drained. The effective rooting depth is twenty to thirty-six inches; it is restricted by a high water table. The soil reaction is moderately to strongly alkaline, pH 8.0 to 8.9 or more.

The exchangeable sodium of this soil exceeds twenty percent. High sodium causes a loss of soil structure, which limits water-holding capacity, leads to such problems as crusting and poor tilth, and decreases permeability, causing the soil to stay wet after irrigation or spring rains long after other soils have dried out.

Crop plants vary in their sensitivity to sodium in soils. Although at high concentrations sodium is toxic to plants, generally it precludes a wide range of plants by its damaging effects on soil structure before actual metallic toxicity becomes significant.

The native vegetation of this soil is adapted to highly sodic and alkaline conditions. All crops grown on this soil must be similarly tolerant of high sodium and high pH. Where improved drainage and applications of gypsum have reduced the effect of sodium, this soil is used for sugar beets, barley, wheat, and rice. Crop yields, however, are significantly below the county average. Other uses for this soil are dry-land pasture and wildlife habitat.

Pescadero silty clay, saline–alkali is classified within capability unit IVw-6 of the USDA Soil Capability Classification System. Class-IV soils have very severe limitations that reduce the choice of plants, require very careful management, or both. The chief limitation of capability unit IVw-6 is its high sodium content.

The Storie index of this soil is fourteen. As we previously noted, the Storie index is an alternative soil rating system that expresses, on a scale of zero to one hundred, the relative suitability of a soil in its native state for intensive agriculture. While a Storie index rating of one hundred is considered ideal, a Storie index rating of fourteen is very poor, indicating that Pescadero silty clay, saline–alkali is unsuitable for most crops and will produce poor yields of even the most sodium-tolerant crops.

Soil sampling procedure

While the *Yolo County Soil Survey* of the USDA Soil Conservation Service is useful for general information and is widely used by growers and scientists alike to assess the agricultural utility of soils, direct sampling and laboratory analysis of the soil is necessary for specific information on a particular property.

To thoroughly assess the soil quality of the subject property, House Agricultural Consultants established the following sampling procedure. We divided the square-shaped subject property into a planar grid of eight equal rectangles and each rectangle again into eight more. We thus divided the entire 160-acre property into sixty-four parts, each approximately 2.5 acres.

Of these sixty-four rectangles, we selected ten as representative of the property as a whole, in which to place a sampling locating. Each location is marked on *Soil sampling locations*, a map in the addenda to this report. These locations are identified as N12, N17, N23, N27, N34, N48, N54, N68, N77, and N84.

On Friday, July 10, 1998, John Currey and Gregory A. House of House Agricultural Consultants collected a total of thirty soil samples from the subject property. Each of these thirty samples is a composite of three collection sites within each of the ten numbered locations. At each site, soil from three depth layers was collected and analyzed separately: zero to twelve inches deep, twelve to twenty-four inches deep, and twenty-four to thirty-six

inches deep. The letter A identifies the first foot of depth, the letter B identifies the second foot, and the letter C identifies the third foot.

The thirty samples were packaged and sent the same day to Harris Laboratories, Inc. of Lincoln, Nebraska for laboratory analysis.

Field observations

Sampling and testing the soil in depth increments to thirty-six inches deep is critical to identify physical and chemical problems that increase with depth. The downward-sampling procedure uncovered a physical problem (confirmed later by laboratory analysis): many of the sampling locations have moderate to severe compaction which increases with depth.

Soil compaction decreases the permeability, or ability of the soil to hold water and air. Both air and water are essential for plant growth. One significant result is that even moderate compaction slows down the internal drainage, which can lead to root disease if the water is not removed quickly. High-rainfall events or long irrigations are thus situations in which soil compaction promotes root disease.

The deeper the compaction, the more severe the problem. Shallow compaction, zero to thirty inches deep, can be corrected by chiseling or ripping the soil. Alleviating compaction deeper than thirty inches is not economically justifiable and rarely done for row crops. This is because the procedure requires considerable horsepower and creates boulder-sized clods that require extensive additional tillage to eliminate. The results of the procedure often are imperfect and do not last many years.

Laboratory results

The laboratory test results are summarized in a table in the addenda to this report entitled "Soil Inventory." In the table, each row represents a different soil sample, while each column represents one of the twenty-two different analytical procedures performed on each sample.

The analytical results from the soil samples reveal four significant agronomic problems, each of which restricts the cropping choice and yield potential of the property. First, soil pH is very high throughout the property. Second, excessive sodium is more widespread on the property than the soil survey indicates. Third, soluble salts other than sodium are excessive on most of the property. Fourth, boron levels are toxic. We shall discuss these results as well as other significant findings in the following sections.

Soil reaction (pH)

Soil reaction, or pH, is the measure of the relative concentration of hydrogen cations in the soil solution. The pH scale ranges from zero to fourteen; soils with a pH below 7.0 are considered acidic, whereas those with a pH above 7.0 are considered alkaline.

Soil pH is one of the most fundamental and important chemical properties of soil, as it strongly affects the chemical and biological functioning of the soil. Essential plant nutrients are maximally available within 0.5 pH unit of neutral; thus a soil pH between 6.5 and 7.5 is best for most crops.

The subject property has high soil pH overall. A bar graph in the addenda, entitled "Soil pH" illustrates that moderate problems are expected at soil pH of 7.6 to 8.8; severe problems are expected at pH 8.9 or higher. Eleven of the thirty soil samples fall into the range of severe problems. Fifteen other samples fall into the range of moderate problems. Only four have a satisfactory pH of 7.5 or lower. All samples are alkaline.

Soil pH is a significant problem for the subject property. It cannot be easily mitigated. Although it is possible to decrease soil pH by adding either gypsum (calcium sulfate) or

sulfur, the presence of excessive sulfur in eighteen of the thirty samples rules out the usual methods for addressing the alkalinity problem.

The high sulfur level is another indication of other problems: compaction and a high water table. Both these problems must be corrected before the addition of sulfur or gypsum can do anything but add to the already excessive soluble salts. Correcting these problems is not economically feasible.

Exchangeable sodium percentage

While the element sodium is essential for animal life, it is not an essential plant nutrient. Sodium is a common constituent of soils worldwide; it is an important determinant of soil structure and water-holding capacity. The role of sodium is negative: the higher the level of sodium in the soil, the poorer the soil structure and water-holding capacity.

Good soil structure arises from physical and electro-chemical components. Permeability and soil particle size are often the most important physical components of good soil structure. The key electro-chemical component is the ratio of sodium to calcium and magnesium.

When soil structure is good, soil particles bind to each other and to soil organic molecules electro-chemically to form a matrix. Electro-chemical attraction also binds plant nutrients in the form of ions to the soil matrix so that it acts as a nutrient reserve. Calcium and magnesium cations are an essential structural component of the soil matrix, making aggregation possible.

Sodium has the unusual electro-chemical property that it can readily displace calcium and magnesium in the soil matrix. By adsorbing to the soil particles, sodium disintegrates soil aggregates and disperses the soil particles. The resulting soil mass is amorphous and low in porosity. Sodium also disintegrates soil organic matter, causing it to be deposited on the soil surface; this is the origin of the term *black alkali*, which refers to the presence of dark organic matter in a dispersed powder on the surface of high-sodium soils.

Plants fare poorly in soils containing more than five percent exchangeable sodium by volume. As sodium rises above this level, soil-structure and water-availability problems increase. Crop plants vary in their ability to cope with the problems that sodium creates. Wheat, barley, and sugar beets are among the more tolerant. Tomatoes, corn, and beans are among the more sensitive. At sodium levels from five to fifteen percent, the choices of tolerant crops are few. Above fifteen percent exchangeable sodium, all crops experience severe growth and yield problems.

A bar graph in the addenda to this report, entitled "Sodium/exchangeable percent" illustrates that seventeen of thirty soil samples test in the severe-problem range. Most of these are in the forty- to sixty-percent range. No crop can grow successfully with this level of exchangeable sodium. Most will not grow at all; these levels are toxic.

An additional four samples are in the moderate-problem range, five to fifteen percent. Nine samples out of thirty are in the satisfactory range (below five percent).

These moderate- and severe-problem samples are not restricted to the portion of the property soil mapped as Pescadero silty clay loam, saline–alkali. Ten samples with moderate or severe exchangeable sodium problems of the thirty total are within the area mapped as Capay silty clay. A map in the addenda entitled "Approximate area of sodium problem" illustrates the location of all the sites with moderate or severe exchangeable sodium. Only the west third of the property has consistently satisfactory sodium (sampling location N68 is borderline between satisfactory and a moderate problem).

Chemical correction of substantial sodium problems such as exist in the subject soils is extremely difficult and costly and requires many years. Results are likely to be imperfect.

This is because the high clay content allows these soils to hold much more sodium than sandier soils. Poor permeability, increasing compaction with depth, and a high water table compound the intractability of this sodium problem on the subject property. Remediation is not generally undertaken for these reasons.

Soluble salts

All waters and soils contain salt, which comes in many forms. Chemically, a *salt* is a ionic compound that yields an ion other than hydrogen or hydroxyl in water solution. There are many types of salts, and these salts, in solution and adsorbed onto soil particles, are the source of plant nutrients.

Soil salinity in the plant-root zone is measured as electrical conductivity, which is directly proportional to the concentration of all types of salt in the soil water. As with most biological systems, there is a optimum range of soil electrical conductivity: too-low and too-high conductivity are both harmful to crop plants. If there is a problem with electrical conductivity, it is commonly from high readings, which reflect excessive salinity.

Within the satisfactory range of soil salinity, the upper cutoffs for different crop species vary. Tree crops and beans are among the more sensitive, faring best between zero and 1.5 mmhos per cm electrical conductivity. Tomatoes, rice, corn, and most vegetable crops are moderately sensitive, faring well between 1.5 and 3.0 mmhos per cm; wheat is moderately tolerant, up to 6.0 mmhos per cm; while sugar beets, barley, and cotton are the most tolerant, up to seven or eight mmhos per cm.

To account for this wide range of tolerances, soil scientists typically use a composite criterion, which rates electrical conductivity below 1.5 mmhos per cm as satisfactory, readings between 1.5 and 2.5 mmhos per cm as a moderate problem, and readings above 2.5 mmhos per cm as a severe problem.

A bar graph in the addenda to this report, entitled " Soluble Salts/ mmhos per cm" illustrates that the subject property has three samples out of thirty in the severe-problem range, fifteen additional samples in the moderate-problem range, and twelve in the satisfactory range.

Boron

Boron, the fifth element of the periodic table of elements, is a plant nutrient needed in trace amounts by crop plants, at approximately one part per million. At not too much higher concentrations beginning around four parts per million, boron damages sensitive crop species. As its concentration increases above four parts per million, toxicity increases.

In the amounts that can be tolerated by plants, boron has no measurable effect on the physical properties of soil or on soil salinity. Its presence in levels toxic to plants is rare, most often associated with high-boron water. The local source for boron in Yolo County is runoff from the Coast Range, whose rocks are very high in boron. The boron content is especially high in the hot springs of the three-county area of Yolo, Napa and Lake. For hundreds of thousands of years such boron-rich water has flowed out of the Coast Range and settled, in part, on the subject property. By this process of settling and evaporation, the water has deposited extremely high levels of boron.

Based on our local experience as well as university and other scholarly findings, we have established a criterion for boron toxicity: at zero to four parts per million, most crop plants show only minor toxicity symptoms (such as leaf spotting and tip burning) without significant yield reduction. At four to five parts per million, sensitive plants such as corn, melons, and sunflowers show minor yield reductions. At five to eight parts per million, sensitive crops show significantly reduced yields and tolerant crops such as tomatoes and

sugar beets show minor yield reductions. Above eight parts per million, there is significant toxicity and a yield reduction for all crops.

A bar graph in the addenda to this report, entitled "Boron/parts per million" illustrates that the subject property has twenty-one of thirty samples in the highly toxic range above eight parts per million. A few of these are triple-digit figures. We have never seen values higher anywhere. These are extremely toxic levels. Only four of the thirty samples are in the satisfactory range.

These moderate- and severe-problem samples are scattered throughout the property. Fourteen samples located within the area mapped as Capay silty clay have a moderate to severe boron problem. A map in the addenda to this report entitled "Approximate areas of boron problems" illustrates the location of all of the sites with moderate to severe boron levels. Only two locations have relatively satisfactory boron levels, N17 and N34.

Toxic levels of boron in soils can be removed by leaching or repeated saturation of the soil by water low in boron. But the process is slow and imperfect. In this area, the best source of low-boron water is rain. In the past, rainwater on the subject's soils has not been sufficient to leach boron. As with the mitigation of salinity and sodium, good internal drainage is needed too; it is lacking in the subject property. The toxic elements can only leach downward, but if there is an obstruction, such as dense clay subsoil or a high water table, leaching cannot occur.

Soil fertility

Turning from the toxic elements found in the subject's soils to a general consideration of nutrient availability, the samples indicate moderate levels of nitrogen, phosphorus, and potassium, which are the primary nutrients required for plant growth. Of the secondary nutrients, calcium is low but magnesium and sulfur are high; sulfur is almost excessive in a few samples. Of the trace nutrients, zinc, manganese, and copper are low, while iron is high. Since minor deficiencies can be corrected by applying fertilizers, subject's soils have moderate fertility if the toxic effects of boron, sodium, and soluble salts are overlooked. Extreme pH will confound fertilization by decreasing the availability of most nutrients.

Water

Surface water

The subject property lies within the boundary of the Yolo County Flood Control and Water Conservation District, according to Charlie Pulley of the YCFC&WCD office. However, there is no direct means of delivering this irrigation water to the property. The property has not been irrigated in recent history; not during the tenancy of Joe Heidrick Farms, according to Chuck Dudley, Farm Manager of Joe Heidrick Farms, Inc.

Mr. Pulley believes that there are two possible means of delivering YCFC&WCD water to the property. The first is from the south. YCFC&WCD has no direct means of delivering water to the Russell Ranch, but does deposit water for it into Willow Slough at a point between Roads 98 and 99, about one mile south of Road 27. The water in Willow Slough moves west and eventually out to the Yolo Bypass. Since YCFC&WCD has no further jurisdiction over the water once it is sold and deposited into Willow Slough, it is the farmers along the Slough that draw the water back out of it for their own uses.

Water for irrigation on the Russell Ranch is lifted from Willow Slough into a large canal near the intersection of County Roads 27 and 101. This water is used to irrigate numerous fields in the vicinity. This canal flows north from Road 27, eventually becoming a small ditch that flows east to Road 102. A screw-gate at the southwest corner of Assessor's Parcel 042-003-003 (of which the subject is the northern half) permits the release of

irrigation water onto this parcel. An open ditch or pipeline could then transport the water one half mile north to the southwest corner of the subject property. This final link does not presently exist.

The second potential source of YCFC&WCD water for the subject property is the Farmers Central Ditch, which lies one half mile north of the subject property. Water from this source would have to flow across land owned by Heidrick Farms Inc., which is not affiliated with Joe Heidrick Farms, Inc., the subject's tenant. Access to allow this flowage would have to be granted by Heidrick Farms Inc.

Due to the poor soil quality of the subject property as well as additional cost and inconvenience of bringing irrigation water to the subject property, recent operators have preferred to either fallow the land or plant dry-land crops. The annual rainfall is generally sufficient for dry-land hay and safflower. Because of the poor drainage of the subject and the high boron of local irrigation water, any irrigation water that could be applied must be carefully managed so that dissolved minerals leach or drain away rather than remaining in the soil to increase the existing sodium, salt, and boron problems.

The long standing drainage problem has led to the present sodium and boron toxicity problems and continues to make mitigation of the toxicity difficult. Water drains away poorly and percolates poorly into the subsoil of the subject property because of a combination of unfavorable factors: (1) the soil is heavy-textured with a high proportion of clay, (2) the slope is less than one percent, (3) the water table is high, (4) the soil has both surface and deep compaction resulting in low porosity, and (5) accumulated sodium resulting from poor drainage has further damaged the soil porosity.

Ground water

The property has no water wells. The *Woodland Quadrangle* map of the US Geological Survey indicates that a livestock water well may have existed on the property at some time in the past. There is no trace now of any well on the property.

As a source of irrigation water, well water is not economical. Assuming that underground water could be found on the property, the cost to drill and outfit a water well for this property would range from $40,000 to $75,000.

III. Comparison of property to county average

Yield comparison of Yolo County soils

The USDA Soil Conservation Service's *Soil Survey of Yolo County* groups Yolo County soil types into twelve associations. Five of the associations are somewhat excessively drained to well-drained soils on uplands and high terraces. These associations are not similar to the subject property.

The remaining seven soil associations are on well-drained to poorly drained soils on alluvial fans, on basin rims and terraces, and in basins. The subject falls into one of these seven, the Capay–Clear Lake association. It is useful to compare the subject's soils to representative soil types of the other six associations to get a full idea of the productivity of the subject property.

The seven soil associations for comparison are Yolo–Brentwood, Rincon–Marvin–Tehama, Capay–Clear Lake, Sycamore–Tyndall, Sacramento, Willows–Pescadero, and Capay–Sacramento.

The Yolo–Brentwood association makes up sixteen percent of the County's area. Yolo-series soil types occupy the greatest area within this association, comprising forty-five percent of it. Representing the Yolo–Brentwood association, for comparative purposes, is Yolo silt loam.

The Rincon–Marvin–Tehama association makes up eleven percent of the County's area. Rincon-series soils occupy the greatest area within this association, comprising forty percent of it. Representing the Rincon–Marvin–Tehama association, for comparative purposes, is Rincon silty clay loam.

The Capay–Clear Lake association makes up ten percent of the County's area. Capay-series soil types occupy the greatest area within this association, comprising sixty-five percent of it. Representing the Capay–Clear Lake association, for comparative purposes, is Capay silty clay, the same soil unit found on the subject property.

The Sycamore–Tyndall association makes up five percent of the County's area. Sycamore soils occupy the greatest area within this association, comprising forty percent of it. Representing the Sycamore–Tyndall association, for comparative purposes, is Sycamore silty clay loam, drained.

The Sacramento association makes up eight percent of the County's area. The Sacramento soils occupy the greatest area within this association, comprising eighty percent of it. Representing the Sacramento association, for comparative purposes, is Sacramento clay.

The Willows–Pescadero association makes up four percent of the County's area. Willows soils occupy the greatest area within this association, comprising fifty percent of it. Representing the Willows–Pescadero association, for comparative purposes, is Willows clay. Pescadero silty clay, saline–alkali, the second soil unit of the subject property, is within this association.

The Capay–Sacramento association makes up nine percent of the County's area. The Capay soils occupy the greatest area within this association, comprising forty-five percent of this association. Representing the Capay–Sacramento association, for comparative purposes, is Capay silty clay loam.

The seven soil types are listed in this table with comparative yield information of selected crops taken from Table 2 of the *Soil Survey of Yolo County, California*. Table 2 is subtitled

"Estimated average yields of principle irrigated and dry-land crops under optimum management (no estimates are given for soils on which a particular crop is not grown or for soils to which a crop is not suited)."

Comparative Crop Yields of Seven Yolo County Soils

Soil type	Alfalfa hay tons/acre	Irrigated Pasture*	Rice cwt./acre	Processing tomatoes tons/acre	Dry-land safflower cwt./acre
Capay silty clay	7.5	20	55	30	24
Pescadero silty clay, saline–alkali	not suitable	9	40	not suitable	not suitable
Rincon silty clay loam	7.0	20	55	30	20
Sacramento clay	7.5	21	55	30	35
Sycamore silty clay loam, drained	8.5	24	not suitable	30	35
Willows clay	not suitable	20	55	25	35
Yolo silt loam	8.5	22	not suitable	30	20

* Irrigated pasture yield is in animal-unit months, a measure of carrying capacity. It is the number of animal units that can graze on an acre of pasture for a period of thirty days. An animal unit is defined as one thousand pounds of live weight — the size of a typical grazing cow.

Rice and tomato yields have increased in the twenty-five years since this soil survey was published. Today seventy-five to eighty hundredweights (3.75 to 4.00 tons) per acre of rice is average and thirty-two to thirty-three tons per acre of tomatoes is average. While these yields have increased since this soil survey was published, the comparative value of the table is still useful. It is important to recognize, however, that the yields listed for each soil type in tomatoes cannot always be achieved, because climatic factors — heat or spring and fall rains — will interfere with even the best manager's ability to control and produce his crop. Management, in other words, is not always optimum. The better soils, class-I soils such as the Yolo series, will produce higher yields more consistently than the class-II soils such as Capay silty clay.

The subject property has both Pescadero silty clay loam, saline–alkali and Capay silty clay. Pescadero silty clay loam, saline–alkali is clearly very limited in utility and crop yield. It stands at the bottom of the chart in all uses. Capay silty clay falls in the mid-range of the expected crop yields when compared to other soils of the county.

Because the soil sampling results demonstrate a wider distribution of saline-alkali conditions than mapped in the *Soil Survey of Yolo County*, a much greater percentage of the property, the west approximately two thirds, must be judged by the low performance of Pescadero silty clay loam, saline–alkali rather than the performance of Capay silty clay.

Average yields, prices & per acre value

A table in the addenda lists the five top crops of Yolo County in terms of their total gross value for the past five years. Over the past five years, three crops — processing tomatoes, rice, and alfalfa hay — have consistently wheat which lists in the top five three years of the five; corn, seed crops and wine grapes, which list twice each, and safflower, which lists once.

Below are Yolo County's five-year average yields and prices for processing tomatoes, rice, alfalfa hay, and the two crops grown at least once on the subject property, oat hay and safflower.

Crop	Five-year average yield	Five-year average price	Per-acre value, gross
Alfalfa hay	6.63 tons / acre	$102.37 / ton	$678.71
Oat hay	2.36 tons/ acre	$ 72.87 /ton	$171.98
Rice	4.15 tons / acre	$171.91 / ton	$713.43
Safflower	1.01 tons / acre	$319.36 / ton	$322.55
Tomatoes	32.23 tons / acre	$50.44 / ton	$1,625.68

Both Oat hay and safflower produce a much lower gross value per acre than the three major crops of Yolo County.

Comparison to prime farmland of Yolo County

Prime farmland is a term with numerous definitions created by various state and federal agencies. According to David Morrison of the Yolo County Community Development Department, in the regulations that govern the Williamson Act, California Code 51201, any one of the following will qualify a property as prime farmland:

1. It is listed as class I or II in the USDA Soil Survey of the county.
2. It has a Storie index of eighty or greater.
3. It has a capacity of one animal unit per acre or greater.
4. It has fruit or nut tree crops growing on it which will bear in five years or fewer after transplanting.
5. It has produced two hundred dollars per acre gross in three of the last five years.

The property fails several of these criteria, for instance, its Storie Index is much lower than 80, and it has not produced two hundred dollars per acre gross in three of the last five years. However, since the property has some class-II soil (Capay silty clay), at least the portion of it which includes this soil type would be prime farmland under this definition.

On the other hand, the California Department of Conservation defines *prime farmland*, in Section 506.17(k) as

> Land best suited for producing food, feed, forage, fiber and oilseed crops and also available for these uses....It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

The section lists ten scientific criteria for prime farmland, including available water-holding capacity, climate, pH, water-table depth, exchangeable-sodium percentage, slope, flooding hazard, and others. California section 506.17(k) is reproduced in Part V of this report.

The subject property fails the pH criterion, which is having a "pH between 4.5 and 8.4 in all horizons with a depth of 40 inches (one meter)." Only four of the ten sampling locations pass the exchangeable-sodium criterion of less than fifteen percent exchangeable sodium within a depth of forty inches.

Finally, Capay silty clay is included on the list of prime farmland of Yolo County according to the US Department of Agriculture. Pescadero silty clay loam, saline–alkali is not. However, as previously noted, the soil analyses presented in this report indicate that the boundary of Pescadero silty clay loam, saline–alkali on the subject property according to the *Yolo County Soil Survey* is not accurate; a much greater area of the property has the higher exchangeable sodium found in the Pescadero soil.

IV. Conclusions

The soil analyses reveal that only the west third of the subject property has satisfactory or near-satisfactory exchangeable sodium. This brings into question the accuracy of the *Yolo County Soil Survey* in pinpointing the exact yet meandering boundary of the alkali-plagued Pescadero soil on the property.

Only two sampling locations, N17 and N34, have satisfactory boron levels. The other eight sampling locations have moderately to severely toxic boron levels. Combining the satisfactory sodium and boron sites leaves only two locations, N17 and N34, that are satisfactory in both boron and exchangeable sodium.

This does not leave much area on the property can produce even average yields when compared to other areas of Yolo County. Since N34 is sandwiched between two poor soil areas, this area is un-economical to isolate and farm separately.

This leaves approximately thirty to forty-five acres on the west third of the property which have low enough sodium levels that they can be safely planted. The crop selection is still limited, however, by the high boron levels of N17 (3.2 to 5.0 parts per million) and N77 (2.6 to 9.5 parts per million). Only boron-tolerant crops are suitable. Sugar beets and tomatoes are moderately tolerant of boron levels below five to eight parts per million, but the past five-year economic history for these crops makes them desirable only on the better soils of this county, not marginal land like this portion of the subject under consideration.

Processing tomatoes, for instance, cost $1,774 per acre to produce, according to *the 1997 Sample Cost to Produce Processing Tomatoes*, published by University of California Cooperative Extension. A yield of 34.5 tons per acre is required to recover all cash and investment costs at a base price of $51.50 per ton. No acreage on the subject property is capable of producing this yield level.

Only a portion of the western third of the property will produce an economic crop of safflower. A photograph in the addenda to this report illustrates the poor growth of safflower in high-alkali areas. Safflower cannot be considered to be generally adapted to this property. The value of safflower produced on the small portion that is adapted is not sufficient to greatly improve the overall average productive capacity of the entire property,

The soil survey indicates that the entire subject property might be used for irrigated pasture. If so used, its economic value would be very low, since the carrying capacity of the Pescadero silty clay loam, saline–alkali is very low at 9 A.U.M., and it has been found that this soil is much more prevalent on the property than indicated by the *Soil Survey of Yolo County*.

It is questionable whether enough water is available for irrigated pasture on the subject property, given the size of the delivery ditch on the Russell Ranch. This water is also more costly than average for Yolo County. Any water used on the subject would have additional costs of lifting and delivery to the property over the base per acre-foot purchase cost of Yolo County Flood Control and Water Conservation District water. For these reasons, then, irrigated pasture is not recommended for the subject property.

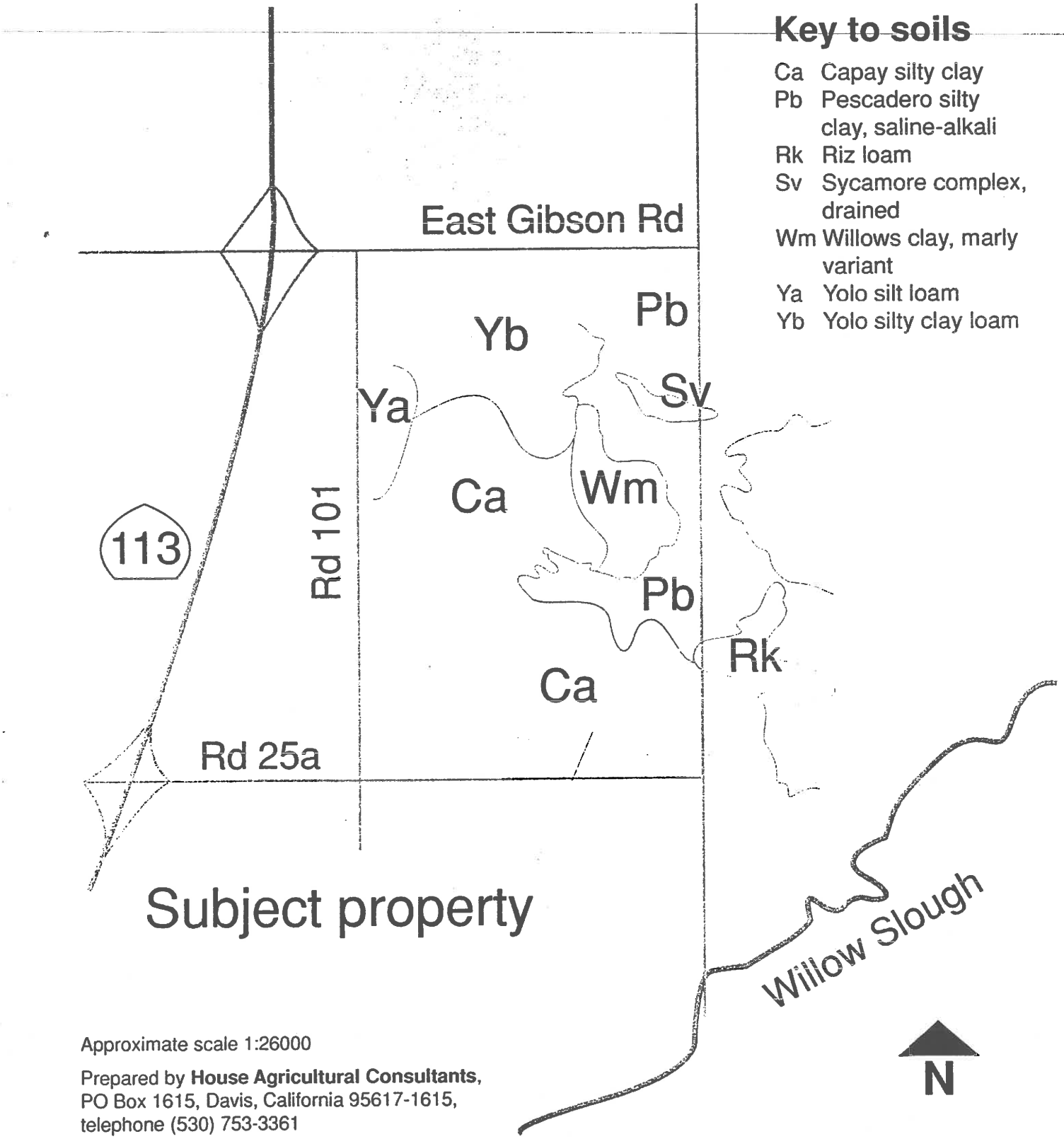
Mixed oat and wild grass hay is the remaining use of the property. The five year average annual gross value of oat hay in Yolo County is very low, approximately $170 per acre gross. The value of the subject property's oat hay crop would not exceed this average, and may well fall bellow it, due to the inevitability of weedy grasses lowering the quality of the hay, as well as the poor soil conditions which allow winter flooding, leading to lower production.

It is no wonder, then, that the current tenant has managed the property non-intensively, either fallowing it in a government program or planting low-cost, low-return crops such as oat hay and dry-land safflower. This low-intensity use pattern is understandable considering the property's very poor soil and lack of irrigation water.

The subject property fails to meet at least one definition of prime farmland on account of its excessively high pH and exchangeable sodium above fifteen percent. This is truly a marginal agricultural property that yields little or no economic incentive to farm it.

Soil map

Soil units of subject property & vicinity



Key to soils

- Ca Capay silty clay
- Pb Pescadero silty clay, saline-alkali
- Rk Riz loam
- Sv Sycamore complex, drained
- Wm Willows clay, marly variant
- Ya Yolo silt loam
- Yb Yolo silty clay loam

Approximate scale 1:26000

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TURN OF THE CENTURY

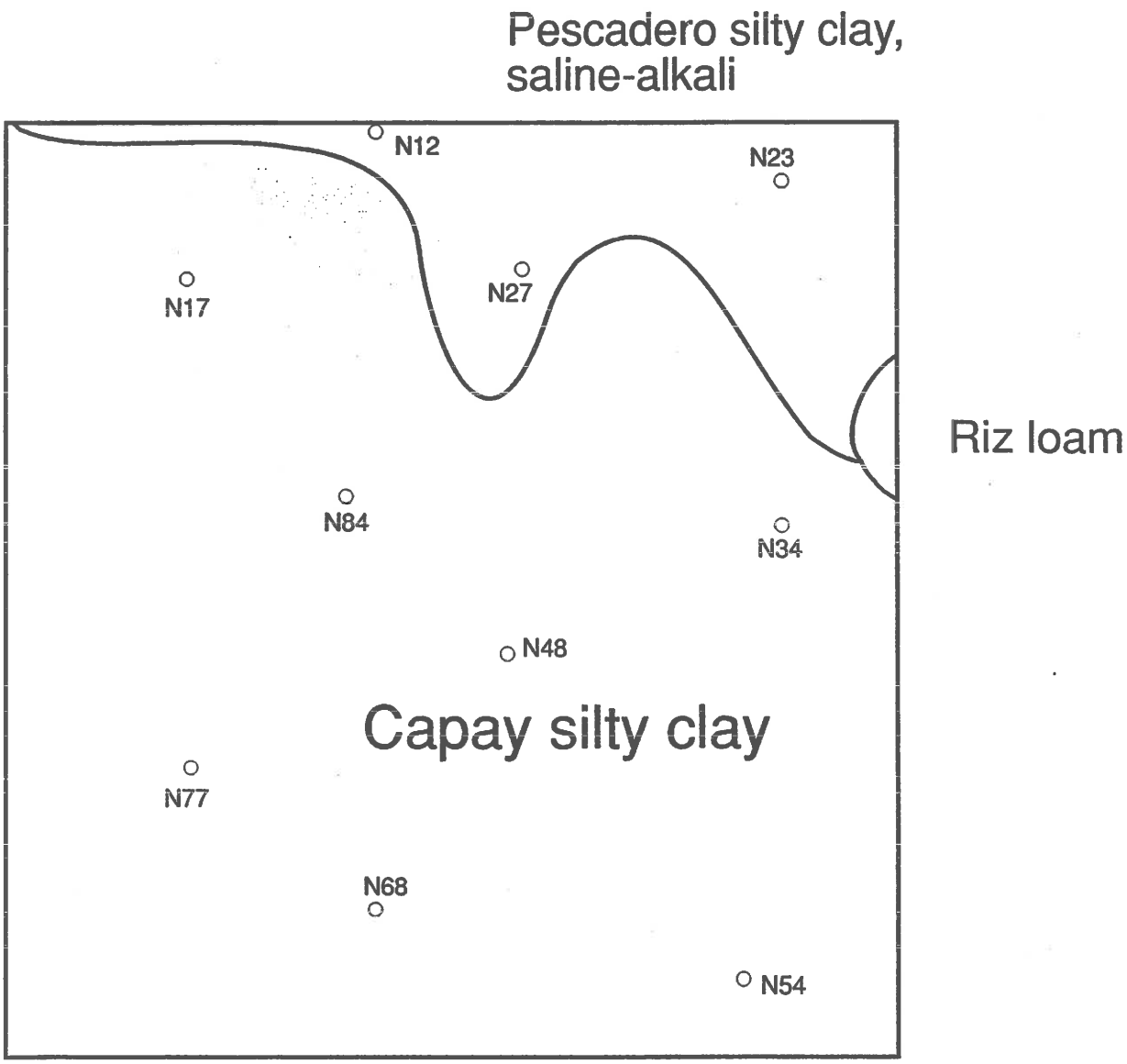
SOIL INVENTORY

8/16/98

sample #	O.M. % 2 to 3	Nit PPM 15 to 30	PhosPPM <7.1>7.1 more than 24 12	K PPM more than 250	Mg PPM 100 to 500	Ca PPM more than 2500	S PPM ^^^ 12	Zn PPM ^^^ 2	Mn PPM ^^^ 6	Cu PPM ^^^ 1.8	Fe PPM ^^^ 20	B PPM less than 4	SOIL pH 6.5 to 7	CA RB L to M	SOL SALTS mmhos/cm <0.75	Na PPM less than 300	%K 2 to 5	%Mg 15 to 20	%Ca 65 to 75	%Na less than 5	%H	CEC 20 to 35
								greater than														
N12A	1.4	7	40	289	773	2153	262	0.6	8.6	5.8	50.5	70	9.1	VL	2.05	6340	1.6	14.2	23.7	60.6	0	45.5
N12B	1.1	1	32	211	1101	1122	334	0.5				77	9.3	VL	2.58	6540	1.2	21	12.8	65	0	43.8
N12C	0.9	6	19	139	1227	751	122	0.3				47.3	9.6	VL	1.73	4260	1.1	31.1	11.4	56.4	0	32.9
N17A	2.3	17	5	232	1954	2792	13	0.6	2.8	4.6	41.5	3.2	7.5	VL	0.46	259	1.9	50.9	43.7	3.5	0	32
N17B	1.7	4	2	186	2457	2465	7	0.4				5	8.2	VL	0.43	220	1.4	59.8	36	2.8	0	34.2
N17C	1.3	2	6	127	1945	2115	3	0.4				4.2	8.6	L	0.34	180	1.2	58.1	37.9	2.8	0	27.9
N23A	2.4	6	29	261	1620	2228	6	0.7	2.9	5	70.1	5.5	7.9	VL	0.39	778	2.3	47.1	38.8	11.8	0	28.7
N23B	1.5	3	27	210	1408	1855	80	0.6				26	8.8	VL	1.18	2670	1.6	35.4	28	35	0	33.2
N23C	1.3	16	23	191	1783	1202	170	0.4				47.2	8.9	VL	1.78	4060	1.3	38.1	15.4	45.3	0	39
N27A	1.2	5	25	172	937	1313	213	0.5	3.7	4.1	51.5	46.4	8.9	VL	1.77	4020	1.4	24.2	20.3	54.1	0	32.3
N27B	0.8	2	14	117	1113	640	152	0.3				40.3	9.2	VL	1.55	3210	1.1	34.7	12	52.2	0	26.7
N27C	0.8	4	8	84	1234	983	65	0.3				20.6	9.4	VL	1.05	1743	0.9	44.7	21.4	33	0	23
N34A	2.3	5	7	204	2457	2544	7	0.5	2.4	4.8	37.9	2.7	7.4	VL	0.35	216	1.5	59.1	36.7	2.7	0	34.7
N34B	1.5	2	4	144	2057	1740	3	0.4				4.1	8.4	VL	0.36	192	1.4	63.4	32.2	3.1	0	27
N34C	1.1	1	11	115	1744	1574	3	0.4				3.9	8.8	VL	0.3	163	1.3	62.1	33.6	3	0	23.4
N48A	2	5	21	243	1682	1774	165	0.6	2.3	5.7	52.7	64	8.6	VL	1.51	3260	1.7	37.2	23.5	37.6	0	37.7
N48B	1.4	7	17	202	1989	985	351	0.8				118	8.9	VL	2.33	4580	1.2	39.5	11.7	47.5	0	41.9
N48C	1	11	19	141	1649	1382	210	0.4				83	9.1	L	1.88	3090	1	39.9	20.1	39	0	34.4
N54A	2	5	29	225	1524	1517	231	0.5	1.9	4.8	46.8	62	8.5	VL	1.96	2840	1.7	38.2	22.8	37.2	0	33.2
N54B	1.4	13	11	218	2036	1041	742	0.4				129	8.8	VL	3.77	6010	1.1	34.7	10.7	53.5	0	48.9
N54C	1	26	12	147	1719	2021	501	0.5				92	8.9	L	3.22	4510	0.8	32.3	22.8	44.1	0	44.4
N68A	2.8	8	12	272	2456	2945	45	0.7	3.2	5.5	56.1	9.1	7.4	VL	0.69	490	1.8	53.8	38.7	5.6	0	38
N68B	2.4	4	5	206	2777	1846	32	0.6				9.4	8.1	VL	0.54	418	1.5	66.7	26.6	5.2	0	34.7
N68C	1.6	2	8	154	2555	1431	16	0.3				10.1	8.7	VL	0.49	364	1.3	70	23.5	5.2	0	30.4
N77A	2.7	10	6	256	2404	2612	6	0.8	3.5	5.4	51.7	2.6	7.3	VL	0.41	113	1.9	58.5	38.1	1.4	0	34.2
N77B	2.1	4	5	220	2920	1851	4	0.5				7	8.3	VL	0.4	186	1.6	69.6	26.5	2.3	0	35
N77C	1.6	4	14	191	2895	1355	5	0.4				9.5	8.8	VL	0.39	222	1.5	74.6	20.9	3	0	32.4
N84A	2.2	5	27	266	1586	2087	51	0.7	3.1	4.8	48.6	18.3	8.1	VL	0.74	1084	2.3	45.5	35.9	16.2	0	29
N84B	1.6	5	20	272	1890	1397	114	0.4				67	8.7	VL	1.04	2980	1.9	43.3	19.2	35.6	0	36.4
N84C	1	9	11	151	1601	1343	32	0.4				33.8	9.5	L	0.82	1698	1.4	47.9	24.1	26.5	0	27.8

Soil sampling locations

Three sample depths per site



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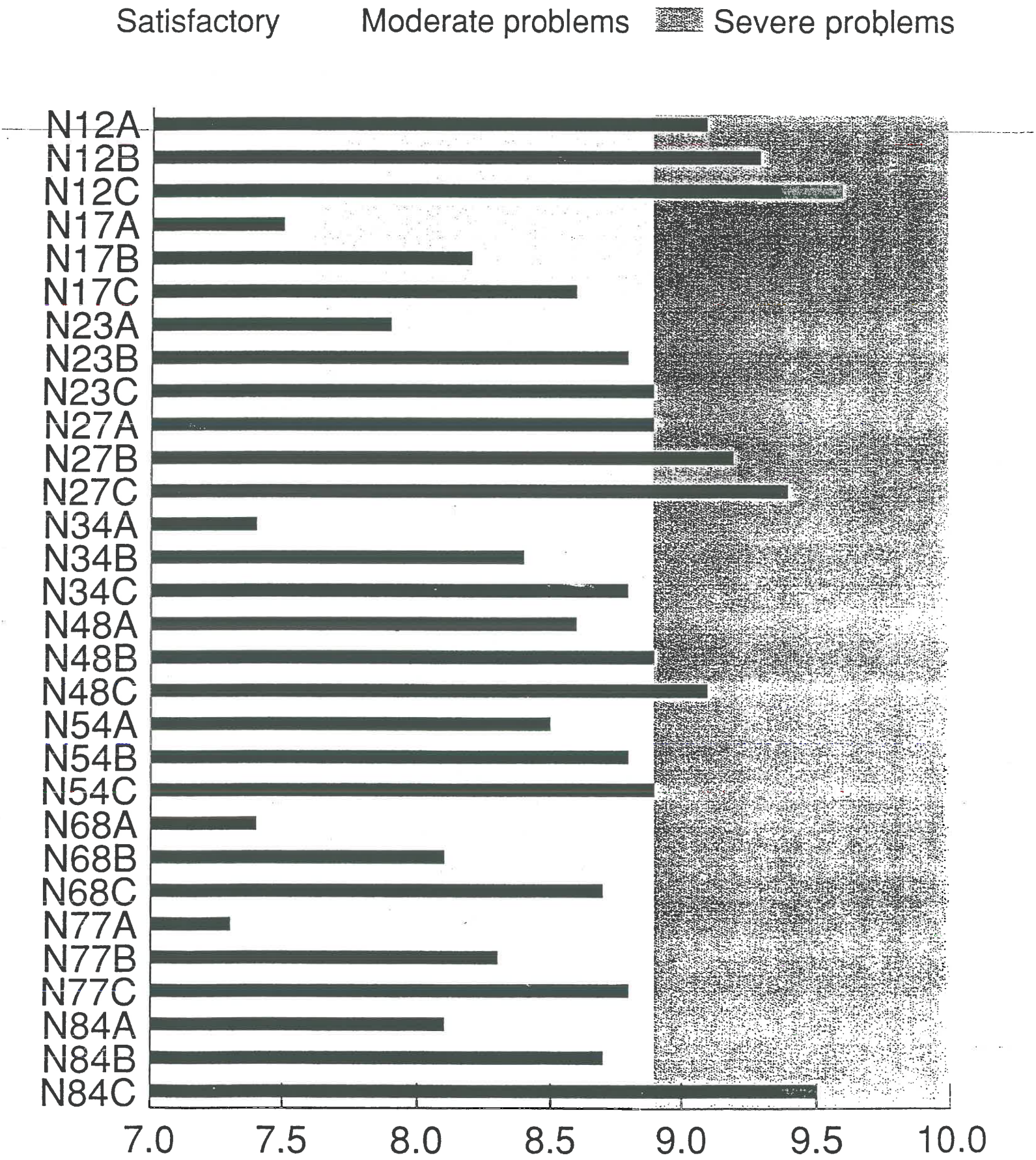
N

Soil pH


Satisfactory
Moderate problems
Severe problems
N12A
N12B
N12C
N17A
N17B
N17C
N23A
N23B
N23C
N27A
N27B
N27C
N34A
N34B
N34C
N48A
N48B
N48C
N54A
N54B
N54C
N68A
N68B
N68C
N77A
N77B
N77C
N84A
N84B
N84C
7.0
7.5
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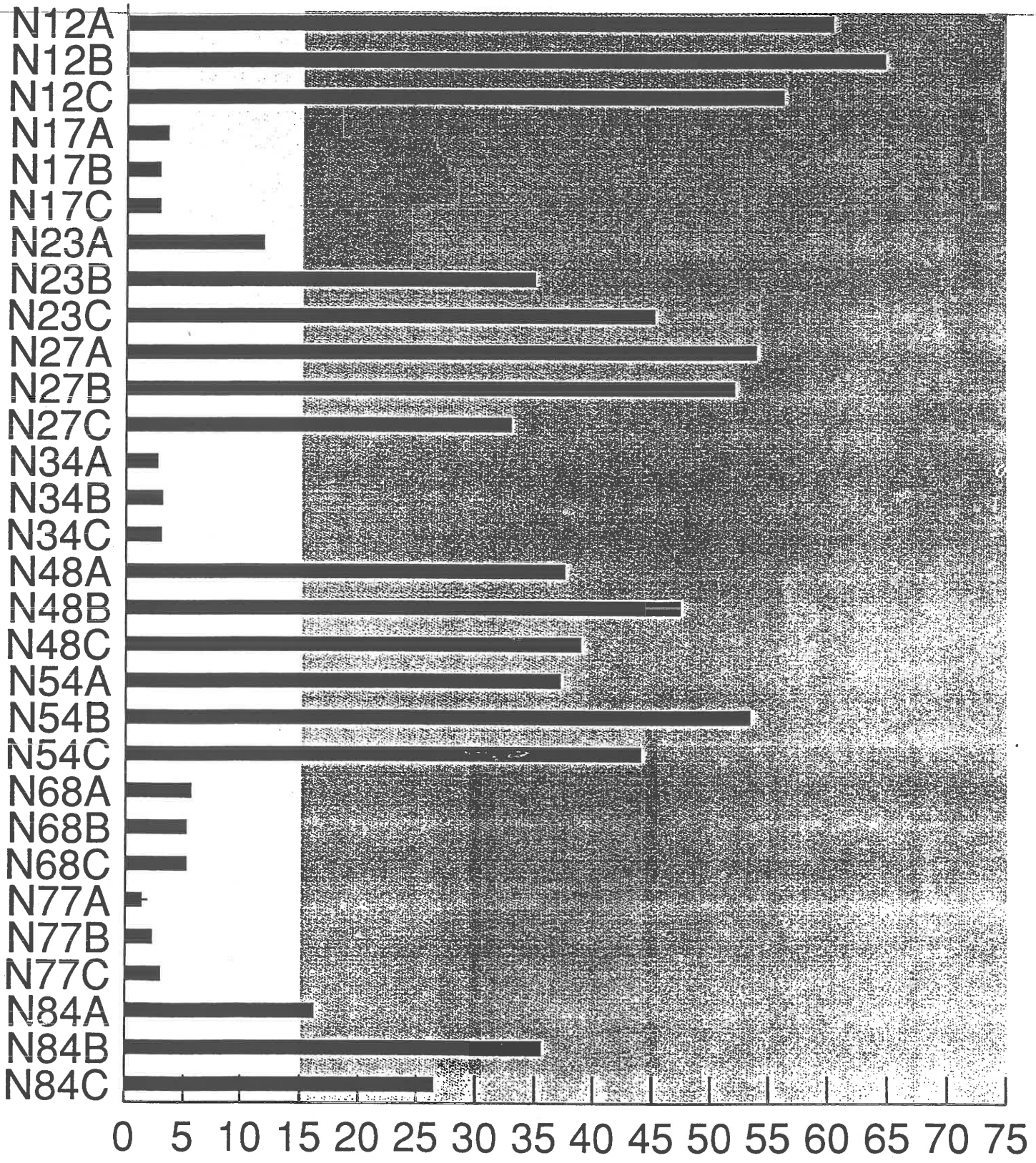
9.5
10.0

Sodium / exchangeable percent

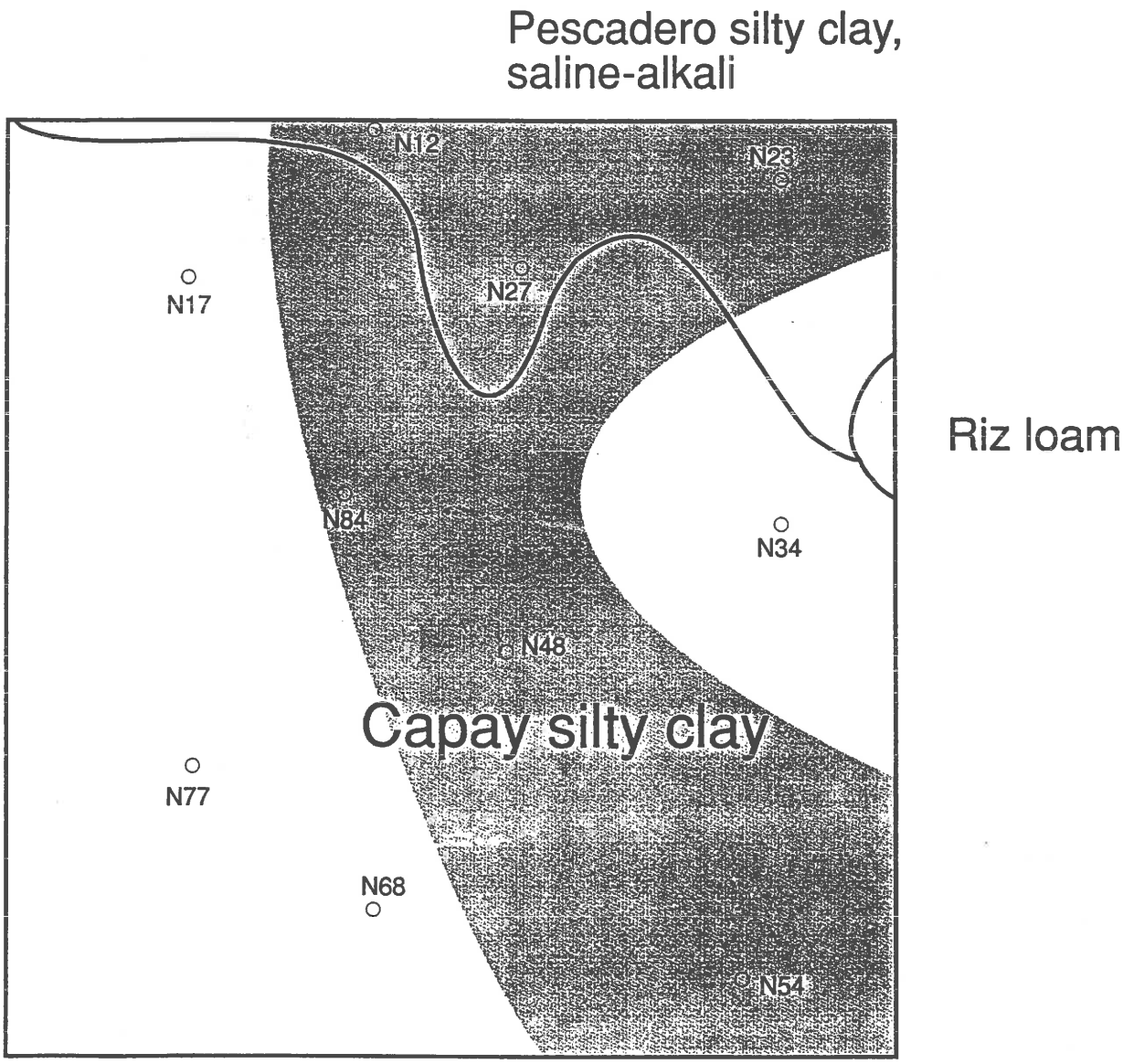
Satisfactory Moderate problems Severe problems



Exchangeable sodium

Approximate areas of sodium problems

Satisfactory Moderate problems Severe problems



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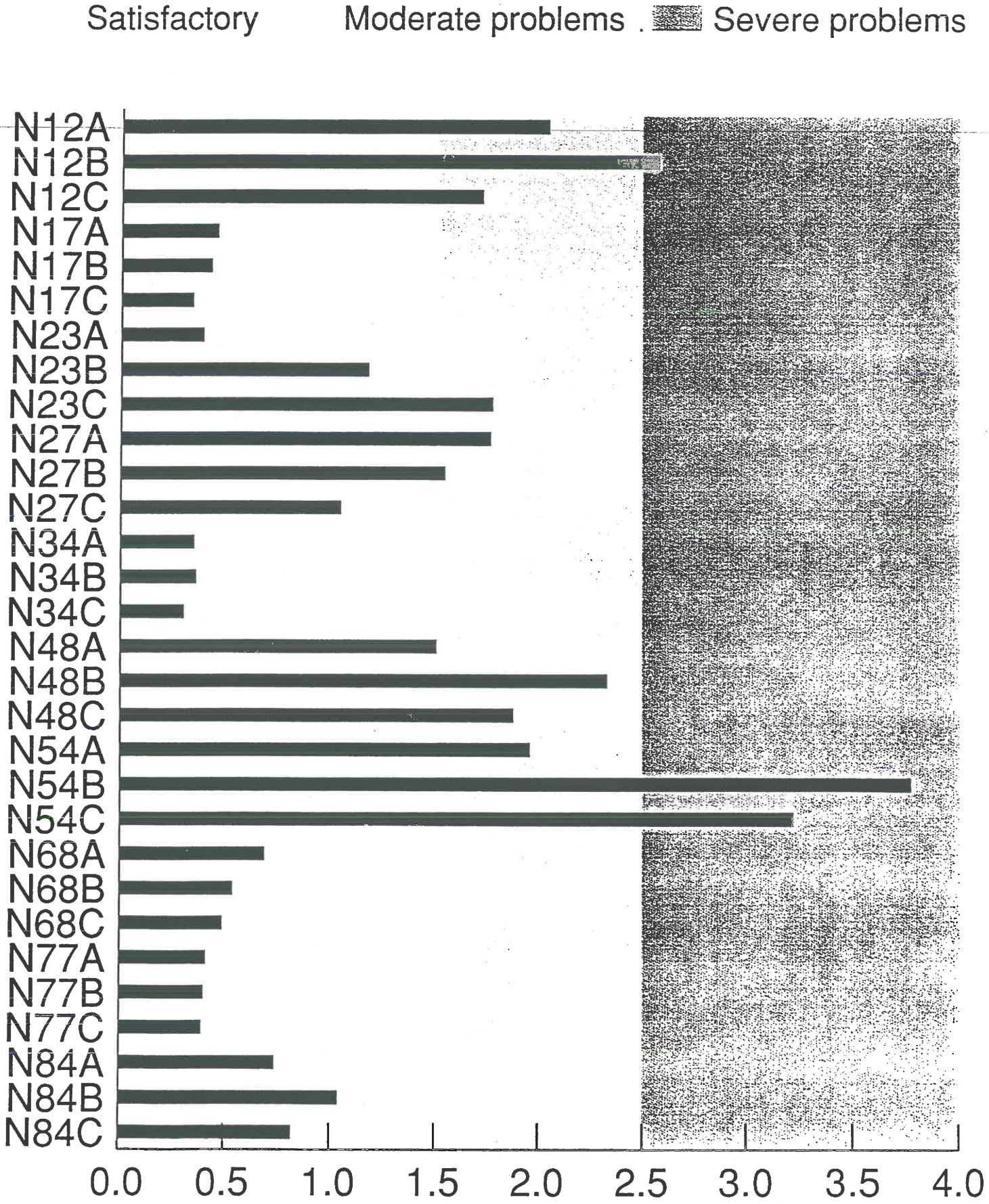
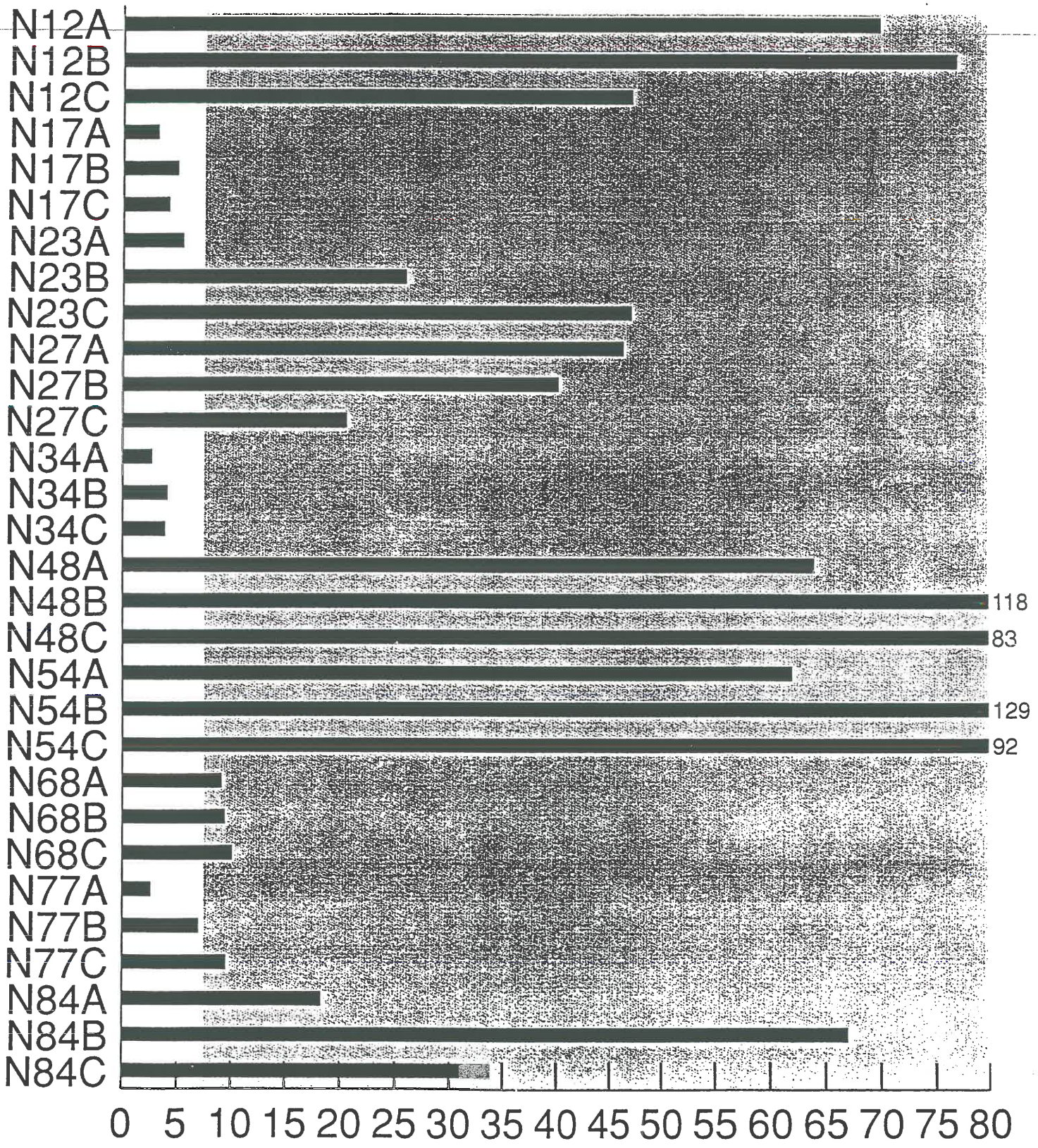
N

Soluble salts / mmhos per cm



Boron / parts per million

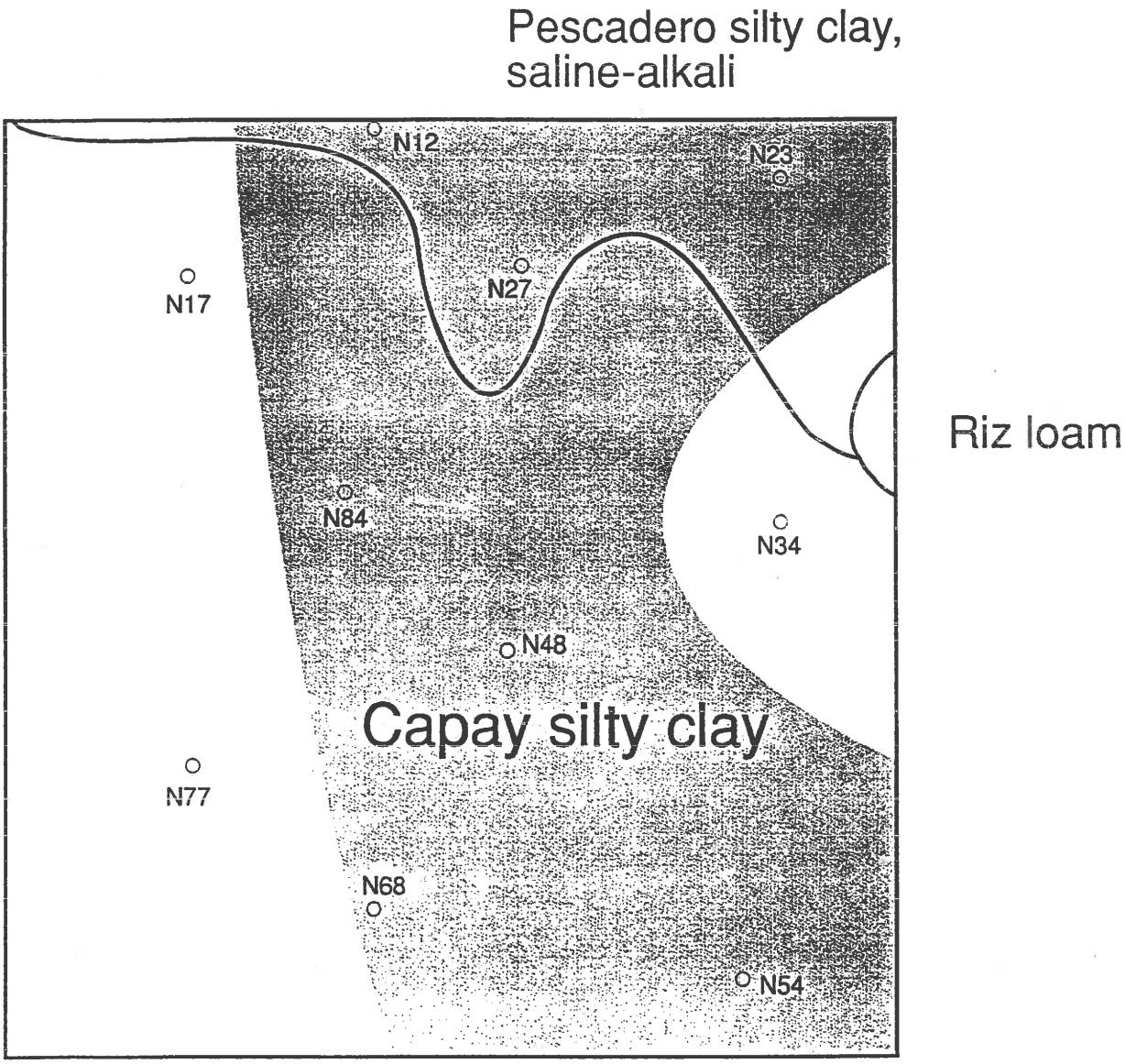
Satisfactory Moderate problems Severe problems



Boron

Approximate areas of boron problems

Satisfactory Moderate problems Severe problems



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History of the top five crops of Yolo County, 1993– 1997

1993 county-wide totals

Crop	Acres	Average yield	Average price	Value
Processing Tomatoes	61,500	29.17 tons / acre	$46.32 / ton	$83,096,000
Alfalfa hay	30,350	6.92 tons / acre	$89.54 / ton	$18,805,000
Rice	21,909	4.13 tons / acre	$179.80 / ton	$16,269,000
Safflower	47,938	0.93 tons / acre	306.00 / ton	$13,642,000
Wheat	53,676	2.39 tons / acre	$100.14 / ton	$12,847,000

1994 county-wide totals

Crop	Acres	Average yield	Average price	Value
Processing tomatoes	69,700	33.66 tons / acre	$50.35 / ton	$118,121,000
Alfalfa hay	31,775	6.83 tons / acre	$96.70 / ton	$20,986,000
Wheat	59,031	2.87 tons / acre	$110.39 / ton	$18,702,000
All seed crops	22,633	Not available	Not available	$17,487,000
Rice	20,917	4.29 tons / acre	$163.18 / ton	$14,643,000

1995 county-wide totals

Crop	Acres	Average yield	Average price	Value
Processing tomatoes	73,137	30.98 tons / acre	$52.74 / ton	$119,512,000
Wine grapes	4,219	7.88 tons / acre	$599.16 / ton	$19,924,000
Rice	25,012	3.81 tons / acre	$184.80 / ton	$17,611,000
Alfalfa hay	24,584	5.93 tons / acre	$103.69 / ton	$15,124,000
Field corn	24,536	4.52 tons / acre	$128.10 / ton	$14,204,000

1996 county-wide totals

Crop	Acres	Average yield	Average price	Value
Processing tomatoes	67,700	33.41 tons / acre	$52.10 / ton	$117,843,000
All seed crops	19,825	Not available	Not available	$19,500,000
Rice	25,999	4.08 tons / acre	$168.96 / ton	$17,923,000
Field corn	31,371	4.49 tons / acre	$126.49 / ton	$17,817,000
Alfalfa hay	28,193	6.21 tons / acre	$100.30 / ton	$17,560,000

1997 county-wide totals

Crop	Acres	Average yield	Average price	Value
Processing tomatoes	49,200	33.93	$50.67	$84,586,000
Wine grapes	6,833	7.48	$731.43	$ 37,385,000
Alfalfa hay	33,983	7.26	$121.61	$ 30,003,000
Field corn	36,915	5.07	$107.18	$ 20,060,000
Rice	25,800	4.44	$162.82	$ 18,651,000

SUBPART B - GENERAL ASPECTS OF ASSISTANCE

CA Sec. 506.17(k)

IMPORTANT FARMLANDS INVENTORY AS APPLIED TO THE STATE OF CALIFORNIA

PRIME FARMLANDS

Prime Farmland is land best suited for producing food, feed, forage, fiber and oilseed crops and also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not urban builtup land or water). It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Prime Farmland meet all the following criteria:*

1. The soils have:

   A. Aquic, udic, ustic or xeric moisture regimes and an available water capacity of at least 4 inches (10 cm) per 40 to 60 inches (1 to 1.52 meters) of soil to produce the commonly grown cultivated crops (cultivated crops include, but are not limited to, grain, forage, fiber, oilseed, sugarbeets, vegetables, orchard, vineyard, and bush fruit crops) adapted to the region in 7 or more years out of 10; or

   B. Xeric, ustic, aridic or torric moisture regimes in which the available water capacity is at least 4 inches (10 cm) per 40 to 60 inches (1 to 1.52 meters) of soil and the area has a developed irrigation water supply that is dependable (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown) and of adequate quality; and,

2. The soils have a temperature regime that is frigid, mesic, thermic or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50 cm), have a mean annual temperature higher than 32° F (0° C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47° F (8° C); in soils that have no O horizon, the mean summer temperature is higher than 59° F (15° C); and,

3. The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1 meter); and,

*The national LIM definitions have been slightly modified for California standards: criterion 10 is a California definition, not a national one. Part 1A which reads "AWC of at least 4 inches (10 cm), per 40 to 60 inches (1 to 1.52 meters) of soil" is a California definition.

4. The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; and,

5. The soils can be managed so that, in all horizons within a depth of 40 inches (1 meter), during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage (ESP) is less than 15; and,

6. The soils are not flooded frequently during the growing season (less often than once in 2 years); and,

7. The product of K (erodibility factor) x percent slope is less than 2.0; and,

8. The soils have a permeability rate of at least 0.06 inch (0.15 cm) per hour in the upper 20 inches (50 cm) and the mean annual soil temperature at a depth of 20 inches (50 cm) is less than 59° F (15° C); the permeability rate is not a limiting factor if the mean annual soil temperature is 59° F (15° C) or higher; and,

9. Less than 10 percent of the surface layer (upper 6 inches (15 cm)) in these soils consists of rock fragments coarser than 3 inches (7.6 cm); and,

10. The soils have a minimum rooting depth of 40 inches (1 meter).

ADDITIONAL FARMLAND OF STATEWIDE IMPORTANCE

Farmland of Statewide Importance is land other than Prime Farmland that has a good combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops and is available for these uses (the land could be cropland, pastureland, rangeland, forest land or other land, but not urban builtup land or water).

Farmland of Statewide Importance meets all the following criteria:

1. The soils have:

   A. Aquic, udic, ustic or xeric moisture regimes and an average available water capacity of at least 3.5 inches (8.8 cm) within a depth of 60 inches (1.52 meters), or in the root zone (root zone is the part of the soil that is penetrated by plant roots) if the root zone is less than 60 inches deep to produce the commonly grown cultivated crops (cultivated crops include, but are not limited to, grain, forage, fiber, oilseed, sugarbeets, vegetables, orchard, vineyard and bush fruit crops) adpated to the region in 7 or more years out of 10; or

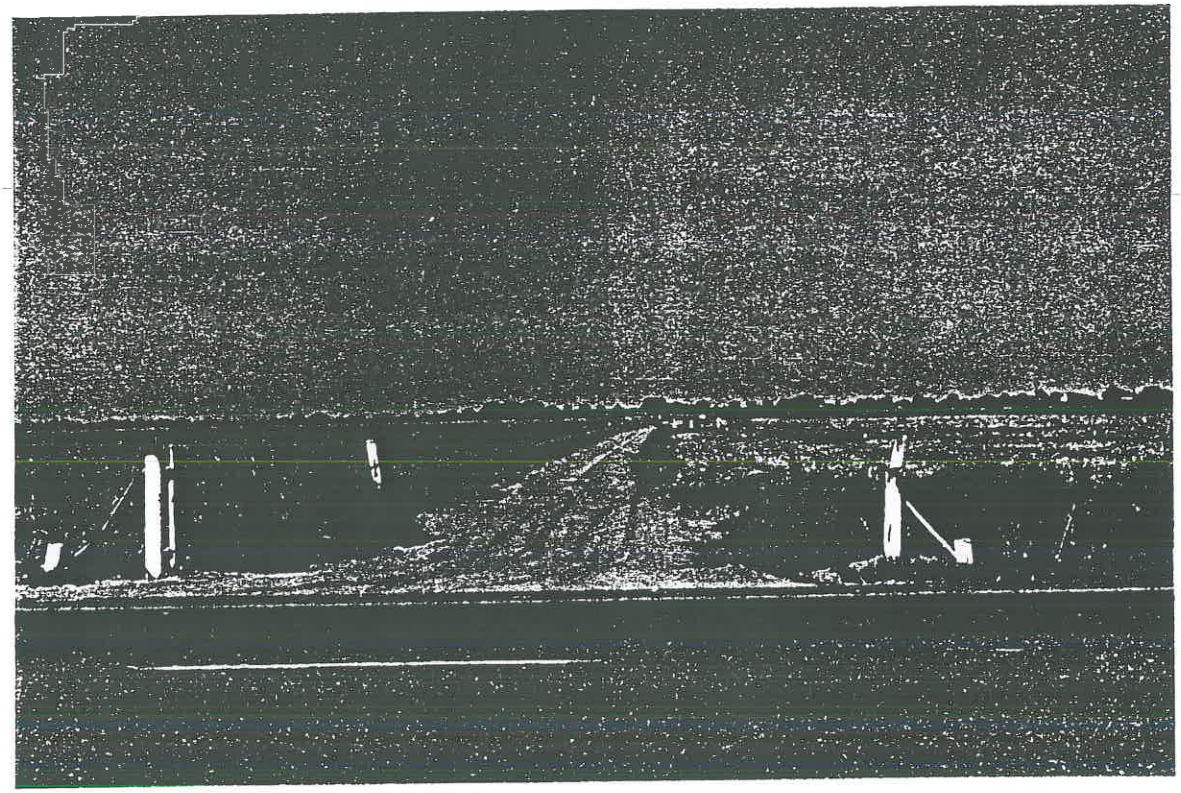
   B. Xeric, utstic, aridic or torric moisture regimes in which the available water capacity is at least 3.5 inches (8.8 cm) within a depth of 60 inches (1.52 meters) deep and the area has developed irrigation water supply that is dependable (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown) and of adequate quality; and,

PRIME FARMLAND

Survey Area- YOLO COUNTY, CALIFORNIA

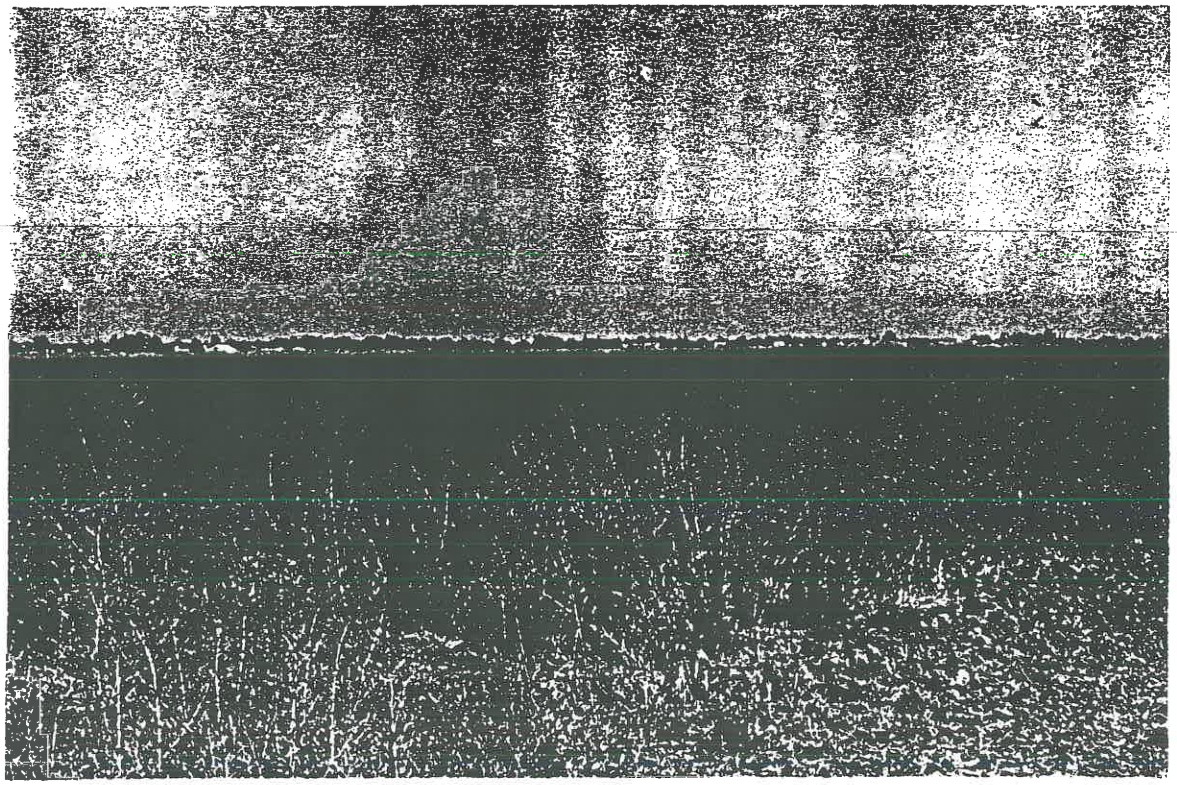
Map Symbol	Prime Farmland Code	Soil Mapunit Name
AaA	4	ARBUCKLE GRAVELLY LOAM, 0 TO 2 PERCENT SLOPES
AaB	4	ARBUCKLE GRAVELLY LOAM, 2 TO 5 PERCENT SLOPES
BrA	4	BRENTWOOD SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES
Ca	4	CAPAY SILTY CLAY
Ck	4	CLEAR LAKE CLAY
Cl	4	CLEAR LAKE SILTY CLAY LOAM
La	6	LANG SANDY LOAM
Lb	6	LANG SANDY LOAM, DEEP
Ld	6	LANG SILT LOAM
Lg	4	LAUGENOUR VERY FINE SANDY LOAM
Mb	4	MARIA SILT LOAM
Mc	7	MARIA SILT LOAM, FLOODED
Md	4	MARIA SILT LOAM, DEEP
Mf	4	MARVIN SILTY CLAY LOAM
Mk	6	MERRITT SILTY CLAY LOAM
Mn	6	MERRITT SILTY CLAY LOAM, DEEP
Mo	4	MERRITT SILTY CLAY LOAM, DEEP, DRAINED
Ms	4	MYERS CLAY
Ra	4	REIFF VERY FINE SANDY LOAM
Rb	4	REIFF GRAVELLY LOAM
Rg	4	RINCON SILTY CLAY LOAM
Sa	6	SACRAMENTO SILTY CLAY LOAM
Sb	4	SACRAMENTO SILTY CLAY LOAM, DRAINED
Sc	6	SACRAMENTO CLAY
Sd	4	SACRAMENTO CLAY, DRAINED
Sf	6	SACRAMENTO CLAY, DEEP
So	6	SYCAMORE SILT LOAM
Sp	4	SYCAMORE SILT LOAM, DRAINED
Ss	6	SYCAMORE SILTY CLAY LOAM
Su	6	SYCAMORE COMPLEX
Sv	4	SYCAMORE COMPLEX, DRAINED
Sz	4	SYCAMORE SILTY CLAY LOAM, DRAINED
TaA	4	TEHAMA LOAM, 0 TO 2 PERCENT SLOPES
TaB	4	TEHAMA LOAM, 2 TO 5 PERCENT SLOPES
Tb	6	TYNDALL VERY FINE SANDY LOAM
Tc	4	TYNDALL VERY FINE SANDY LOAM, DRAINED
Te	6	TYNDALL VERY FINE SANDY LOAM, DEEP
Tf	6	TYNDALL SILTY CLAY LOAM
Va	6	VALDEZ SILT LOAM
Vb	6	VALDEZ SILT LOAM, DEEP
Ya	4	YOLO SILT LOAM
Yb	4	YOLO SILTY CLAY LOAM
Za	4	ZAMORA LOAM

Photographs of the subject property

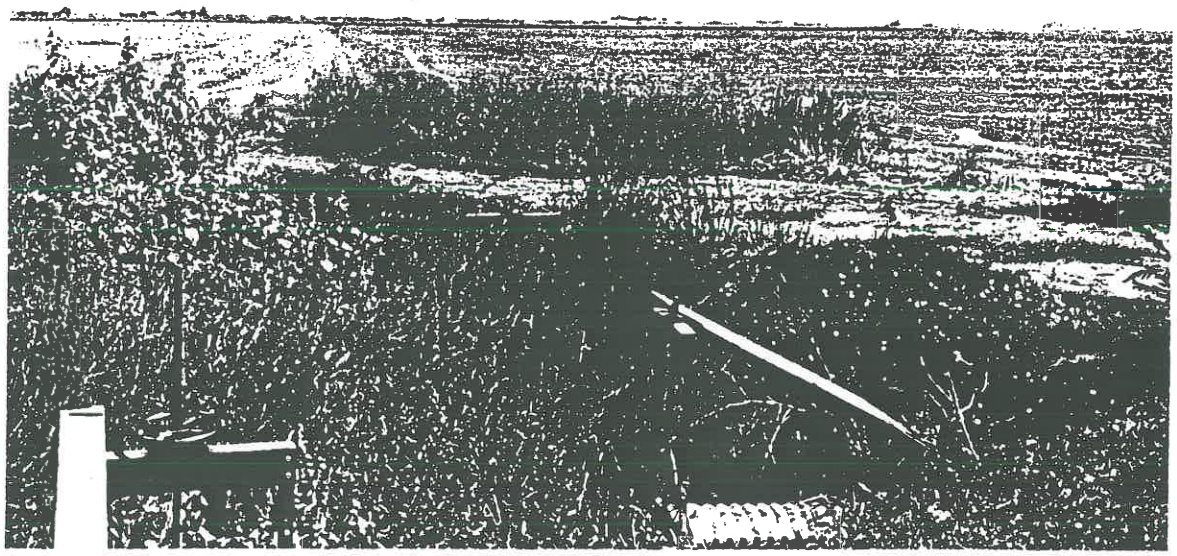


1. Entrance to the property.

2. A representative view across the subject looking northwest.



3. Safflower crop viewed from south end. The orange swath is an area of greater salinity.



4. Foreground: the end of the ditch which delivers Yolo Flood Control District water. Background: to irrigate the subject, it would be necessary to cut a ditch along the border of this field (the subject is in the far background).

5. Capay silty clay, one of two major soil units of the subject; note the grayish-brown color.

6. Pescadero silty clay, saline–alkali: the other major soil unit of the subject. Light gray.

Qualifications
of
Gregory A. House

Agricultural Consultant
Agronomist
Professional Farm Manager
Rural Appraiser

Experience

Co-Owner, House Agricultural Consultants, providing agricultural science, management & appraisal services, 1983 to present

Corporation Secretary & Consulting Agronomist, Hannesson, Riddle & Associates, Inc., 1977–1983

Apple Farmer since 1986, both conventional and certified organic

Professional Affiliations

- American Society of Farm Managers & Rural Appraisers
  Secretary-Treasurer, California Chapter, 1984 to 1990; President, 1994-1995
- American Society of Agronomy
- Crop Science Society of America
- Soil & Water Conservation Society
- Yolo Chapter California Certified Organic Farmers, Past President, currently Certification Committee Chairman

Accreditations

- Accredited Farm Manager (A.F.M.), American Society of Farm Managers & Rural Appraisers, Certificate #501
- Certified Professional Agronomist (CPAg.), American Registry of Certified Professionals in Agronomy, Crops. & Soils, Ltd. Certificate # 2319
- Accredited Rural Appraiser (A.R.A.), American Society of Farm Managers & Rural Appraisers, Certificate #749

These credentials have continuing education requirements with which I am in compliance.

Qualifications of Gregory A. House, continued

Education

- Crop Ecology, University of California, Davis, 1975, with Honors
- Numerous courses from the American Society of Farm Managers & Rural Appraisers, & American Institute of Real Estate Appraisers
- Numerous courses from the University of California Extension in agricultural economics, crop management, real estate, & hazardous waste management

Expert Witness Court Testimony

- Superior Court Qualified Expert Witness
- United States Tax Court Qualified Expert Witness
- United States Bankruptcy Court Qualified Expert Witness

A list of depositions and trial appearences is available upon request

Appointments

- Instructor, "Principles of Farm Management," an Internet course of the American Society of Farm Mangers and Rural Appraisers, current
- Board of Directors, Yolo Land Trust, 1993 to current
- Board of Directors, American Red Cross, Yolo County Chapter 1987-1989
- Member, Yolo County Right to Farm Grievance Committee 1992-1995
- Vice Chairman, Management Education Committee, American Society of Farm Managers and Rural Appraisers, current (committee member since 1986)
- Treasurer, California Certified Organic Farmers, a statewide organization with over 700 farmer and food processor members, 1998

Speaking Engagements

- Guest Lecturer, University of California at Davis, Agricultural Economics Department, Course 140, "Farm Management", on adoption of new technologies, farm budgeting, cash flow management, cost accounting, etc. (1985 to present)
- Guest Lecturer, University of California at Davis, Agricultural Economics 145, Farm and Rural Resources Appraisal, on professional farm appraisal (1985-1997)
- Guest Lecturer, University of Florida at Gainesville, Vegetable Crops Department, seminar on transition to organic agriculture, (November, 1994)
- Guest Speaker, 1995 Eco-Farm Conference, Asilomar, California , on economics of organic apple production
- Guest Speaker, Community Alliance with Family Farmers, on farm management and agricultural economics, 1996 and 1997.
- Instructor, American Society of Farm Managers and Rural Appraisers, Course M-12, "Standards and Ethics for Professional Farm Managers," March, 1997.

House Agricultural Consultants
Partial Listing of Clients Served

Aetna Springs Vineyard
Napa California

Balsdon Company
Grimes, California

Balverne Winery & Vineyards
Sonoma County, California

Bank of America

Brooks & John Walker
Colusa County, California

Bruce Mace Ranch, Inc.
Davis, California

California Department of Fish & Game
Wildlife Conservation Board

City of Sacramento, City Attorney

Conaway Conservancy Group
West Sacramento, California

Clapp, Moroney, Bellagamba, Davis and
Vuchin, Menlo Park, California

Downey, Brand, Seymour & Rohwer
Sacramento, California

DeHart, Chaffin & Rushford
Sacramento, California

Diablo Green Orchards
Brentwood, California

Farmers' Home Administration (U.S.D.A.)
Sacramento, California

Internal Revenue Service, District Counsel
San Francisco, California

Langley, Lamberto and Deckard
Los Altos, California

Lukens, Cooper, Perry, & Drummond
San Francisco, California

McMahon-Graf Partners
Winters, California

Pajaro Valley Water Management Agency
Watsonville, California

Reclaimed Island Land Company
Lathrop, California

Republic Indemnity Company of America
San Francisco, California

Sacramento Valley Farm Credit Banks
Woodland, California

San Andreas Farms
Fresno County, California

San Luis Delta Mendota Water Authority

Sanwa Bank, N.A.
Sacramento, California

Stanford University
Lands Management Department
Stanford, California

Stumbos, Mason, & Thomas
Sacramento, California

Tenant, Read, & Dutra
Sacramento, California

The Nature Conservancy

The Prudential Agricultural Group
Sacramento, California

The Travelers Insurance Company

The Trust for Public Land

United States Fish & Wildlife Service

United States Department of Justice

V.A. Mast & Sons
Esparto, California

University of California, Davis
Vice Chancellor of Finance

Wells Fargo Bank, N.A.

References

Western Fertilizer Handbook, produced by the Soil Improvement Committee, California Fertilizer Association, 1990

The American Heritage Dictionary of Science, 1986

Soil Science Principles & Practices, R.L. Hausenbuiller, 1972

Soil Survey of Yolo County, California, United States Department of Agriculture, Soil Conservation Service, June 1972

Effects of Salt on Soils, Rolston, Dennis E., et al, California Agriculture, October 1984

Crop Tolerance, Maas, Eugene V., California Agriculture, October 1984

Management Alternatives: Crop, Water & Soil, Oster, J.D., et al., California Agriculture, October 1984

Reclamation and Regeneration of Boron in High-Boron Soils, Peryea, Frank J., and Bingham, Frank T., California Agriculture, October 1984

1997 Sample Cost to Produce Processing Tomatoes, University of California Cooperative Extension

Yolo County Agricultural Crop Report, 1994 through 1998, Yolo County Agricultural Commissioner's Office

APPENDIX C

F.I.R.M APPEAL INFORMATION

Federal Emergency Management Agency

Washington, D.C. 20472

SEP 2 1 1999

RECEIVED
SEP 4 1999
CITY OF WOODLAND
COMMUNITY DEVELOPMENT DEPARTMENT

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Mike McGowan
Chairman, Yolo County Board
of Supervisors
625 Court Street, Room 204
Woodland, CA 95695

Dear Mr. McGowan:

This responds to a request that the Federal Emergency Management Agency (FEMA) revise the effective Flood Insurance Rate Map (FIRM) for your community in accordance with Part 65 of the National Flood Insurance Program (NFIP) regulations. In a letter dated July 12, 1999, Mr. Don Fleming, Interim Community Development Director, City of Woodland, requested that FEMA revise the FIRM to show the effects of construction of the Turn of the Century residential development located southwest of the intersection of Gibson Road and Road 102.

Effective FIRM Panel 0450 E, dated July 6, 1998, shows that the Turn of the Century property is located within an area designated Zone C, an area of minimal flooding outside the Special Flood Hazard Area (SFHA), the area subject to inundation by the base (1-percent-annual-chance) flood.

Preliminary FIRM Panel 0440 F dated October 23, 1998, shows that a portion of the Turn of the Century property will be located within an area designated Zone A2, an SFHA with base flood elevations (BFEs) determined. The SFHA is a result of flooding effects from the right overbank flow of Cache Creek. In his July 12 letter, Mr. Fleming requested that we make a determination whether the Zone A2 designation can be removed from the Turn of the Century property. We cannot issue a Letter of Map Revision for a preliminary FIRM panel. Mr. Fleming indicated that an analysis to support removal of the Turn of the Century property from the SFHA was submitted by Mr. Patrick L. Stiehr, P.E., Watermark Engineering, Inc., as an appeal to the proposed modified BFEs. As stated in our letters dated April 30, 1999, to you and to the Honorable Melton Losoya, Mayor, City of Woodland, we will review the information submitted by Mr. Stiehr and revise the FIRM if appropriate. If the submitted information warrants a revision to the SFHA, that revision will be shown on a revised preliminary copy of the FIRM after the appeals are resolved.

If you have any further questions, please contact Mr. Max Yuan of our staff in Washington, DC, either by telephone at (202) 646-3843 or by facsimile at (202) 646-4596.

Sincerely,

Max Yuan

Max H. Yuan, P.E., Project Engineer
Hazards Study Branch
Mitigation Directorate

For: Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

cc: The Honorable Melton Losoya
Mayor, City of Woodland

Mr. Don Fleming
Interim Community Development Director
City of Woodland

Mr. Patrick L. Stiehr, P.E.
Watermark Engineering, Inc.

City of Woodland

COMMUNITY DEVELOPMENT DEPARTMENT 300 FIRST STREET WOODLAND, CALIFORNIA 95695 (916) 661-58
FAX (916) 661-58

September 3, 1999

Mr. Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate
Federal Emergency Management Agency
500 C Street, S.W.
Washington, D. C.20472

RE: Project ID 175A City of Woodland Preliminary Flood Insurance Study and FIRM & TOC Request to Move Land Out of Proposed 100 Year Floodplain (Technical Memorandum Number 2 from Watermark Engineering, Inc.)

Dear Matthew:

This letter is being sent by the City of Woodland on behalf of the developers of the Turn of the Century (TOC) project, a proposed 403-acre residential development south of the Woodland City Limits, which is part of a 1,096-acre specific plan area. A portion of the 403 acres controlled by TOC is shown on the preliminary October 1998 FIRM prepared for Yolo County (Community Panel Number 060423 0440 F) as being located in the A2 Zone Special Flood Hazard Area (SFHA). In early 1999 TOC filed an appeal of the 1998 Preliminary Flood Insurance Studies and FIRMs prepared for portions of Yolo County and the City of Woodland. TOC submitted a letter and engineering data, which was included with the submittal materials accompanying the City and Yolo County's April 1999 appeal of the two FEMA Flood Studies. TOC's consultant, Patrick Stiehr of Watermark Engineering, had prepared an analysis, which indicated that their project should not be included in the A2 Zone. The enclosed Technical Memorandum No. 2 is additional information to support Watermark's earlier data showing that the TOC project should be removed from the A2 Zone as shown on the 1998 County of Yolo preliminary FIRM.

TOC has advised The City of Woodland that FEMA will consider removing the A2 Zone designation from the TOC properties provided the City makes the request to FEMA and supports FEMA looking at the property separately. A letter dated July 12, 1999 from Interim Community Development Director Don Fleming was sent to you making this request. Associate Planner, Ron Pinegar received a call from Sheila Norlin, with Michael Baker Engineering on August 3, 1999 inquiring about Don Fleming's request. During the conversation Mr. Pinegar explained the request to Ms. Norlin and asked her to check on its status and get back to the City. In the mean

time the City has received and is enclosing the Technical Memorandum from Watermark Engineering, Inc.

Please let me know about the status of the TOC request and whether the City can be of any further assistance on this matter. I may be reached at 530/661-5820. If you cannot reach me you may also contact Associate Planner Ron Pinegar at 530/661-5824.

Sincerely yours,

Steven K. Harris, AICP
Community Development Director

Enclosures: August 19, 1999 Cover letter from Watermark Engineering, Inc.
Technical Memorandum #2

CC: Richard Kirkwood, Woodland City Manager
Gary Wegener, Woodland Public Works Director
Scott Morris, City Attorney
John Bencomo, Assistant Director Yolo County Planning and Public Works Department
City of Woodland Flood Plain Task Force
Tom Lumbrazo, TOC

9-1-99 LtrFEMA M. Miller, TOC TechMemNo.2

Turn of the Century
a Delaware Limited Liability Company
609 Court Street
Woodland, CA 95695
TEL (530) 668-4056 FAX (530) 668-4046

August 19, 1999

Gary Wegener
Public Works Director
City of Woodland
300 First Street
Woodland, CA 95616

RE: FEMA Appeal Process

Dear Gary:

Enclosed is Technical Memorandum Number 2 prepared by Patrick Stiehr of Watermark Engineering. This memorandum provides additional technical information supporting the appeal of the PFIS for the Turn of the Century properties. This document is being forwarded to the City for processing, consistent with the July 12, 1999 letter from Don Fleming, Interim Community Development Director, to FEMA. A copy of the July 12, 1999 letter is also enclosed for your reference.

It is my understanding that this request would be processed by FEMA through the City of Woodland. Please let us know what the schedule will be for processing, and if any additional information is needed. If you would send us a copy of the cover letter from the City transmitting this document to FEMA as well, we would appreciate it.

If you have questions or would like additional information, please contact Linda Frazier at Turn of the Century, or Patrick Stiehr at (916) 727-3413.

Thank you very much for your help with this.

Sincerely,

Melanie Mathews

Melanie Mathews
Encl.

CC: Rick Kirkwood, City Manager
Steve Harris, Community Development Director

Watermark Engineering, Inc.

TECHNICAL MEMORANDUM #2

Date: August 20, 1999

To: Gary Wegener, Public Works Director, City of Woodland

From: Patrick L. Stiehr, P.E.

RE: Additional Technical Information to Support Appeal of the Preliminary Flood Insurance Study for Turn of the Century

Executive Summary

The City of Woodland is currently appealing the Preliminary Flood Insurance Study dated September 14, 1998. It is expected the appeal will take considerable time to resolve. Turn Of the Century (TOC), located in the southeast portion of the city, would like to move forward with development. Their property is not within the existing FEMA floodplain and was not within the 100 year floodplain of the recent Corps of Engineers study (June 1994). The Murray Burns and Keinlen Study that is the basis of the City appeal also showed TOC was not within the 100-year floodplain.

Leaving the TOC property within the floodplain of the Preliminary Flood Insurance Study (PFIS) during the prolonged appeal period adds significant uncertainty to the development process. TOC would like to accelerate their portion of the appeal and have their property removed from the 100-year boundary. Development could then proceed in a timely manner without the unnecessary burden of the appeal and its resolution.

The Corps of Engineers study, the technical information presented by Murray, Burns and Keinlen and the review by Watermark Engineering all conclude the the TOC property is not within the 100-year floodplain. This technical memorandum was based on "worst case" flow and provides additional information that further supports removing TOC from the floodplain,

The Study Contractor for the PFIS assumed the Beamer Street underpass would not convey floodwater and ignored the Highway 113 embankment as a hydraluic barrier. When the underpass geometry and the embankment geometry are added to the HEC backwater analysis, it is clear the underpass conveys a significant amount of the estimated overflow from Cache Creek The underpass was analyzed as a bridge and also as a culvert with similar results. The diverted flow at Beamer stays north of I-5 and, as a result, there is much less flood water south of I-5. The floodplain south of I-5 is much narrower and does not meander south to the TOC property.

The results of this analysis are consistent with the earlier studies and the information presented in the appeal. TOC is far removed from the expected Cache Creek overflow path and should be removed from the floodplain, regartdless of the outcome of the other appeal issues.

7250- H Auburn Blvd., Citrus Heights, CA 95610
Ph 916- 727- 3413, Fax 916- 727- 3431, Mobile 916- 715- 1167, email: pstiehr@wtrmark.com

Overview

This Technical Memorandum (TM2) provides additional technical information that would allow the Turn of the Century (TOC) property to be removed from the 100 year flood plain as shown on the Preliminary Flood Insurance Study (PFIS).

TM1, dated March 29, 1999, was provided to the city and was included in Appeal 175-A entitled "Appeal of Flood Insurance Study and Flood Insurance Rate Map of the Federal Emergency Management Agency". The appeal included several issues including hydrology, hydraulics and the accuracy of the topographic mapping used for the analysis. It is expected that the appeal will take a substantial amount of time to resolve. The City of Woodland is expected to use the time to evaluate alternatives and develop facilities to minimize the flood potential within Woodland.

TOC would like to move forward with development. However, the PFIS shows that the northeast portion of the property is within the 100-year flood plain boundary. This designation puts constraints and uncertainty onto their development process. Rather than wait for the City appeal to be resolved, TOC has requested that their property be evaluated separately and as soon a possible.

A recent Corps of Engineers (COE) report and the information provided by the engineering firm Murray, Burns and Keinlen (MBK) indicate TOC is not within the 100-year flood plain. TM1 by Watermark Engineering provided questions and comments concerning the validity of the PFIS and provided a technical review of the downstream portion of the HEC-2 analysis. That analysis also indicated the TOC property would not be within the 100-year flood plain. Figure 1 provides a map of the area and the flood boundaries generated by the Study Contractor, the COE and MBK.

The TM 1 analysis was limited to the downstream end of the HEC-2 analysis. There appeared to by sufficient justification to remove TOC from the flood plain without reanalyzing upstream issues. The information was included in the City appeal which may not be resolved in the near future.

TOC would like to move forward with development and not have to deal with the appeal uncertainty and the possibility of flood plain mitigation in the future. As a result, an additional technical appeal of the PFIS has been made to justify removing TOC from the floodplain at this time. The additional appeal is still limited to the PFIS floodplain boundary in southeast Woodland that affects TOC but includes review of the HEC-2 analysis to just upstream of the Highway 113-(H113) embankment. For clarification the following comments are presented to help explain the differences between TM 1 and this TM 2:

1. The Hydrology comments presented in TM1 remain and provide information that TOC would not flood from downstream ponding along the Yolo Bypass and Willow Slough levees.

2. The accuracy of the Topographic Mapping was questioned by MBK. Variations in elevations could alter flood depths and flow paths and will be evaluated during the appeal.

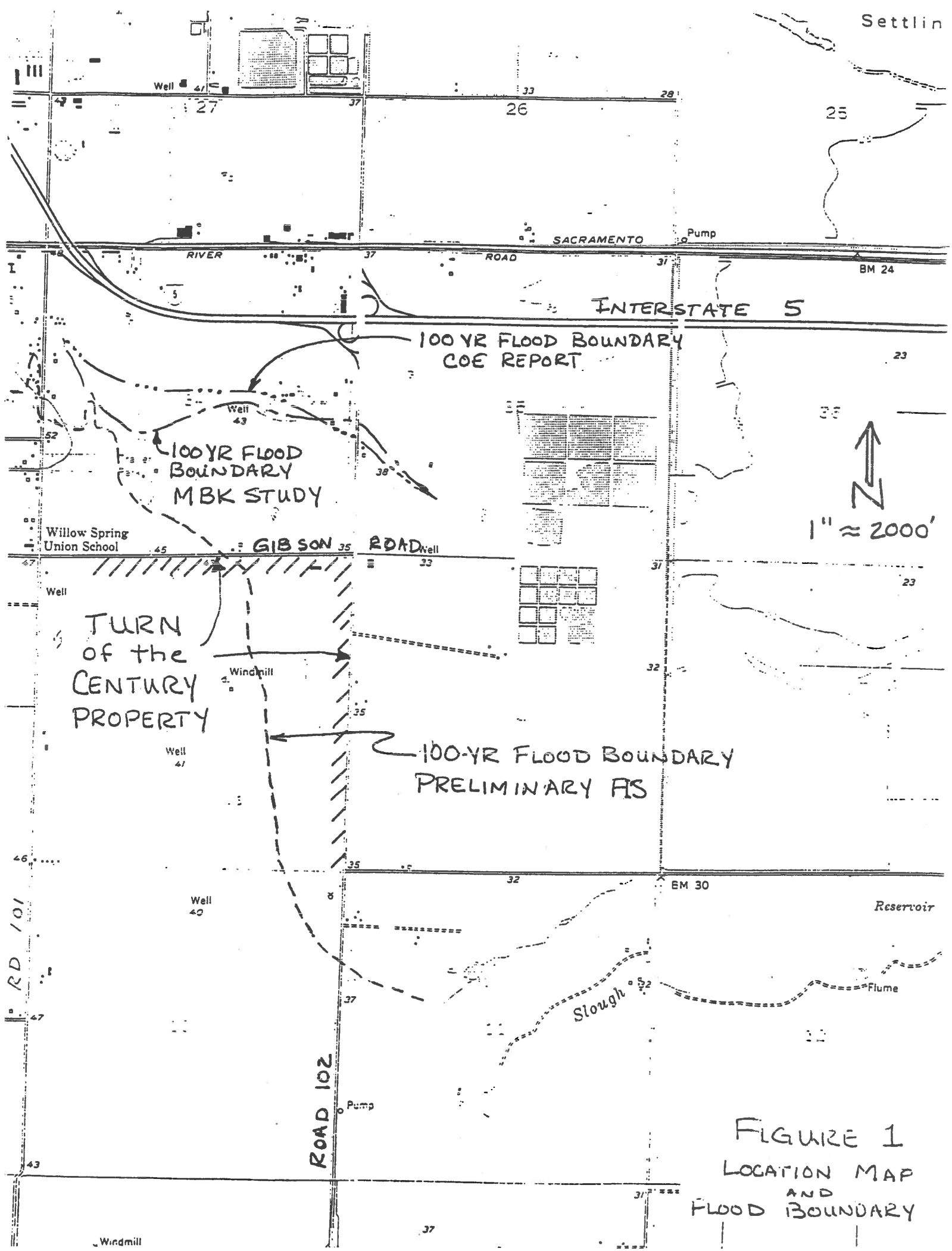


FIGURE 1
LOCATION MAP
AND
FLOOD BOUNDARY

It remains a significant issue but is not addressed in this TM. This analysis is dependent on the H113 embankment and Beamer Street underpass, not the topographic mapping.

3. No attempt was made to review the Breakout Analysis even though there are significant differences between the Study Contractor (SC) and the appeal analysis by MBK. The higher flows estimated by the SC were used for this analysis. A check of the smaller breakout flow estimated by MBK yielded less overflow south of I-5 as expected. Therefore, if the MBK flow estimate is more accurate, then the liklihood of shallow ponding on the TOC property is even more remote than the analysis herein.

4. Diversion over the I-5. The SC did not include the H113 embankment in their HEC-2 analysis. A significant effort was made by the SC to include the effects of the I-5 embankment, yet the H113 embankment was ignored. This apparent oversight, coupled with the analysis assumption made by the SC at the Beamer Street underpass, are the basis of this additional technical appeal. The diversions across I-5 upstream of cross-section 7 were assumed to be acceptable and not evaluated. The technical analysis in this TM is limited to the HEC-2 analysis downstream of cross-section 7.

5. TM1 included a discussion of the PFIS showing significant ponding far south of I-5 at Road 102. The HEC-2 cross-sections used to determine the flood limit were questioned. There was virtually no conveyance within the Right Bank because the SC used a roughness (Manning's "n") of 100. Cross-section elevations for the southern portion of Section 1 were estimated from a 7 ½ minute topographic map with a 5-foot contour interval. The 100-year flood plain was shown far south of the end of cross-section 2. Even with the large overland flow estimated by the SC, the 100-year flood plain would not traverse the existing residential subdivision and impact the TOC property.

Technical Analysis

The arguments presented in TM1 remain valid but this TM provides better definition of the downstream sections and on upstream conditions. A total of 13 cross-sections were added to the HEC-RAS step-backwater analysis between sections 1 and 7.

My opinion is that the SC made at least two significant errors when the HEC-2 analysis was done. The first was to ignore the H113 embankment. The second was to ignore the Beamer Street underpass. The embarnkment is substantial and generally wider than most flood control levees. Figures 2 through 5 provide recent photographs of the H113 embankment and the Beamer Street underpass. The Beamer Street underpass would act like a siphon at lower flows and then act like a combination siphon and road overflow at higher flows.

The most critical sections were at the H113 embankment and cross-section 6.3 located about 650 upstream of section 6. Added cross-section 6.3 shows that overflow across I-5 would occur north of Beamer Street as a result of greater backwater caused by the H113 embankment. This overflow was subtracted from the flow estimate just upstream of the H113 embankment.

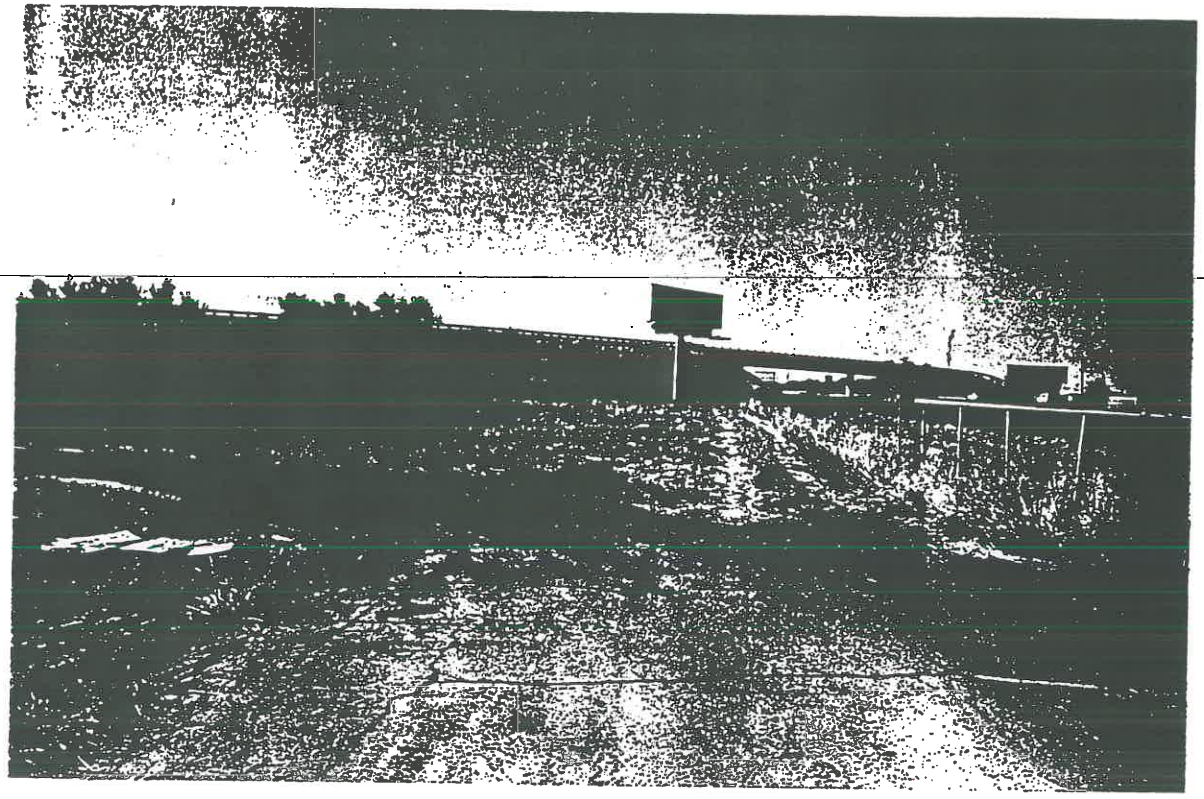


Figure 2 Highway 113 Embankment south of Beamer Street, looking northwest.

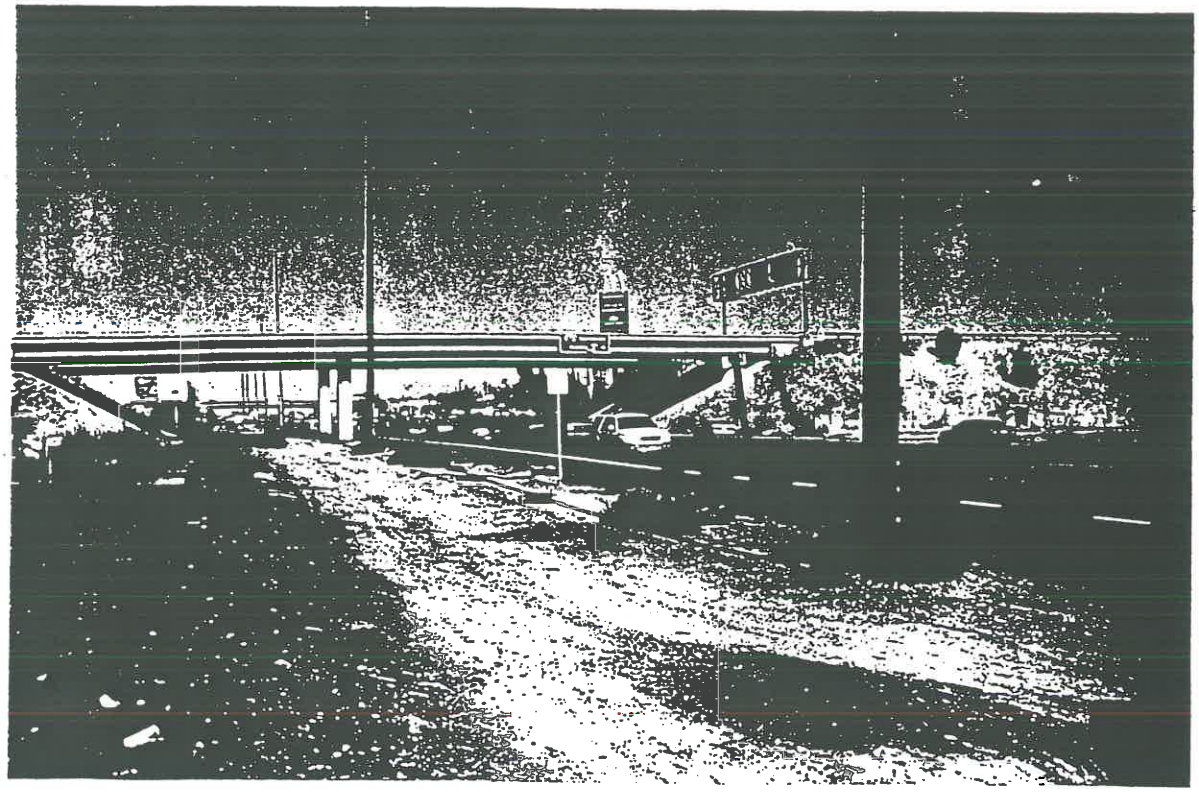


Figure 3 Highway 113 embankment at Main Street, looking east

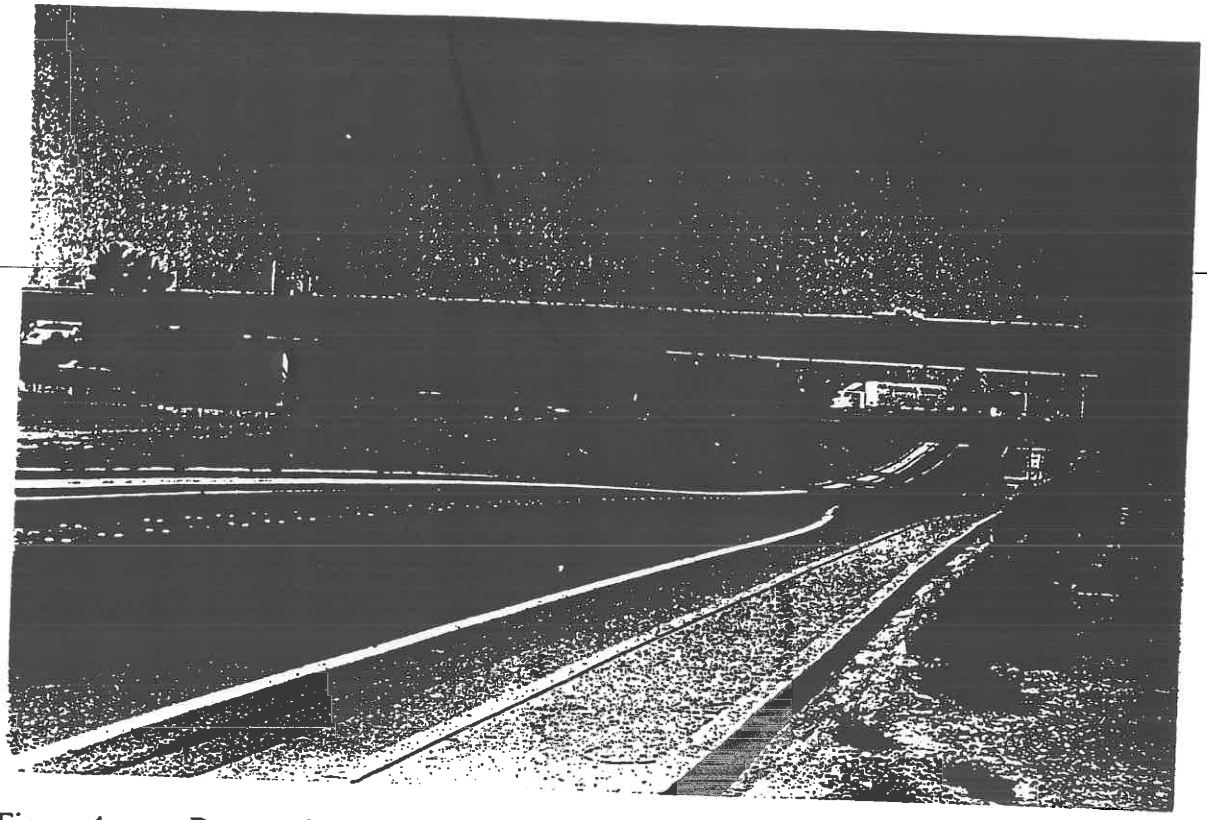


Figure 4 Beamer Street underpass, looking downstream (east)

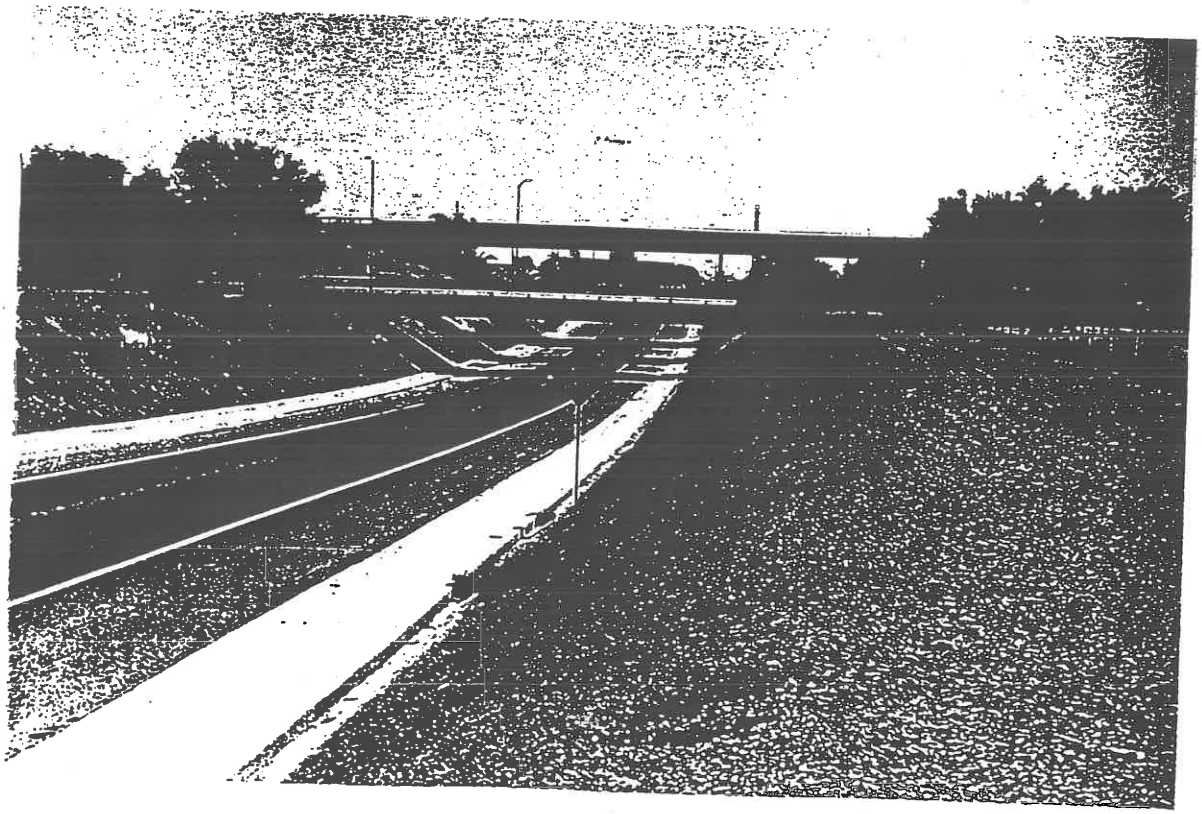


Figure 5 Beamer Street underpass, looking upstream (west)

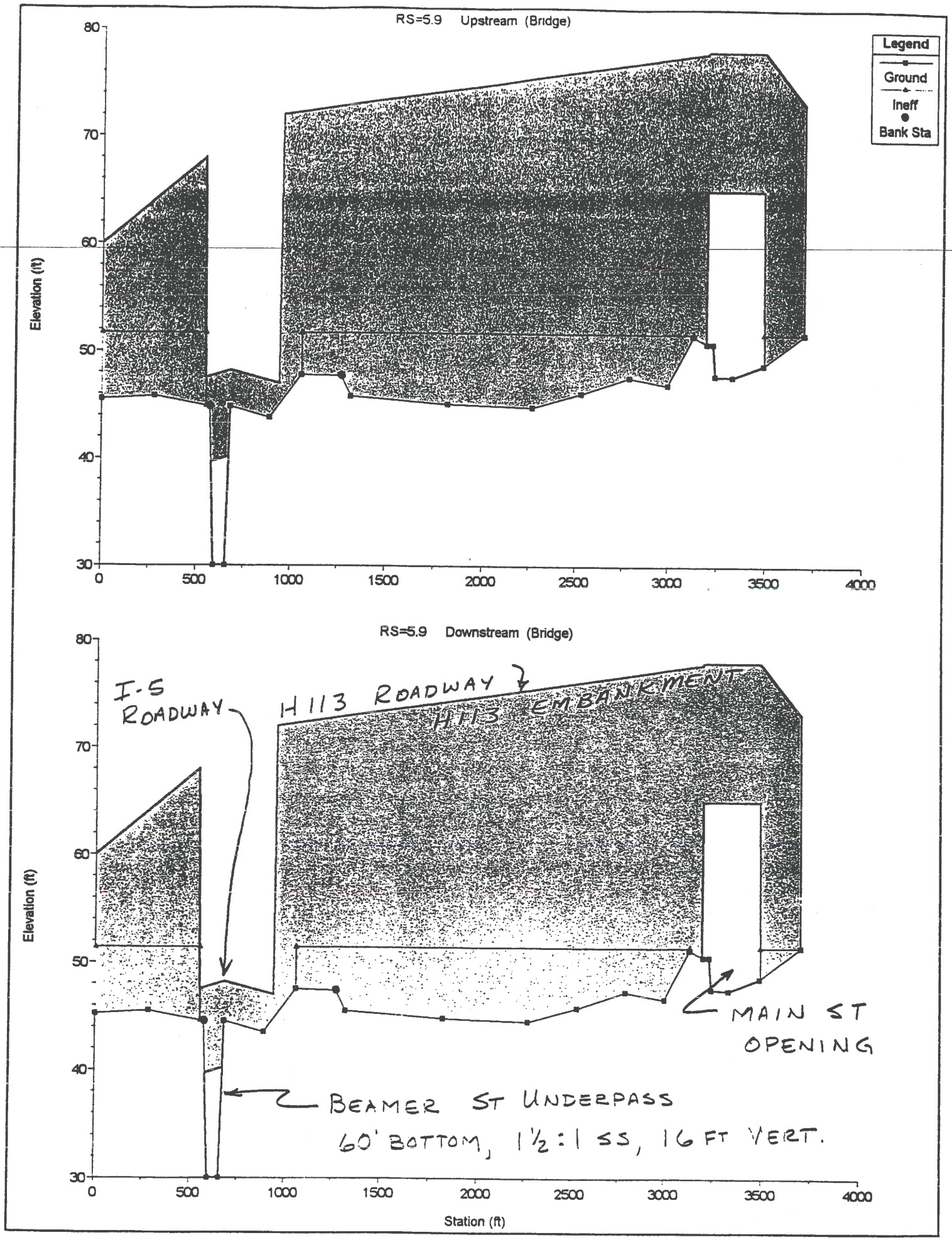


FIGURE 6

HEC RAS BRIDGE ANALYSIS

A trial and error approach was needed to determine the I-5 overflow because the overflow is dependent on water level, which, in turn, is dependent on remaining flow.

Two analyses were made of the Beamer Street/I-5/H113 intersection, the H113 embankment and the opening at Main Street. The first analysis was based on a bridge analysis and overflow across the I-5 roadway at Beamer Street. The area is geometrically complicated so simplifying assumptions were made. Figure 6 is a HEC-RAS plot of the sections immediately upstream and downstream of the embankment. Appendix A provides a summary table of the HEC-RAS analysis with the main channel flow at Beamer Street and the Main Street flow at the right bank portion of the cross-section.

The second analysis used the culvert routine to model the Beamer Street underpass. Culvert shapes do not include the trapezoidal section so a somewhat equivalent but smaller box culvert was used. Figure 7 shows the box culvert and Appendix B provides a summary table of the HEC-RAS analysis with the culvert computations. Both tables include the discharges used by the SC for comparison and to show the water surface profile changes.

A comment within the HEC-2 input file used by the SC indicated "Flow in Beamer Road is ponding". If the H113 embankment did not restrict the overland flow, this assumption would be more reasonable because the head differential from the west side to the east side of the underpass would by small and there would be moderate velocity in the siphon

When the embankment is included in the model, the head loss from west to east at Beamer Street is in the range of 1.5 to 3 feet depending on the type of analysis used. This significant head differential generates significant conveyance within the Beamer Street underpass. Coupled with overtopping of I-5 at this location, this opening provides conveyance for most of the upstream flow.

Model results indicate the remaining flow that crosses under H113 at Main Street is about 900 cfs (Section 5.8, Right Bank flow). That flow was then used to model the downstream reach, south of I-5. The lower flow is easily contained within the open area south and parallel to I-5. Water surface elevations are not high enough for flow to expand to the south. Figure 8 shows the original and added cross-sections, BFE's and the limits of flooding based on this analysis. Electronic and hard copies of the input and output files are available upon request.

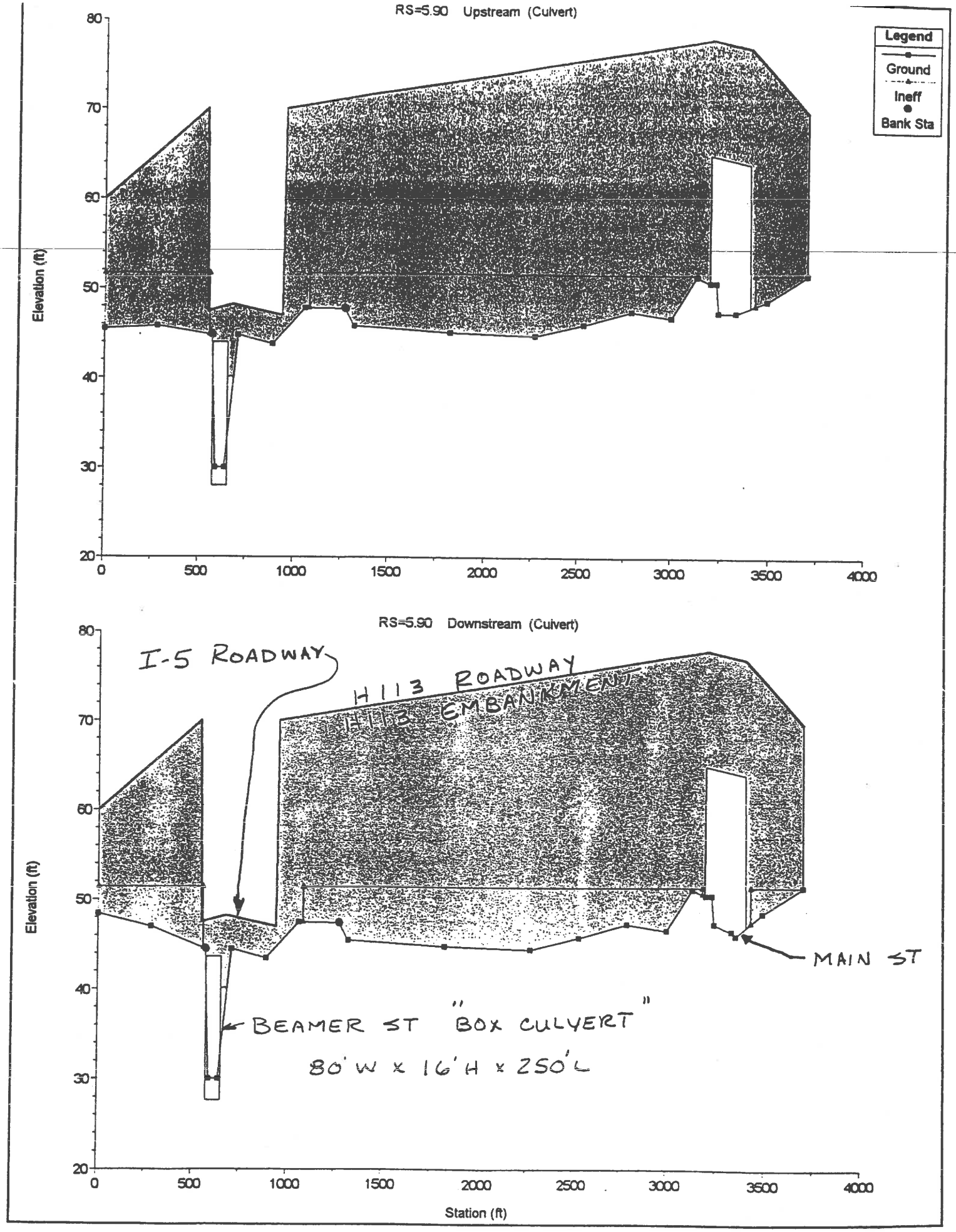


FIGURE 7

HEC-RAS CULVERT ANALYSI

Summary and Conclusions

There is an ongoing appeal concerning the PFIS. Issues include hydrology, mapping and the hydraulic analysis. The appeal process is expected to take as long as several years to complete. A portion of the floodplain shown on the PFIS that meanders south across the TOC property appears to have been estimated based on limited data. A review of the downstream analysis by the SC indicates the assumptions were questionable and the floodplain limit would not extend to the south as shown. By including the hydraulic barrier (H113 embankment), the analysis shows most flow is diverted north of I-5. This is consistent with the analyses provided by the COE and MBK.

The other issues of the appeal remain. Regardless of the outcome, the downstream southern boundary of the floodplain should be moved north and remain parallel to I-5 with a floodplain width of in the range of 1000 to 2000 feet, not 11,000 feet as shown on the PFIS.

The H113 embankment is clearly a hydraulic barrier that must be included in the analysis. The Beamer Street underpass and I-5 overflow at this location will convey most of the Cache Creek overflow north of I-5. Detailed geometric data of the Beamer Street crossing would undoubtedly yield slightly different results within the HEC-RAS analysis. Regardless, downstream flow south of I-5 is in the 500 to 2000 cubic feet per second (cfs) range, not the 10,000+-cfs range generated by the SC. The downstream southern floodplain boundary can be revised to the north at this time. Extent and depth of flooding through Woodland (upstream of H113 and north of I-5) will be resolved through the appeal process.

HEC-RAS Plan: Plan 08 River: Cache Cr Overflo Reach: Woodland

APPENDIX H 1/2

Reach	River Sta	Length Chnl	Q Total	E.G. Elev	W.S. Elev	Vel Head	Frctn Loss	C & E Loss	Q Left	Q Channel	Q Right	Top Width
		(ft)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft)
Woodland	22	1200	5100	88.88	88.70	0.18	4.60	0.04		5100.0		2279.6
Woodland	22	1200	5100	88.88	88.70	0.18	4.60	0.04		5100.0		2279.6
Woodland	21	1330	8075	84.24	84.20	0.04	3.51	0.00		8075.0		5382.3
Woodland	21	1330	8075	84.24	84.20	0.04	3.51	0.00		8075.0		5382.4
Woodland	20	1160	8075	80.73	80.67	0.05	2.39	0.01		8075.0		4666.6
Woodland	20	1160	8075	80.73	80.67	0.05	2.39	0.01		8075.0		4666.6
Woodland	19	900	8075	78.33	78.30	0.03	1.68	0.00		8075.0		4979.2
Woodland	19	900	8075	78.33	78.30	0.03	1.68	0.00		8075.0		4979.2
Woodland	18	1780	20670	76.65	76.60	0.05	3.80	0.00	1.4	20668.6		10140.4
Woodland	18	1780	20670	76.65	76.60	0.05	3.80	0.00	1.4	20668.6		10140.3
Woodland	17	1060	20670	72.84	72.79	0.05	1.33	0.00		20670.0		9961.6
Woodland	17	1060	20670	72.84	72.79	0.05	1.33	0.00		20670.0		9961.6
Woodland	16	920	20670	71.50	71.47	0.03	0.60	0.00		20669.8	0.2	12877.1
Woodland	16	920	20670	71.50	71.47	0.03	0.60	0.00		20669.8	0.2	12877.0
Woodland	15	1450	20670	70.90	70.87	0.02	1.36	0.01	4.5	20665.3	0.2	14583.3
Woodland	15	1450	20670	70.90	70.87	0.02	1.36	0.01	4.5	20665.3	0.2	14583.3
Woodland	14	1850	20670	69.53	69.44	0.09	4.75	0.00	364.1	20305.9		10636.3
Woodland	14	1850	20670	69.53	69.44	0.09	4.75	0.00	363.9	20306.1		10633.1
Woodland	13	2660	20670	64.78	64.65	0.13	4.31	0.01	4.2	20665.8		7209.2
Woodland	13	2660	20670	64.77	64.65	0.13	4.30	0.01	4.1	20665.9		7207.5
Woodland	12	1350	20670	60.46	60.37	0.08	0.87	0.01	58.2	20608.8	3.0	5705.9
Woodland	12	1350	20670	60.46	60.38	0.08	0.87	0.01	58.2	20608.8	3.0	5708.0
Woodland	11	1520	20670	59.58	59.52	0.05	1.21	0.01		20668.3	1.7	5864.7
Woodland	11	1520	20670	59.59	59.53	0.05	1.20	0.01		20668.3	1.7	5866.9
Woodland	10	1250	17200	58.36	58.33	0.02	3.20	0.00		17200.0	0.0	5425.2
Woodland	10	1250	17200	58.38	58.35	0.02	3.27	0.00		17200.0	0.0	5430.7
Woodland	9	1810	17200	55.15	55.08	0.07	1.02	0.02		17199.3	0.7	4243.8
Woodland	9	1810	17200	55.10	55.03	0.07	1.16	0.02		17199.4	0.6	4217.2
Woodland	8	1900	17090	54.11	54.10	0.01	0.35	0.00	165.3	16924.7		4635.9
Woodland	8	1900	17090	53.92	53.91	0.01	0.40	0.00	149.2	16940.8		4607.5
Woodland	7	1670	17090	53.77	53.76	0.01	0.18	0.00	66.4	16978.8	44.7	4225.8
Woodland	7	1670	17090	53.52	53.51	0.01	0.21	0.00	60.8	17014.2	15.0	3898.3
Woodland	6.3	650	17090	53.59	53.58	0.01	0.05	0.00	1441.3	14826.4	822.3	6572.5
Woodland	6.3	650	17090	53.31	53.31	0.01	0.06	0.00	1289.7	15027.5	772.8	6460.0
Woodland	6	100	17090	53.54	53.53	0.01	0.02	0.01		16793.8	296.2	4300.0
Woodland	6	100	16490	53.26	53.25	0.01	0.02	0.01		16245.7	244.3	4254.6
Woodland	5.95	50	17090	53.51	53.41	0.10	0.05	0.01	340.5	14674.7	2074.9	3700.0
Woodland	5.95	50	16490	53.23	53.13	0.10	0.05	0.02	327.0	14273.0	1890.0	3700.0
Woodland	5.9	Bridge										
Woodland	5.8	350	17090	51.32	51.14	0.18	0.37	0.02	327.5	15575.9	1186.6	3673.0
Woodland	5.8	350	16490	50.45	50.24	0.22	0.58	0.02	299.4	15256.1	934.5	3487.9
Woodland	5.6	1560	17090	50.93	50.82	0.11	1.55	0.02		13789.8	3300.2	3694.3
Woodland	5.6	1560	16490	49.86	49.70	0.16	2.71	0.04		13913.3	2576.7	3483.5
Woodland	5	1040	11120	49.36	49.31	0.05	2.19	0.02		10992.6	127.4	2748.5
Woodland	5	1040	1000	47.10	47.09	0.01	1.85	0.01		1000.0		1208.0
Woodland	4.1	900	10530	47.16	46.90	0.25	1.71	0.06		10530.0		1755.3
Woodland	4.1	900	900	45.25	45.14	0.11	2.08	0.03		900.0		482.9
Woodland	4	430	10530	45.38	45.33	0.05	0.39	0.00		10530.0		2642.2
Woodland	4	430	900	43.13	43.12	0.01	0.55	0.00		900.0		2107.6

HEC-RAS SUMMARY
AT BRIDGE AT REAMER ST

Reach	River Sta	Length Chnl	Q Total	E.G. Elev	W.S. Elev	Vel Head	Frctn Loss	C & E Loss	Q Left	Q Channel	Q Right	Top Width
		(ft)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft)
Woodland	3.3	480	10530	44.99	44.92	0.07	0.60	0.00		10530.0		1783.7
Woodland	3.3	480	900	42.59	42.57	0.01	0.78	0.00		900.0		1577.6
Woodland	3.2	340	10530	44.39	44.29	0.10	0.43	0.00		10247.0	283.0	1537.0
Woodland	3.2	340	900	41.80	41.78	0.02	0.86	0.00		892.0	8.0	870.0
Woodland	3.1	360	10530	43.96	43.87	0.09	0.29	0.01		10523.1	6.9	1349.5
Woodland	3.1	360	900	40.94	40.91	0.03	0.30	0.01		900.0		1178.3
Woodland	3	450	10530	43.68	43.60	0.07	0.45	0.01	23.8	10506.2		2280.0
Woodland	3	450	900	40.63	40.63	0.01	0.36	0.00		900.0		1617.8
Woodland	2.2	530	10530	43.21	43.09	0.12	0.52	0.02	35.0	10495.0		2150.0
Woodland	2.2	530	900	40.27	40.23	0.04	0.55	0.01		900.0		987.5
Woodland	2.1	750	10530	42.67	42.61	0.06	1.36	0.09	276.3	10222.9	30.7	2130.0
Woodland	2.1	750	900	39.71	39.70	0.01	1.12	0.02		900.0		1694.3
Woodland	2	350	10530	41.22	40.25	0.97	2.08	0.25	1.0	10529.0		2106.6
Woodland	2	350	900	38.57	38.31	0.26	1.56	0.07		900.0		1835.2
Woodland	1.2	320	10530	37.81	37.68	0.13	1.10	0.00		8839.4	1690.6	2172.0
Woodland	1.2	320	900	36.00	35.99	0.01	0.85	0.00		771.3	128.7	2099.2
Woodland	1.1	670	10530	36.70	36.54	0.16	2.16	0.03		7522.6	3007.4	2813.1
Woodland	1.1	670	900	35.15	35.12	0.03	2.40	0.00		416.0	484.0	2427.1
Woodland	1		10530	34.52	34.44	0.08				10530.0		3368.3
Woodland	1		900	32.74	32.72	0.02				900.0		2169.5

HEC-RAS Plan: Plan 08 River: Cache cr Overflo Reach: Woodland

Reach	River Sta	Length Chnl	Q Total	E.G. Elev	W.S. Elev	Vel Head	Frctn Loss	C & E Loss	Q Left	Q Channel	Q Right	Top Width
		(ft)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft)
Woodland	22	1200	5100	88.88	88.70	0.18	4.60	0.04		5100.0		2279.5
Woodland	22	1200	5100	88.88	88.70	0.18	4.60	0.04		5100.0		2279.6
Woodland	21	1330	8075	84.24	84.20	0.04	3.51	0.00		8075.0		5382.4
Woodland	21	1330	8075	84.24	84.20	0.04	3.51	0.00		8075.0		5382.4
Woodland	20	1160	8075	80.73	80.67	0.05	2.39	0.01		8075.0		4666.6
Woodland	20	1160	8075	80.73	80.67	0.05	2.39	0.01		8075.0		4666.6
Woodland	19	900	8075	78.33	78.30	0.03	1.68	0.00		8075.0		4979.2
Woodland	19	900	8075	78.33	78.30	0.03	1.68	0.00		8075.0		4979.2
Woodland	18	1780	20670	76.65	76.60	0.05	3.80	0.00	1.4	20668.6		10140.3
Woodland	18	1780	20670	76.65	76.60	0.05	3.80	0.00	1.4	20668.6		10140.3
Woodland	17	1060	20670	72.84	72.79	0.05	1.33	0.00		20670.0		9961.6
Woodland	17	1060	20670	72.84	72.79	0.05	1.33	0.00		20670.0		9961.6
Woodland	16	920	20670	71.50	71.47	0.03	0.60	0.00		20669.8	0.2	12877.0
Woodland	16	920	20670	71.50	71.47	0.03	0.60	0.00		20669.8	0.2	12877.0
Woodland	15	1450	20670	70.90	70.87	0.02	1.36	0.01	4.5	20665.3	0.2	14583.3
Woodland	15	1450	20670	70.90	70.87	0.02	1.36	0.01	4.5	20665.3	0.2	14583.3
Woodland	14	1850	20670	69.53	69.44	0.09	4.75	0.00	363.7	20306.3		10630.4
Woodland	14	1850	20670	69.53	69.44	0.09	4.75	0.00	363.9	20306.1		10632.6
Woodland	13	2660	20670	64.77	64.65	0.13	4.30	0.01	4.1	20665.9		7206.0
Woodland	13	2660	20670	64.77	64.65	0.13	4.30	0.01	4.1	20665.9		7207.2
Woodland	12	1350	20670	60.46	60.38	0.08	0.86	0.01	58.2	20608.8	3.0	5709.8
Woodland	12	1350	20670	60.46	60.38	0.08	0.86	0.01	58.2	20608.8	3.0	5708.4
Woodland	11	1520	20670	59.59	59.54	0.05	1.19	0.01		20668.3	1.7	5868.6
Woodland	11	1520	20670	59.59	59.53	0.05	1.20	0.01		20668.3	1.7	5867.2
Woodland	10	1250	17200	58.39	58.37	0.02	3.33	0.01		17200.0	0.0	5435.2
Woodland	10	1250	17200	58.38	58.36	0.02	3.28	0.01		17200.0	0.0	5431.6
Woodland	9	1810	17200	55.06	54.98	0.08	1.85	0.02		17199.4	0.6	4196.2
Woodland	9	1810	17200	55.09	55.02	0.07	2.07	0.02		17199.4	0.6	4213.2
Woodland	8	1900	17090	53.20	53.18	0.02	0.73	0.00	88.2	17001.8		4493.2
Woodland	8	1900	17090	53.01	52.99	0.02	0.88	0.00	71.5	17018.5		4463.8
Woodland	7	1670	17090	52.47	52.45	0.02	0.61	0.00	32.7	17057.3		2956.3
Woodland	7	1670	17090	52.13	52.11	0.02	0.85	0.00	22.8	17067.2		2910.7
Woodland	6.3	650	17090	51.86	51.83	0.02	0.15	0.00	905.3	15418.1	766.6	5377.9
Woodland	6.3	650	17090	51.28	51.24	0.03	0.22	0.01	582.3	15857.7	650.0	5106.7
Woodland	6	100	17090	51.71	51.70	0.01	0.03	0.02	8041.0	8991.3	57.7	3975.3
Woodland	6	100	16490	51.05	51.04	0.01	0.04	0.02	8053.6	8417.9	18.5	3857.4
Woodland	5.95	330	17090	51.66	51.49	0.17			236.7	15854.0	999.3	3684.3
Woodland	5.95	330	16490	51.00	50.81	0.19			218.8	15422.1	849.1	3547.1
Woodland	5.90	Culvert										
Woodland	5.85	250	17090	50.62	50.43	0.19	0.28	0.07	219.6	15591.9	1278.5	3507.7
Woodland	5.85	250	16490	49.63	49.38	0.25	0.51	0.07	195.3	15395.5	899.2	3398.7
Woodland	5.6	900	17090	50.28	50.18	0.09	0.90	0.01	2429.3	11678.2	2982.5	3582.1
Woodland	5.6	900	16490	49.05	48.90	0.15	1.91	0.04	2401.8	11906.0	2162.2	3400.2
Woodland	5	1040	11120	49.36	49.31	0.05	2.19	0.02		10992.6	127.4	2748.5
Woodland	5	1040	1000	47.10	47.09	0.01	1.85	0.01		1000.0		1208.0
Woodland	4.1	900	10530	47.16	46.90	0.25	1.71	0.06		10530.0		1755.3
Woodland	4.1	900	900	45.25	45.14	0.11	2.08	0.03		900.0		482.9
Woodland	4	430	10530	45.38	45.33	0.05	0.39	0.00		10530.0		2642.2
Woodland	4	430	900	43.13	43.12	0.01	0.55	0.00		900.0		2107.6

HEC-RAS SUMMARY

W/ CULVERT AT REAMER

APPENDIX E

Reach	River Sta	Length Chnl	Q Total	E.G. Elev	W.S. Elev	Vel Head	Frctn Loss	C & E Loss	Q Left	Q Channel	Q Right	Top Width
		(ft)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft)
Woodland	3.3	480	10530	44.99	44.92	0.07	0.60	0.00		10530.0		1783.7
Woodland	3.3	480	900	42.59	42.57	0.01	0.78	0.00		900.0		1577.6
Woodland	3.2	340	10530	44.39	44.29	0.10	0.43	0.00		10247.0	283.0	1537.0
Woodland	3.2	340	900	41.80	41.78	0.02	0.86	0.00		892.0	8.0	870.0
Woodland	3.1	360	10530	43.96	43.87	0.09	0.29	0.01		10523.1	6.9	1349.5
Woodland	3.1	360	900	40.94	40.91	0.03	0.30	0.01		900.0		1178.3
Woodland	3	450	10530	43.66	43.60	0.07	0.45	0.01	23.8	10506.2		2280.0
Woodland	3	450	900	40.63	40.63	0.01	0.36	0.00		900.0		1617.8
Woodland	2.2	530	10530	43.21	43.09	0.12	0.52	0.02	35.0	10495.0		2150.0
Woodland	2.2	530	900	40.27	40.23	0.04	0.55	0.01		900.0		987.5
Woodland	2.1	750	10530	42.67	42.61	0.06	1.36	0.09	276.3	10222.9	30.7	2130.0
Woodland	2.1	750	900	39.71	39.70	0.01	1.12	0.02		900.0		1694.3
Woodland	2	350	10530	41.22	40.25	0.97	2.08	0.25	1.0	10529.0		2106.6
Woodland	2	350	900	38.57	38.31	0.26	1.58	0.07		900.0		1835.2
Woodland	1.2	320	10530	37.81	37.68	0.13	1.10	0.00		8839.4	1690.6	2172.0
Woodland	1.2	320	900	36.00	35.99	0.01	0.85	0.00		771.3	128.7	2099.2
Woodland	1.1	670	10530	36.70	36.54	0.16	2.16	0.03		7522.6	3007.4	2813.1
Woodland	1.1	670	900	35.15	35.12	0.03	2.40	0.00		416.0	484.0	2427.1
Woodland	1		10530	34.52	34.44	0.08				10530.0		3368.3
Woodland	1		900	32.74	32.72	0.02				900.0		2169.5

HEC-RAS Plan: Plan Bridge River: Cache Cr Overflo Reach: Woodland

Reach	River Sta	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Ch Sta L	Ch Sta R	W.S. Elev
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
Woodland	22	10	2289	2280	0	2750	88.7
Woodland	21	138	5520	5382	0	6230	84.2
Woodland	20	2432	7099	4667	400	7960	80.7
Woodland	19	2426	8462	4979	0	8980	78.3
Woodland	18	63	11500	10140	70	12020	76.6
Woodland	17	56	10542	9962	0	10900	72.8
Woodland	16	459	13770	12877	400	7500	71.5
Woodland	15	17	14600	14583	40	7630	70.9
Woodland	14	0	11866	10633	100	4810	69.4
Woodland	13	50	8783	7207	65	4265	64.6
Woodland	12	54	5762	5708	70	2750	60.4
Woodland	11	64	5931	5867	20	2700	59.5
Woodland	10	41	5472	5431	20	5430	58.4
Woodland	9	0	4217	4217	0	3340	55.0
Woodland	8	2	4609	4608	180	4690	53.9
Woodland	7	0	3898	3898	50	2990	53.5
Woodland	6.3	0	6460	6460	1700	5380	53.3
Woodland	6	0	4255	4255	0	3670	53.2
Woodland	5.95	0	3700	3700	570	1270	53.1
Woodland	5.9	Bridge					
Woodland	5.85	0	3616	3488	570	1270	50.2
Woodland	5.6	0	3613	3483	570	1270	49.7
Woodland	5	62	1270	1208	60	2670	47.1
Woodland	4.1	57	540	483	0	1820	45.1
Woodland	4	53	2160	2108	20	2270	43.1
Woodland	3.3	77	1749	1578	0	1810	42.6
Woodland	3.2	184	1604	870	130	1565	41.8
Woodland	3.1	188	1366	1178	120	1460	40.9
Woodland	3	158	1776	1618	140	1470	40.6
Woodland	2.2	211	2138	987	120	1900	40.2
Woodland	2.1	185	2032	1694	140	1520	39.7
Woodland	2	925	2760	1835	660	1780	38.3
Woodland	1.2	188	2291	2099	140	1460	36.0
Woodland	1.1	176	2644	2427	140	1500	35.1
Woodland	1	959	3128	2170	0	3400	32.7

City of Woodland

COMMUNITY DEVELOPMENT DEPARTMENT 300 FIRST STREET WOODLAND, CALIFORNIA 95695 (530) 661-5820
FAX (530) 661-5844

July 12, 1999

Mr. Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate
Federal Emergency Management Agency
500 C Street, S.W.
Washington, D. C.20472

RE: Project ID 175A City of Woodland Preliminary Flood Insurance Study and FIRM & TOC Request to Move Land Out of Proposed 100 Year Floodplain

Dear Matthew:

This letter is being prepared on behalf of the developers of the Turn of the Century (TOC) project, a 403-acre residential development south of Woodland, which is part of a 1,096-acre specific plan area. A portion of the 403 acres controlled by TOC is shown on the preliminary FIRM prepared by FEMA as being located in the AE Zone Special Flood Hazard Area (SFHA). In early 1999 TOC filed an appeal of the September 1998 Preliminary Flood Insurance Study and FIRM prepared for the City of Woodland. Their consultant, Patrick Stiehr of Watermark Engineering, had prepared an analysis, which indicated that their project should not be included in the AE Zone.

The City of Woodland has been advised by TOC that FEMA will consider removing the AE Zone designation from the TOC project provided the City supports FEMA looking at the property separately and makes the request. Please accept this letter as making the request. The City of Woodland has not objections to FEMA reviewing the TOC property separately from the existing City Limits.

If you have any questions please contact Associate Planner Ron Pinegar at 530/661-5824.

Sincerely yours,

Don Fleming
Interim Community Development Director

7-9-99 Ltr FEMA M. Miller, TOC Req

Watermark Engineering, Inc.

TECHNICAL MEMORANDUM

March 29, 1999

To: Gary Wegener, City of Woodland; Linda Frazer, Turn of the Century

From: Patrick L. Stiehr, P.E. PLS

RE: Technical Review and Appeal of Preliminary Flood Insurance Study, City of Woodland, CA

INTRODUCTION

I have been requested by Turn of the Century (TOC) to provide a technical review of the Preliminary Flood Insueance Study (PFIS). My experience related to FEMA and Flood Insurance Studies (FIS) include project manager for flood studies for Stanislaus, Merced and Siskiyou Counties and the 16 cities within those counties while working for the US Geological Survey, Sacramento District Office. I also completed FIS for Tucson and Pima County, AZ while working for the USGS at the Tucson office. Subsequent to these studies, I was the project manager and engineer for the FIS for Albuquerque, Bernallilo County and six surrounding communities while working for a private engineering firm in Albuquerque, NM.

The following information is provided to FEMA as the basis of appeal to remove a small area from the 100-year flood zone as shown on the flood map of the PFIS. This appeal is directed specifically at the south boundary of the 100-year floodplain in the vicinity of Road 102. The flood boundary shown on the FIS flood map is much farther south compared to two other studies. The analysis used to define the south boundary should be reviewed and revised based on information provided by the Corps of Engineers, presented in the Murray Burns and Kienlen study and presented in this Technical Memorandum.

The information used to evaluate the PFIS was as follows.

1. USGS 7 ½ min topographic quadrangle maps Woodland 1952, Photo revised 1981 and Grays Bend 1953, Photo revised 1968 and 1975
2. US Army Corps of Engineers Reconnaissance Report, Westside Tributaries to Yolo Bypass, CA, June 1994.
3. Review of Preliminary Flood Insurance Study for City of Woodland, March 1999 by Murray, Burns and Kienlen.
4. Electronic copy of HEC-1 file used by the Study Contractor. Electronic copy of HEC-2 file for right overbank flooding used by the Study Contractor.

7250 Auburn Blvd., Suite H Citrus Heights, CA 95610

5. Two foot contour mapping at 1"=200ft, produced by Airborne Systems, Inc., 25 sheets dated June 1997 used by the Study Contractor.
6. Topographical mapping for the subject property (dated 1/98) and proposed land used exhibits provided by the property owner.

The TOC property is bounded on the north by Gibson Road and on the west by County Road 102. Figure 1 shows the location of the property and the approximate location of the 100 year flood boundary as presented in the PFIS, the Corps of Engineers Reconnaissance Report (COE Report), and the Murray Burns and Kienlen Study (MBK Study) The northwest portion to the TOC property is shown within the 100-year floodplain per the PFIS. This is different compared to the COE and MBK analyses.

The COE Report indicated shallow flooding would extend about 2,000 feet south of I-5 at Road 102. The MBK Study indicated shallow flooding would extend about 1,800 feet south of I-5 at Road 102. The PFIS shows the 100-year floodplain would extend nearly 11,000 feet south of I-5 at Road 102. There appears little or no justification for the significantly wider floodplain.

HYDROLOGY

The first review was to estimate the expected ponding depth that would occur as a result of the right bank overflow. Cache Creek overflow would sheet flow generally southeast, ponding on the west side of the Yolo Bypass levee and north of the Willow Slough levee. Based on the USGS quad maps, the Willow Slough levee is at elevation 33. The maximum ponded water surface elevation (WSEL) at this location would be 33, at which time, overtopping would occur. The two reasons to include this information are to estimate the maximum downstream WSEL that could occur as a result of ponding and to estimate the maximum storage volume available to contain the 100-year flood volume.

Table 1 shows the storage available by section to elevation 33. The total storage is estimated to be about 30,000 acre-feet (af). Depths would range up to 12 feet over an area of about 4700 acres.

Table 1. Storage Volume Northwest of Yolo Bypass and Willow Slough Levees

Township /Range	Section ID	Area (acres)	Average Elev. (USGS topo- ft)	Depth of Pond (to elev. 33- ft)	Storage (acre-feet)
T9NR3E	5	180	24	9	1620
"	6	640	25	8	5120
T9NR2E	1	640	27	6	3840
"	2	640	30.5	2.5	1600
"	11	120	30	3	360
	12	170	27.5	5.5	940
T10NR3E	32	50	21	12	600
	31	640	22	11	7040
T10NR2E	36	640	24	9	5760
"	35	480	29	4	1920
"	26	480	30	3	1440
Total		4,680			30,240

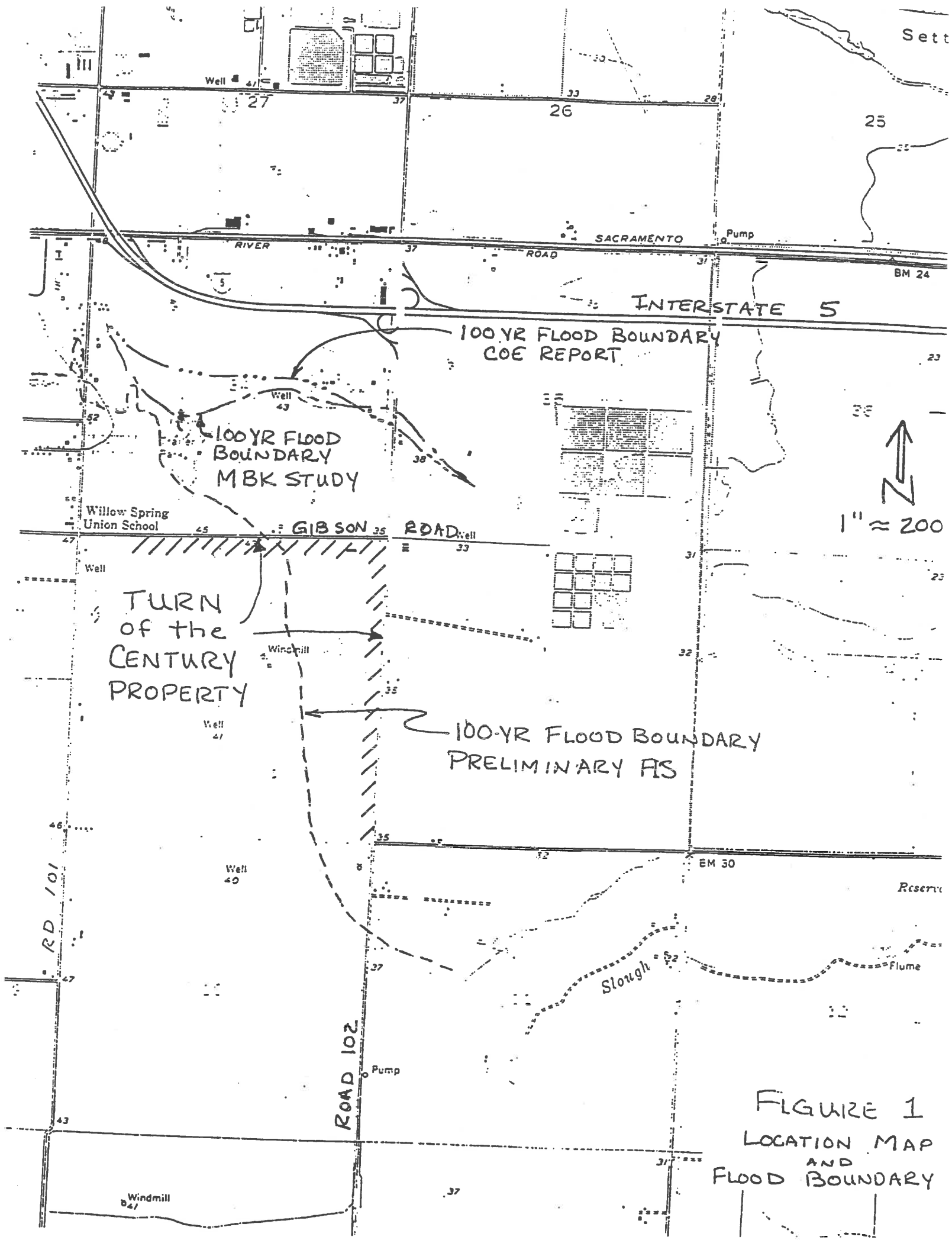


FIGURE 1
LOCATION MAP
AND
FLOOD BOUNDARY

Page 17 of the COE report indicates "Since stream reaches are short and channel gradients to steep, peak flood flows usually pass completely through the basins within a 24 hour period." Chart 8 of Appendix B of the Hydrology Report shows the 100-year flood hydrograph as prepared by the COE, shown here as Figure 2. The width of the triangular hydrograph at 40,000 cfs is about 26 hours, which is consistent with the page 17 comment.

The Study Contractor had about 20,700 cfs overflow on the right bank from a total flow of about 60,600 cfs. Using 40,000 cfs as the base flow that would remain in the channel, the computed overbank volume using the COE hydrograph would be approximately 23,000 af. This rough estimate indicates there is more storage available compared to runoff volume. As a result, the expected maximum ponded water surface elevation at the levees would be in the vicinity of elevation 32 or less. Based on this information, the downstream starting water surface elevation for the HEC-2 step backwater analysis would be at normal depth or at elevation 32 because of the backwater and ponding behind the Yolo Bypass and Willow Slough.

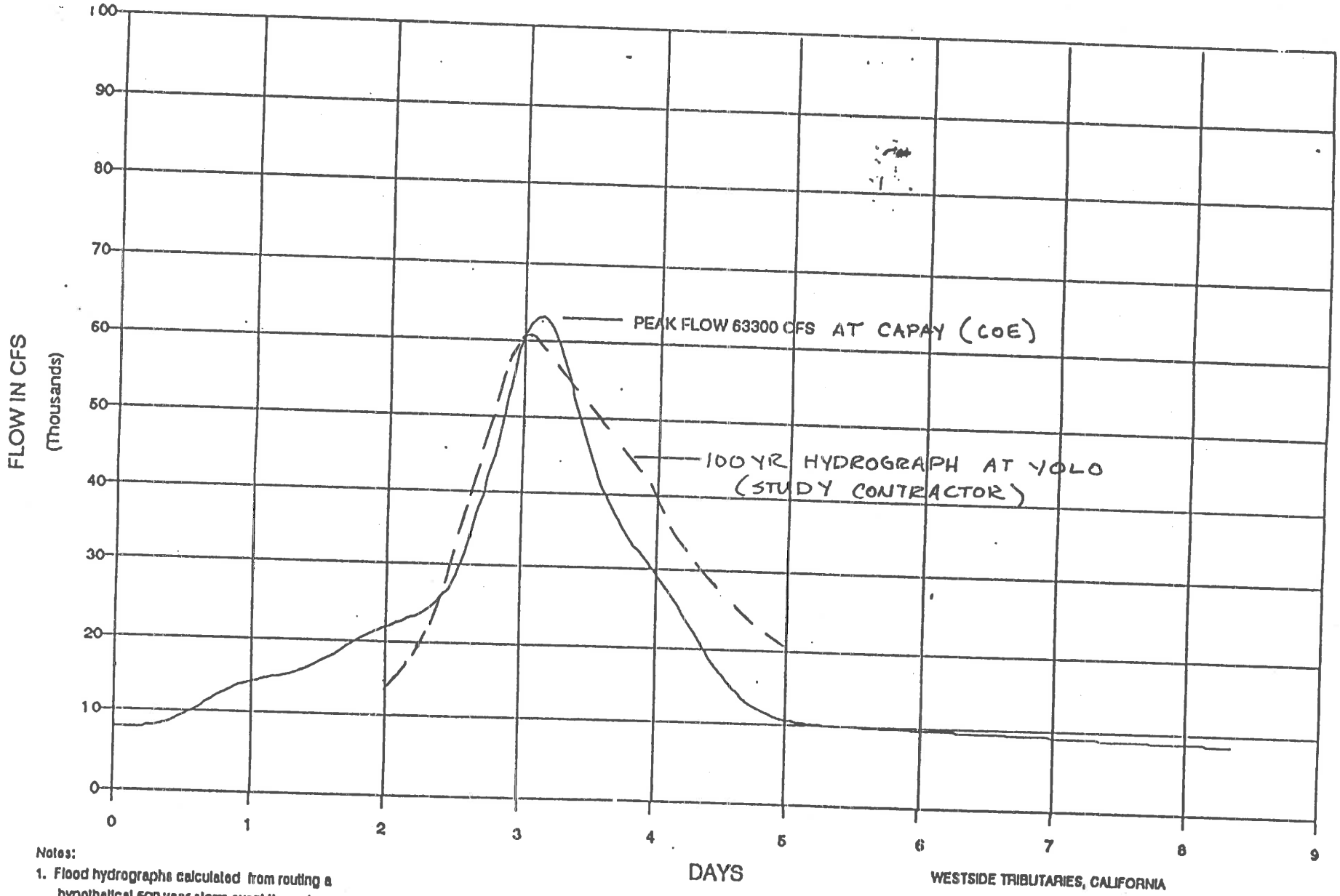
Information available from the HEC-1 file from the Study Contractor indicated the flood hydrograph would occur over a longer time interval, about 34 hours above 40,000 cfs. The study Contractor apparently determined the COE hydrology needed to be revised. As part of this appeal, we would like the opportunity to review the basis of the revisions to the HEC-1 model developed by the COE and why the base of the hydrograph was widened significantly. Generally, extreme floods are more the result of higher rainfall intensities, not longer duration rainstorms. Corresponding hydrographs show a vertical increase but do not show a significant horizontal increase as proposed by the PFIS.

TOPOGRAPHIC MAPPING

A second issue not fully addressed in this analysis is the accuracy of the topographical information. Based on the discussion presented in the MBK study, there are apparent discrepancies among the sources of topographic data and there are discrepancies between field surveys and the topographic mapping. Also, it was pointed out that all of the topographic data should have been referenced to NAVD 88.

Accurate topographic data is essential to accurate modeling of overbank flow. Known problems concerning the topography should be resolved prior to finalizing the F.I.S.

An additional concern is that the topographic information did not cover the entire area shown to be in the 100-year flood plain. This problem is discussed further in the HEC-2 analysis.



Notes:

1. Flood hydrographs calculated from routing a hypothetical 500 year storm event through a calibrated HEC-1 rainfall runoff model.

WESTSIDE TRIBUTARIES, CALIFORNIA

CACHE CREEK AT CAPAY
100 YEAR FLOOD HYDROGRAPH
INDEX. 10:

CORPS OF ENGINEERS, SACRAMENTO, CALIFORNIA
Prepared: G.C.M. Date: 20 JUNE 1993
Drawn: G.C.M. File : CAPAYHY.WQ1

FIGURE

CHART 7

HEC-2 ANALYSIS

Breakout Analysis

There is a significant discussion presented by MBK Study concerning the HEC-2 analysis completed by the Study Contractor (SC). Their analysis indicated less breakout flow compared to the estimate made by the SC (14,400 cfs versus 20,700 cfs).

MBK indicated the reason their estimated breakout flow was less than calculated by the Study Contractor was that the SC HEC-2 model was not calibrated accurately to the March 1995 event. As a result, the higher water surface elevations computed by the SC model generated larger overbank flows. We have not reviewed this portion of the analysis by either the SC or MBK but do support MBK analysis considering it was calibrated more accurately to the March 1995 event.

Diversion Over I-5

The MBK Study indicated a higher portion of the flow would pass under I-5, resulting in less flow at Road 102 south of I-5 compared to the estimates prepared by the SC. The main reason was the SC did not include the State Highway 113 (H113) embankment. A cursory review of the topographic mapping indicates H113 embankment represents a significant hydraulic barrier. It is over 100 feet wide and at least several feet above adjacent ground. This barrier would tend to increase upstream water levels, thereby generating greater head for passing water across I-5 and reducing flows south of I-5.

The I-5 embankment was considered a significant hydraulic barrier and each opening was modeled or analyzed by the SC to estimate diverted flow. However, the H113 embankment was ignored completely. Unless there are compelling reasons to do otherwise, the HEC-2 analysis used for the PFIS needs to be revised to include the H113 embankment.

Total Flow Estimates

Another comment in the MBK report was that the Study Contractor computed the sum of the breakout flow and the Cache Creek channel flow to be greater that than the total hydrograph flow. This apparent inconsistency was not reviewed in this analysis but must be reviewed and corrected as appropriate.

Downstream Sections

A detailed review was made of the five downstream cross-sections of the HEC-2 analysis, mainly because this is the area related to the flooding shown on the TOC property. Except for about 600 cfs diverted across I-5, downstream of Section 5, the SC shows 10,530 cfs overflow through these downstream 5 sections. If less overflow occurs along this reach as a result of revisions to the model, then there is even less likelihood of

shallow flooding across the subject property. However, this discussion is based on the flow estimates computed by the SC.

Looking at the flood map and the limits of flooding along the south side of I-5, west of Road 102, it appears that the overflow is traveling generally in a southeast direction. Based on that observation, the cross-sections should be aligned perpendicular to the flow path. The selected cross-sections are oriented north south and do not appear to be perpendicular to the flow path.

Based on the topography available on the USGS quad maps, the north-south cross-sections show lower elevations to the south. Using a level water surface across these misaligned sections, greater depths and conveyance are shown to the south (right bank). The depth of the 100-year flood is greater than would be expected from widespread shallow flooding on sheetflow and greater than in most of the other sections.

To minimize or artificially reduce the conveyance of the right banks of these cross-sections, the SC used an n value of 100 for the right bank areas. Table 2 shows the distribution of flow, area and top width within the first 5 sections of the HEC-2 analysis. The left bank portion of the section has insignificant flow and is not included in the table.

Table 2- HEC-2 Summary

Section ID	Main Channel			Right Bank			Total Flow (cfs)
	Flow (cfs)	Area (sq ft)	Top Width (feet)	Flow (cfs)	Area (sq ft)	Top Width (feet)	
1	10527	5275	3362	3	5734	7346	10530
2	10507	1295	650	21	4330	1450	10530
3	10528	8001	2160	2	2315	540	10530
4	10528	5336	2230	2	2140	1128	10530
5	11120	4405	2586	0.4	592	730	11120

It can be readily seen from Table 2 that virtually all of the water is within the main channel portion of the cross-section. It can also be seen that the right bank has large flow areas over wide areas and virtually no moving water. The extreme n value was used to represent ponded or ineffective flow areas. The model indicates there is substantial ponded water along the right bank but the model also indicates that water cannot flow to the south because of the ineffective flow areas.

By using an unrealistic n value, the model is generating mutually exclusive results. It shows substantial flooding within the right bank portion of the cross-section yet there is no flow and no way for the water to move to the south.

There are several additional concerns with Section 2. The width of the section used in the HEC-2 analysis is 2260 feet. The cross-sections extend from I-5 south to about 1800 feet north of Gibson Road. The southern 1450 feet of the section is within the right bank portion of the section and conveys only 21 cfs because of the extreme roughness coefficient used in the analysis. The flood boundary at Section 2 extends an additional 8700 feet to the south beyond the end of the topographic information and beyond the limit of Section 2 used in the HEC-2 analysis.

The flood boundary expands from an average width of 3,000 feet to nearly 11,000 feet in an east-west distance of about 1800 feet. Based on the HEC-2 model, only 21 cfs is available to fill this vast area to depths greater that 2 feet. Physically, there is little or no water available to travel south as shown on the preliminary flood map.

A last comment is that the main channel velocity shown in Section 2 is 8.1 feet per second (fps). Except for Section 2, the velocities average from 1.1 to 2.8 fps with most sections having an average velocity of about 2 fps. The energy equation was not balanced at Section 2 and critical depth had to be assumed by the model. This section should have been reviewed and revised just because it yielded results inconsistent with the other sections. Additional sections would have also helped.

There are several reasons why the downstream portion of the HEC-2 analysis needs to be revised. Backwater ponding from the Yolo Bypass and Willow Creek levees would not extend west of Road 102. The limits of flooding along the south side of the overflow area would not expand as rapidly as shown in the vicinity of Road 102. The flood boundary travels almost parallel to the contours. The hydraulic conditions that could cause this to happen is a hydraulic barrier that would cause ponding or a large inflow that would require additional conveyance. Neither of these conditions occur at this location, especially the inflow.

The southern flood boundary at Section 2 is not consistent with the HEC-2 analysis. It is over 8,000 feet south of the detailed mapping and 8,000 feet south of the end of Section 2. It appears the boundary was estimated based on the assumptions made at Section 1 and then connected to Section 3. A closer look at the physical layout at Road 102 is necessary to accurately define the floodplain. Extending the floodplain limit south through an existing development is contrary to the assumptions of ineffective flow area and the HEC-2 results.

Please call if there are questions or you need additional information concerning this review of the preliminary FIS.

REGISTERED PROFESSIONAL ENGINEER
PATRICK L. STIEHR
No. 28296
Exp. 3-02
CIVIL
STATE OF CALIFORNIA

City of Woodland

CITY MANAGER 300 FIRST STREET WOODLAND, CALIFORNIA 95695 (916) 661-
FAX (916) 661-

April 2, 1999

VIA FEDEX

Mr. Frederick H. Sharrocks, Chief
Hazard Identification Branch
Federal Emergency Management Agency
Mitigation Directorate
500 C Street, S.W.
Washington, D.C. 20472

Re: Appeal of the Draft Flood Insurance Study and Flood Insurance Rate Map for the City of Woodland, Yolo County, California

Dear Mr. Sharrocks:

The City of Woodland (the "City") herewith transmits its appeal to the proposed Flood Insurance Study ("FIS") and Flood Insurance Rate Maps ("FIRM") (hereinafter jointly referred to as the "FEMA Study"). The appeal is submitted pursuant to 42 U.S.C. section 4104 and 44 C.F.R. part. 67. The appeal provides substantial evidence that technical and scientific errors render the FEMA Study defective.

The enclosed appeal was prepared with the assistance of Mr. Scott A. Morris, P.E., a civil engineer and an attorney with the law firm of Kronick, Moskovitz, Tiedemann & Girard, in Sacramento, California. The City also engaged the services of Murray, Burns & Kienlen ("MBK"), Consulting Civil Engineers, to assist City staff in reviewing the FEMA Study for scientific and technical errors. As presented in our appeal, MBK and the City staff found numerous, significant technical errors in the HEC-2 computer model predicting water surface elevations, as well as technical and scientific errors in the topographic and survey information.

The FEMA Study uses an uncalibrated hydraulic model to route flood flows in Cache Creek, improperly analyzes the weir impacts of major roadway sections, and is based on inadequate topographic work. The proper calibration of the model results in a 30% reduction in the overbank flows of Cache Creek, which are the source of flooding in the City. Weir impacts on the roadways

significantly change the flood routing and limits of the floodplain. Topographic inconsistencies significantly complicate the validation of the model work and subsequent application of the resulting base flood elevations. Thus, implementation of the FEMA Study as it now stands by the Administrator of the Federal Emergency Management Agency ("FEMA") would constitute an arbitrary and capricious action subject to judicial reversal. Therefore, the City respectfully requests that the FEMA Administrator correct the scientific and technical errors, re-study the Cache Creek area within the entire City limits, and re-submit a revised FEMA Study for public review.

The City is particularly troubled by the apparent lack of communication with the City regarding the "approximate methods" study of the City east of Interstate 5. That area of the City is currently under development, and is slated for additional major development in the near future. Therefore, that area deserves being evaluated in detail. FEMA's own "Guidelines and Specifications for Study Contractors," confirm this. Despite numerous letters between the City and FEMA, requesting this area be included and studied in detail, this did not occur. Frankly, the City was shocked to discover the proposed FIRM depicting this area of the City as an "A-Zone" for which no detailed study occurred. As the correspondence indicates, the City even offered to assist financially in undertaking a detailed study, but was assured by FEMA that this was not necessary. Moreover, FEMA had indicated this portion of the City would be studied in detail when funds were received from Congress. In other words, the City expected either a full, detailed study of the area east of Interstate 5, or in the alternative, a phased FIS and FIRM providing a detailed analysis of the City west of Interstate 5 followed by a detailed study east of Interstate 5 once funds were received from Congress. Thus, it is inappropriate to promulgate the A-Zone east of Interstate 5 at this time. No change in the existing FIRM for that area should be implemented until after a detailed study has been completed.

The City is committed to protecting its citizens and property from flooding from Cache Creek. However, the City needs time to address this costly major problem. The City Council recently passed Resolution No. 4115, committing to cost-share a $2.5 million feasibility study with the U. S. Army Corps of Engineers (the "Corps") to identify a project to provide at least 100-year flood protection for the City. In addition, City representatives have just returned from a trip to Washington, D.C., seeking expedited congressional support to add funding to the Corps' budget to begin the feasibility study. The City is committed to cost-share with the Corps to provide upgraded flood protection to the City. However, preliminary estimates place the cost of the project between $24 million and $84 million. Given the fact that the proposed FEMA Study would virtually end all new commercial and industrial development within the City (estimated at $45 million a year in new construction, 1,200 new jobs per year, and $500,000 in new property taxes annually), the City must act to provide upgraded flood protection.

The scientific and technical errors presented in the appeal demand a thorough review of the appeal issues before issuing FIRMs west of Interstate 5. Moreover, FEMA's lack of coordination with the City regarding the FEMA Study east of Interstate 5 requires FEMA to continue using the existing FIRM designations for the land east of Interstate 5 until a detailed FIS can be completed. Our staff and consultants are available to meet with you to resolve these issues. In the event the Administrator determines that this appeal cannot be resolved through consultation with the City and its consultants, we respectfully request that the appeal be submitted to an independent scientific body, or

appropriate federal agency. In the alternative, the City requests the administrator of FEMA to hold an administrative hearing, pursuant to 44 C.F.R. Part 68. In the event you wish to discuss this matter further, please do not hesitate to contact me directly at the telephone number listed above, Mr. Richard Kirkwood, City Manager (530) 661-5800 or Mr. Gary Wegener, Public Works Director for the City. Mr. Wegener may be reached at (530) 661-5961. Thank you for your attention to this important matter.

Very truly yours,

Richard Kirkwood
City Manager

cc: Congressman Ose
State Senator Johannessen
Assemblywoman Thomson
Yolo County Board of Supervisors

Enclosures

I.
INTRODUCTION

The City of Woodland ("the City" or "Woodland") hereby appeals the proposed, revised preliminary Flood Insurance Study ("FIS") and the revised Flood Insurance Rate Map ("FIRM") for Woodland. This appeal is submitted pursuant to 42 U.S.C. section 4104 and 44 C.F.R. part 67. This appeal provides technical and scientific data showing that the proposed determinations by the administrator of the Federal Emergency Management Agency ("FEMA") contain errors and needs revisions. While the City endeavored to present a complete appeal package, the statutory 90-day appeal period is far too short to provide a thorough appeal of a study that took years to complete. This is particularly true since much of the data requested for review was not provided until a substantial portion of the appeal period had expired. Therefore, the City reserves the right to supplement this appeal with additional data should it become available.

This appeal is divided into several sections. The first section identifies and discusses scientific and technical errors in the Study Contractors' ("SC") hydrologic and hydraulic modeling methods. The next section presents scientific and technical errors in the topographic and surveying data used by the SC. The appeal then presents an analysis of why FEMA and the SC erred in not completing a detailed analysis of the most active development area within the City – the area east of Interstate 5. Finally, the City received several appeal letters from interested parties. Reviews of those appeals show that they have merit and should be considered by FEMA. Therefore, the contents of those appeals are incorporated by reference into this appeal document. Those appeals are presented in their entirety in Exhibit 21.

To prosecute this appeal, the City engaged the services of Murray, Burns &

Kienlen ("MBK"), Consulting Civil Engineers, to review the SC's work and the resulting FIS. The MBK study was generally limited to the area west of Interstate 5 and concentrated on problems with the SC's HEC-2 Water Surface Elevation computer model. MBK found numerous significant technical errors in the HEC-2 model used to produce the proposed FIS and FIRM for the City. In addition, a review of other technical and scientific data, such as topographic and survey information, confirms other errors in the proposed FIS and FIRM. Therefore, pursuant to 44 C.F.R. section 67.8, the City respectfully requests the administrator to review and take into account the technical and scientific data submitted by the City and to revise the proposed FIS and FIRM accordingly.

II.
SUMMARY OF APPEAL

There are a number of significant technical and scientific flaws in the preliminary FIS and preliminary FIRM, which result in inaccurate Base Flood Elevations ("BFE") and flood plain boundaries. This appeal specifically demonstrates that these flaws have resulted in incorrect BFEs and flood plain boundaries proposed for the City. Moreover, the SC's failure to follow established FEMA procedures in the development and use of technical and scientific data results in a flawed proposed FIS and FIRM for the City. These significant errors include the following:

- **Scientific and Technical Errors in the Hydrologic and Hydraulic Modeling**
    - The HEC-2 model was not properly calibrated
    - The starting water surface elevation in the HEC-2 model was too high
    - The SC selected Mannings n roughness coefficients that were too high
    - The HEC-2 model failed to consider the impacts of roadways

- The SC overestimated the base flood peak flow
- The SC overestimated the volume of the base flood hydrograph
- The shallow flooding modeling for the City is erroneous
- The SC improperly mapped the limits of the floodplain and base flood elevations

- **Scientific and technical errors in topographic and survey data**
  - The FIS and FIRM are based on erroneous topographic data
  - The SC failed to use the most current topographic survey
  - The reference marks used to complete the FIS and FIRM are inadequate
  - Vertical control is not shown
  - The SC and FEMA failed to adjust the topographic datum to NAVD 88

- **FEMA was required to undertake a detailed study for the area of the City under development east of Interestate 5**

III.
HYDROLOGIC AND HYDRAULIC MODELING SCIENTIFIC AND TECHNICAL ERRORS

The SC conducted a so-called detailed analysis for the proposed FIS and FIRM within the City limits west of Interstate 5. The primary tools used by the SC were an HEC-1 Rainfall Runoff model and an HEC-2 Water Surface Elevation model. While use of these tools is appropriate for developing the FIS and the FIRM, significant technical and scientific errors produced erroneous results from the modeling. Moreover, the accuracy of these models is highly dependent on the accuracy of the topographic and survey data input into the models. As will be presented below it is abundantly clear that significant errors call into question the accuracy of the proposed FIS and FIRM for the City of Woodland. Thus, the Administrator should not

implement the FIS or FIRM until these errors have been corrected.

A. Improper Calibration of HEC-2 Model

It is well known that to correctly model water surface elevations through computer modeling, the first step is to calibrate the model. HEC-2 is no exception. Without proper calibration, an HEC-2 model can produce erroneous water surface elevations. There is no evidence that the SC calibrated the HEC-2 model to known water surface elevations. However, there was accurate water surface elevation data available from the Yolo gage located just upstream from the start of the model. The SC should have calibrated the HEC-2 model to match existing known elevations for specific flows at the Yolo gage. In contrast, the City's consultant, MBK, calibrated its HEC-2 model to the known flood peak occurring on March 9, 1995.

As an initial check, MBK used an estimated flow of 52,420 in the SC's model to check the results at the Yolo gage. The observed peak stage at the Yolo gage for that event was 85.37, which equates to 81.5, using the SC's topographic data. However, the SC's HEC-2 model (CACHE 04.0.DAT) calculated a stage of 82.2 feet at the Yolo gage. Thus, the SC's HEC-2 model over-estimates the water surface elevation. (MBK Report, p. 5.)

Based on the fact that the SC's HEC-2 model was over-estimating water surface elevations, MBK re-calibrated the SC's HEC-2 model to match the observed peak stage at Yolo for the March 9, 1995 flood event. This calibration effort included revising the starting water surface elevation, reviewing and changing where appropriate Mannings n-values and adjusting weir flow links and weir elevations used by SC. The re-calibrated model was also checked with known high-water marks established during the March 1995 flood event.[1] The fact that the SC

[1] The known 1995 flood events were transmitted to the SC by a December 4, 1996 transmittal letter from Mr. Gary Wegener, Public Works Director for the City, to Ms. Lisa Vomero, A&M Consultants (Exhibit 2).

failed to calibrate the HEC-2 model is a serious technical flaw. This flaw resulted in over-estimated water surface elevations, which in turn over-estimated over-bank flooding from Cache Creek. The over-estimation of flows spilling overland into the City has the result of incorrectly placing parts of the City in the regulatory flood plain, as well as over-estimating the BFEs for those areas. This significant technical error must be rectified by the administrator and the proposed FIS and FIRM corrected.

B. Improper Downstream Starting Water Surface Elevation in HEC-2 Model

As just presented, the failure of the SC to calibrate the HEC-2 model had the effect of over-estimating water surface elevations. Compounding that error was an improper starting water surface elevation in the HEC-2 model. The FEMA "Flood Insurance Study Guidelines and Specifications for Study Contractors, January 1995" (hereinafter referred to as "FEMA Guidelines and Specifications") states that:

> In general, the starting water surface elevation chosen for profile computations should be based on normal depth (or slope-area), unless known water surface elevations are available from other sources. When using normal depth on the mainstream, the model should be started several cross-sections downstream of the corporate limits.

(FEMA Guidelines and Specifications, Ch.5, D.3, p. 5-7.)

The SC used the slope-area method for the starting water surface elevation and correctly began the model approximately three miles downstream from the detailed study limits. The FEMA Guidelines and Specifications state that this is an acceptable method, unless known water surface elevations are available from other sources. As just presented, known water surface elevations were available from both the Yolo gage and information given to the SC by the City. Since this information existed, the starting water surface elevation should have been developed

from that information and not the slope-area method. This error results in an over-estimation of the starting water surface elevation of almost one foot. This difference in elevation has a significant impact on the out-of-bank flood flows entering the City and the base flood elevations ("BFEs"). Therefore, this error must be corrected before the administrator can implement the revised FIS and FIRM.

C. Improper Mannings n Roughness Values

Mannings' equation is an integral of predicting the water surface elevations in any HEC-2 model. Thus, correctly estimating roughness coefficients is critical to modeling accurate water surface elevations. The FEMA Guidelines and Specifications states that

> Roughness coefficients for use in backwater computations should be carefully estimated by experienced engineers. The estimates should include the consideration that roughness may vary with flood stages, depending on such factors as the width-to-depth ratio of streams, vegetation in the channel and overbanks, and materials of a channel bed. Whenever possible, hydraulic models should be calibrated using measured profiles, estimated profiles, with reliable high-water marks of past floods. Models should match known high-water marks within 0.5 foot. The SC should not calibrate the data that results in roughness coefficients out of the realm of observed conditions. If such data are lacking, or are out of date, the roughness coefficients should be determined by field inspection of the channel and floodplain. It is extremely important that roughness coefficients in the overbank areas be selected to carefully represent the effective flow in those areas. There is a general tendency to overestimate the amount of flow occurring in overbank areas, particularly in broad, flat floodplains. These roughness coefficients define ineffective flow areas must be clearly documented in the FIS.

(FEMA Guidelines and Specifications, Ch. 5-A, p. 5-1.)

The FEMA Guidelines and Specifications also state that: "Roughness coefficients in the model should reflect existing conditions and should be verified by field reconnaissance and backwater studies of observed floods." (FEMA Guidelines and Specifications Ch. 5, C.1, p. 5-

5.) The SC's improper selection of Mannings' roughness coefficients resulted in erroneously high water surface elevations (see discussion regarding HEC-2 calibration above). While the SC conducted field reconnaissance studies to estimate the n-value, it failed to conduct backwater studies of observed floods as required by the FEMA Guidelines and Specifications. The MBK analysis lowered n-values within the Cache Creek channel so that the water surface elevation in the HEC-2 model matched the observed March 9, 1995 flood event. The MBK Report concludes that in a typical channel, n-values range from 0.03 to 0.05 in channels and 0.05 to 0.07 in overbank areas. However, the SC used an enormous n-value of 100 in residential areas that SC believed to be ponded areas or ineffective flow areas. MBK concluded it was better to insert X-3 cards into the HEC-2 model and lower the n-value to a more reasonable level of 0.100. After calibration, the effect of these n-value changes in the X-3 card was to remove ponded areas from flooding, unless the calculated water surface elevations would actually allow the 100-year flood flow into these areas. (MBK Report, p. 14.)

The U.S. Army Corps of Engineers' (the "Corps") Westside Tributary to Yolo Bypass Reconnaissance Report (June 1994) estimated the overbank n-values to range from 0.03 to 0.06, whereas channel n-values ranged from 0.035 to 0.056. In addition, the Corps used an n-value of 0.07 for urban areas and 0.04 for rural, nondeveloped areas for flow where floodwaters left the natural channel. (U.S. Army Corps of Engineers Westside Tributary to Yolo Bypass Reconnaissance Report, June 1994, Basis of Design and Cost Estimates Appendix (Appendix C), p 16.) The Corps' n-values are more closely aligned to those used by MBK. The administrator should require correction of the Mannings n roughness coefficient and re-calculation of the water surface elevations and subsequent revised via fees before implementing the new FIS and FIRM.

D. Failure to Consider Significant Effects of Roadways Within the HEC-2 Model

The selection of cross sections and topographical features is critical for the modeling of water surface elevations in any HEC-2 model. The SC's HEC-2 model failed to include several roadways. The SC offered no basis for not modeling the roadways. The only conceivable reasoning could be that the SC believes the roadways should be treated as levees with inadequate free-board and removed from the model. However, this rationale is not applicable for roadways. While the roadways will be overtopped during significant flood events, they still act to attenuate the flow and hold back water, thereby lowering the water surface elevations. The MBK Report concluded that the critical roads were hydraulic control points and should have been included in the HEC-2 model. This is particularly true for Highway 113, near Interstate 5, which has a high embankment with only two openings that flood water can pass through. (MBK Report, p. 13.) To account for the roads, MBK added an additional six cross sections to the HEC-2 model. (MBK Report, p. 18.) While the addition of these cross sections did increase water surface elevations just upstream of the respective section; however, the overall effect was to significantly decrease the water surface elevation over the majority of the City. Table 8 in the MBK Report identifies how the water surface elevation decreases in various HEC-2 model scenarios. As can be seen in the last column of Table 8, the overall effect is significantly lower water surface elevations within the City. (MBK Report, Table 8, p. 15.)

E. Overestimation of Base Flood Value at the Yolo Gage

Correct estimation of the base flood at Yolo is critical for calculating water surface elevations in Woodland. The SC evaluated hydrology studies from the Corps that developedHEC-1 rainfall-runoff models concentrated on upstream Cache Creek gages at Capay and Rumsey. Those reports estimated the following peak flows for the base (100-year) flood:

Corps of Engineers
Base Flood Estimations[2]

Gage	*Base Flood (cfs) 1994 Corps Report*	*Base Flood (cfs) 1995 Corps Report*
Rumsey	58,000	62,000
Capay	62,000	61,000

However, historic peak flow between the Capay and Yolo gage show that flows attenuate between the gages. The following table illustrates this.

Historic Peak Flows
At Capay and Yolo Gages
Cache Creek, California[3]

Gage	*24/25 Feb 58*	*23 Dec 64*	*5/6 Jan 65*	*24 Jan 70*
Capay	51,600	32,400	44,500	36,200
Yolo	41,400	26,200	37,800	34,600
% Attenuation	19.77	23.84	15.06	4.42

[2] Based on Table 6e, U.S. Army Corps of Engineers Hydrology Report for Cache Creek, august 1995 (Appendix B of December 1995 Cache Creek Environmental Restoration Reconnaissance Report.
[3] Based on Table 4e of above Report.

The table above shows that attenuation of flow between the gages can be significant. However, the SC simply dismissed the Yolo gage and decided to use essentially the same flow that occurs at Capay as the base flow in the HEC-2 model, even though the HEC-2 model begins very near the Yolo Gage. This decision is difficult to justify, given the fact that the Yolo gage has a much longer record than Capay. Even FEMA seemed to question this. A July 22, 1997 memorandum from Karl Mohr (Exhibit 3), the FEMA official reviewing the SC's Hydrology Report. Mr. Mohr discussed several problems. Mr. Mohr noted that tradition log-Pearson Type III frequency analysis based on actual data indicated a base flood of 60,600 cfs at Capay, and 54,900 cfs at Yolo. This represents 9.41% attenuation between the gages and is more in line with historical observations. The FEMA memorandum noted that the SC chose not to use the Yolo data because of "inconsistent data readings", yet in the FEMA analysis the inconsistencies were easily dealt with in Mr. Mohr's analysis. What is particularly disturbing is that despite FEMA's obvious shortcomings with the SC's analysis, FEMA actually approved the use of the overestimated base flood anyway. FEMA approved the SC's value of 60,600 cfs – the same base flood value the SC calculated for the Capay gage. The FEMA memorandum merely stated:

> The estimated of 60,600 cfs for the base flood is significantly higher than the effective discharge of 43,000 cfs used for the 1979 FIS for the City of Woodland. The justification for the increase in base flood discharge is the occurrence of major floods in 1983, 1986, and 1995. In summary, the base flood discharge of 60,600 cfs recommended by A&M Consultants for the study reach seems reasonable.

(Memorandum dated July 22, 1997 from Karl Mohr (FEMA Mitigation Directorate) to Les Sakumoto (FEMA Region IX), page 3)

It is impossible to reconcile this conclusion with the rest of the memorandum. Perhaps

the only reason for the approval is that the study was well underway by the time approval was given.

A contact report memorializing a call with Mr. Lee Fredrickson, P.E. of Borcalli Associates dated November 11, 1996 (Exhibit 4) calls into question the SC's quick dismissal of the Yolo gage. Mr. Fredrickson indicated that in his opinion, the Yolo gage was better than Capay. This is significant, because Mr. Fredrickson was responsible for modifying the HEC-2 model developed for the Corps that the SC adopted.

Further evidence that the SC's base flood estimate is too high can be found in the Corps' 1994 "Westside Tributaries to Yolo Bypass Reconnaissance Report". In Appendix C, the Basis of Design, Table 2 contains estimated peak flows for Cache Creek (Corps 1994 Report, Appendix C, p. 26). That table estimates that approximately 32,200 cfs of flow remains in the channel at Yolo for the 100-year event. The report recognizes that flow escapes the channel, and estimates this amount to be about 15,300 cfs for the 100-year event (*id* at 25). Added together, this equals a flow of approximately 47,500 cfs.

The impacts of overestimating the base flood event are significant, particularly if the overestimation approaches 20 percent. An overestimation of the base flood would result in an overestimation of flows leaving Cache Creek and entering the City, thus resulting in BFEs that are too high. While the City acknowledges the base flood can not be estimated with absolute certainty, the analysis presented in the proposed FIS is questionable and needs significant reanalysis. Thus, the City requests a reevaluation and development of a more realistic base flood event to be used for modeling purposes.

F. <u>The Base Flood Hydrograph used in the FIS Overestimates Flood Volume</u>

The City received an appeal from Watermark Engineering, Inc. on behalf of Turn of the

Century development. That appeal is presented in its entirety (Exhibit 5). The City has reviewed that appeal and adopts it in its entirety, and thus, incorporates it by reference within this appeal. Watermark Engineering questions the SC's base flood volume (Watermark memorandum, p. 3 and Figure 2), and requests an opportunity to review the basis for the hydrograph volume. The City joins in that criticism and request to review the flood volume data.

G. The Shallow Flooding Modeling Through the City of Woodland is Erroneous

The shallow flooding through the City originates from overflow from Cache Creek, and must be correctly accounted for and modeled to develop accurate BFEs. However, the SC made several critical errors in modeling the shallow flows through the City. Before discussing those errors specifically, it must be pointed out that the numerous errors already discussed will also contribute substantial errors to the shallow flooding models. For example, errors in the starting water surface elevation or overestimation of roughness coefficients in the HEC-2 allow more flow to escape overbank from Cache Creek to flood Woodland. Likewise, overestimation of the peak flood value and volume direct more water into the City in the SC's models than should occur. These additional errors discussed below compound the other errors.

1. The FIS Model Overestimates the Breakout Flow From Cache Creek

Both the MBK Report and the Corps 1994 Westside Tributaries Reconnaissance Report have significantly lower estimates of flow breaking out of bank from Cache Creek towards Woodland. The MBK Report estimates a maximum breakout flow of 14,377 cfs (MBK Report, p. 5), and the Corps 1994 report estimates this amount to be 15,300 cfs (Corps 1994 Report, Appendix C, p. 25). In contrast, the SC model had a breakout flow of 20,670 cfs, substantially greater than both the Corps and MBK estimates. The MBK Report details the reasons for the SC's modeling errors, including setting the starting water surface elevation too

high, topographic errors causing overflow to occur in the wrong place, and roughness coefficients that were set too high. (MBK Report, pp. 4-5). The MBK Report Tables 1-6 detail the breakout flow analysis differences between the MBK and SC HEC-2 models. Of particular note, is the fact that the SC model split flow, when combined equals 64,965 cfs and has a breakout flow of 22,635 cfs when both the left and right levees are kept in place without failure (*id.* Table 2, p.7).

2. The SC's "Hydraulic Balancing" Methodology Is Unsubstantiated and Erroneous

The normal procedure for modeling breakout flows with HEC-2 is through utilization of the model's split flow capabilities. However, for some reason, the SC did not utilize this common method. Instead, he developed his own methodology and called it his "hydraulic balancing" methodology. Evidently, the SC did numerous HEC-2 model iterations until the model was able to reach the same water surface elevation in Cache Creek at the breakout location. There is no scientific basis for this method. The fact is the modeling of any number of variables, such as flow, n-value, topography, etc., would enable the SC to obtain a matching water surface elevation at the flow breakout area. This methodology likely contributed to the overestimation of the flow split. The SC provided no backup information or data to justify or illustrate the "hydraulic balancing" methodology he employed. The FEMA Guidelines and Specifications require backup information on any unusual modeling techniques.

In contrast, the MBK Report used traditional split flow modeling and a weir equation at the appropriate locations along Cache Creek to model the breakout flows. The MBK model resulted in lower breakout flows and a more confined shallow flooding area. The MBK procedure is far superior to that of the SC and should be utilized for the FIS and FIRMs.

Therefore, the Administrator should require recalculation of the BFEs within the City using a more conventional split flow hydraulic modeling analysis.

H. Improper Floodplain Mapping and BFEs

The final result of the compounding of errors is the improper delineation of the floodplain and base flood elevations within the City. The MBK Report contains a revised floodplain based on a more reasonable HEC-2 modeling effort. (MBK Report, Fig. 5.) The cross section information generated by the MBK HEC-2 model can be used to approximate BFEs based on that modeling and topography.

In addition, the Watermark Engineering Report notes that the floodplain in the turn-of-the-century area is excessive and unjustifiable. Through a study of storage volumes calculations, that report concludes that the 100-year-flood boundary on the proposed FIRM is much too large and should be no greater than the 100-year-flood boundary listed in the 1994 Corps report or the MBK Report. In addition, the Watermark Engineering Report points out that cross section information should be aligned perpendicular to the flow path. However, the SC's base map did not do this.

The FIRM and the BFEs are the heart of good floodplain management. Unfortunately, the proposed FIRM does not serve this purpose, due to its many errors. Thus, implementation of the FIRM and BFEs should be withheld until the details of this appeal are resolved.

IV.
TOPOGRAPHIC AND SURVEY SCIENTIFIC AND TECHINICAL ERORS

A. Use of Erroneous Topographic Data

The importance of accurate topographic data has already been explained in this appeal. Without accurate topographic data, it is impossible to accurately predict the water surface elevation from an HEC-2 model. However, there are numerous problems with the base

topographic maps used by the SC. These errors range from not using the latest topographic mapping available, to errors in the aerial surveys that were only "smoothed over," because of the great impact of the proposed FIS and FIRM to the City. Reliance on inaccurate topography is unacceptable. There is strong evidence that although the SC and FEMA were aware of the problems, concerns about budgetary constraints and cost overruns prevented the correction of the topographic errors. The FEMA Guidelines and Specifications highlight the importance of accurate survey information. That document states :

> For each flooding source to be studied in detail where an existing hydraulic analysis is either unavailable, outdated, or must be supplemented, the SC shall identify or establish necessary elevation reference marks (ERMs), obtain channel and floodplain cross sections, and obtain the physical dimensions of hydraulic structures. The SC must exercise particular care in areas subject to land subsidance, to ensure that ground elevation data obtained or developed in the course of this study are based on the most recent benchmark data as provided by the National Geodetic Survey or other authoritative source. It is recommended that existing ERM values be verified.

(FEMA Guidelines and Specifications, Ch. 3, D, p. 3-2.)

In fact, surveying information is so important, it occupies a 36-page appendix in the FEMA Guidelines and Specifications. Despite this importance, both the SC and FEMA chose to ignore scientific and technical errors in the survey data and complete the FIS and FIRM study based on erroneous data, rather than pay the extra cost of correcting the problems. Considering the high negative economic impacts on the City, resulting from erroneous BFEs, this is wholly unacceptable. Several significant errors and concerns relating to topographic surveying will be discussed below.

B. Failure to Use the Most Current Topographic Survey

The SC compiled a digital topographic map at a scale of 1 inch = 200 feet in contour

intervals of 2 feet. The datum for the survey is NGVD 29. However, the survey was compiled from several unrelated sources, including and Yolo County's 1995 Aerial Survey of Cache Creek, GPS Field Surveying Methods, and Supplemental Aerial Photography. The problem of establishing a correct base map was significant enough for the SC to generate Special Problem Report No. 2 (Exhibit 6). Evidently, on November 13, 1996, FEMA requested the use of 1996 aerial mapping for the FIS base map. This prompted significant discussion over which set of mapping should be used. According to special Problem Report No. 2, the SC was recommending the use of 1994 maps as purportedly agreed to in its scope of work. A second option included using 1995 mapping. Using those maps would show changes resulting from the significant March 9, 1995 storm event. However, this would require the SC to pay "an additional $105.00." The third option would be to use 1996 data, splicing in additional information from 1995 and/or 1994 to fill in upstream missing portions of the study area. This option required additional cost and conversion to generate one continuous map. Ultimately, FEMA and the SC decided to use the 1995 maps as base maps. However, based on an April 14, 1997 memorandum from Les Sakumoto, FEMA Project Officer, to A&M Consultants, FEMA was not happy with that decision. FEMA made it clear that if the SC had:

> taken the time to do a more thorough job of coordination with the community, [SC] would have found out that aerial flights were being scheduled on a yearly basis (1995 and 1996). At the same time it would have behooved [SC] not to have determined the format, coverage and cost for the data. To say that these items are not in the original scope of work is not a correct statement. These items are all the SC's responsibility. A&M was given a more than ample amount of time to verify this information . . . . If additional monies are required, we will reduce the scope of work to have the project fit within the allocated budget.

(Memorandum from Les Sakumoto, P.E. to A&M Consultants, dated 14 April 1997 (Exhibit 7.)

It is obvious that FEMA was not pleased with having to use outdated topographic maps with questionable benchmarks for the study. Nonetheless, it is also clear that FEMA was more concerned about staying within budget than having an accurate topographic map from which to work.

C. Inadequacy of the Reference Marks

As stated above, the FEMA Guidelines and Specifications indicated how critical accurate reference marks are to completion of a FIS and FIRM. However, it was apparent early on in the study that there were problems with the benchmarks. The problem was significant enough for the SC to generate Special Problem Report No. 1 (Exhibit 8). The SC discovered that

> during the analysis of the vertical components, the GPS control network by our land surveys subcontractor AEI, a discrepancy was discovered between the elevations published for the benchmarks across the site of the new mapping covered by the City of Woodland. . . . The easterly and westerly benchmarks are internally consistent within their respective areas; however, in combining both areas together, the vertical discrepancy arises. The result of this discrepancy would cause the ground elevation in the easterly portion of the mapping to be approximately one foot lower than would be indicated by using the published benchmark elevations.

(SPR 01, Exhibit 8.)

In other words, it was impossible to confirm the elevations of the ERMs as required by the FEMA Guidelines and Specifications. To resolve this problem, the SC presented several options. Option one recommended holding the westerly benchmark as fixed, letting the other pair of benchmarks 'float.' The SC noted, however, that this would cause the other benchmarks to display a one-foot vertical discrepancy. The second option required additional survey work in order to assess the vertical discrepancies for the benchmarks based on published NAVD 88 benchmarks, tying into the high-precision network of California. The SC noted that option two

would require substantial survey work effort and extra costs.

As will be discussed, the FEMA Guidelines and Specifications indicate it was appropriate to readjust the datum to NAVD 88 as recommended by the SC's option two. Once again, however, FEMA opted for the cheap way out, proceeded with option one, and completed a FIS and FIRM with inaccurate data. In a memorandum dated April 14, 1997, regarding Special Problem Report No. 1, to the SC, Les Sakumoto bitterly complained about study costs, and ordered the SC to use the western benchmarks, allowing the other data to "float." That memorandum stated:

> The performance time for this contract will be extended by the five months that it took to get back to you on this matter. As was verbally mentioned to your firm in November 1996, no additional costs will be granted. Vertical adjustments are procedures that are not uncommon to the industry. Therefore, it is felt that this type of cost should have been factored into any survey contract. It is our opinion that these costs are between you and your subcontractor. The community will be notified of the adjustments after the project has been reviewed by the TEC.

(Memorandum from Les Sakumoto, to A&M Consultants, dated 14 April 1997, Exhibit 9.)

The memorandum went on to express surprise that a special project report would be generated for this matter and that FEMA would have to be involved in such a decision. Finally, the memorandum concludes that

> We would also like to take this opportunity to reiterate a point that was stressed during the negotiations. We do not have any additional funds for this project. If cost overruns are incurred, we will reduce the scope of the project to fit the existing funds. If you cannot complete this project within the negotiated contract amount, then you should notify us immediately and we will take the appropriate action.

(Memorandum from Les Sakumoto, to A&M Consultants, dated 14 April 1997, Exhibit 9.)

It is clear from FEMA's position that it is more concerned about cost of the study than

accuracy of the data. It is even more disturbing that the memorandum states that the community will be notified *after* the project has been reviewed by the TEC, one of the final activities undertaken before a draft FIRM and FIS are completed. This is particularly disturbing, since the City offered on numerous occasions to assist in the cost of surveys to ensure accurate data would be provided. As early as September 9, 1996, Woodland's Mayor wrote the Regional Director of FEMA Region IX, stating the importance of accurate contour maps, because

> Having updated FIRMs is important to our decision-making process. Additionally, it is important that the updated FIRMs be based on accurate, detailed topographic data. We feel that new contour maps with a 2-foot interval are required, given the relatively flat topography in and around the City.

(Letter to Ms. Shirley Mattingly, dated September 9, 1996, from Elaine Rominger, Mayor of Woodland (Exhibit 10).)

In response to that letter, FEMA replied that:

> We know that the City had contemplated funding part of the survey costs, but this will not be necessary and the money saved by the City can be applied toward any public works or flood control measures that you had considered cost-sharing with the Corps of Engineers.

(Letter to Mayor Rominger, from Dorothy M. Lacey (signed by John W. Eldridge), dated October 16, 1996 (Exhibit 11).)

This letter was followed by another letter to Mr. Les Sakumoto of FEMA, from the City Manager, Kris Kristensen, dated April 30, 1996 (Exhibit 12). That letter reiterated the request of new 2-foot contours, because "2-foot contours are considered critical because of the relatively flat topography and shallow depth of flooding projected in recent Corps of Engineers Westside Tributaries Reconnaissance Study." *(Id.)* The letter, again, indicates that the local entities may desire to assist with the survey costs. In response, Mr. Sakumoto replied:

> FEMA does not require funding from any local source in order to do a flood insurance re-study. But we will accept any existing

> information that is available if it will reduce the overall cost of the study. Community funding has even enabled us to enlarge the scope of some of our re-studies. FEMA will also accept partial funding of portions of a re-study, such as surveys, if the communities are willing to contribute.

(Letter to Kris Kristensen, from Les Sakumoto, dated May 22, 1996 (Exhibit 13).)

On May 29, 1997, Mr. Gary Wegener, Public Works Director of the City, was in contact with the SC by telephone and requested a cost estimate for additional mapping outside the current FEMA scope of work. (A&M Consultants Flood Insurance Contact Report, dated 5/29/97 (Exhibit 14).)

It is obvious from the aforementioned letters and documents that the City was ready, willing and able to contribute to ensure that accurate topography would be generated for the FIRM and FIS. The City was well aware of the importance of accurate topography and the severe impacts a new FIRM could have on the local economy. Despite this generous offer, FEMA did not accept any assistance from the City for accurate surveys. It is also clear that the façade FEMA put forth to the City was substantially different than that put forward to the SC. To the City FEMA indicated that it did not need financial assistance in compiling topography data, whereas, when the SC requested additional funds to conduct an accurate survey, FEMA came down hard and basically threatened the SC into accepting questionable topography data.

The FEMA Guidelines and Specifications require the SC to use the best available maps. Unfortunately, the SC's attempt to use the best maps was frustrated by FEMA itself. Because FEMA was reluctant to spend the money necessary to do a correct topographic study, it is passing the burden of inaccurate topography on to the City. The effect in economic terms is immense to the City - far greater than any cost of re-surveying that would be required. This cannot be allowed to stand. FEMA must authorize re-establishment of new and accurate ERMs

to the NAVD 88 standard, development of new and accurate topography based on these benchmarks and new hydraulic modeling that will provide accurate BFEs for the community.

D. Vertical Control Is Not Shown

As previously stated, the FIS indicates the topographic maps were compiled from various sources. It does not cite how the various aerial surveys and topographic work done by a sub-consultant to the SC was reconciled and tied together with the other various contour maps. In other words, what was the common vertical control point for the project? Given the subsidance in the area, the importance of adequate vertical control due to the overall flat nature of the study area, it is critical that common vertical control points be used to relate to separate surveys. In fact, the FEMA Guidelines and Specifications require the vertical control network to be properly tied to a national geodetic service primary benchmark (FEMA Guidelines and Specifications, Ch. 3.D, p. 3-2). However, the FIS failed to explain how the vertical control throughout the study area was achieved. Therefore, the FIS should be revised to state exactly how vertical control was achieved throughout the study area, particularly given the fact that various different mapping sources were used.

E. Peer Review of the Aerial Mapping and Surveying Is Warranted

Given the apparent lack of quality control related to the designation and use of the reference marks, there is a significant lack of confidence within the community relative to the aerial mapping, resulting flood zone designations and base flood elevations. Therefore, it is strongly recommended that an independent peer review of the vertical control aerial mapping and survey work be completed before the FIS and FIRM are finalized. This process is specifically allowed for in FEMA's regulations. 44 C.F.R. section 67.8(b) states that:

> The Administrator shall resolve such appeal by consultation with officials of the local government, or by administrative hearings under the procedures set forth in Part 68 of this subchapter <u>or by submission of the conflicting data to an independent scientific body or appropriate federal agency for advice</u>.

(44 C.F.R. § 67.8(b), emphasis added.)

F. <u>Failure to Adequately Adjust Topographic Datum to NAVD 88</u>

The previous portions of this appeal set forth significant errors in the topographic and survey information. However, this dispute could have been largely avoided if FEMA and the SC had only followed their own guidelines and converted the datum to NAVD 88. The MBK Report reviewed the FEMA Guidelines and Specifications, Appendix 6, and determined that the FIS topographic data should have been converted to NAVD 88. The MBK Report noted that the datum used for the FIS was NGVD 29 and that the survey was compiled from various sources, including Yolo County's 1995 Aerial Survey of Cache Creek, GPS Data and Conventional Methods. MBK reviewed the FEMA Guidelines and Specifications policy for making transitions to NAVD 88 for FIS restudies and concluded that the NAVD 88conversion should have been made (MBK Report, pages 2-3). Given the extreme importance of accurate topographical data for establishing the BFEs for the City, the significant economic impacts of erroneous BFEs, and the problems already discussed with the reference marks, baseline maps and topography, there is no question FEMA should have used the opportunity to convert to NAVD 88 to correct all of these problems. Not doing calls into question the integrity of the topographic information. The only way to correct the situation now is to redo the topography to NAVD 88 standards.

V.
<u>FEMA WAS REQUIRED TO UNDERTAKE A DETAILED STUDY FOR THE AREA OF THE CITY EAST OF INTERSTATE 5</u>

As just discussed, a well prepared FIS, FIRM and BFEs are critical to a

community's ability to adequately regulate development in potentially flood-prone areas. To ensure this occurs, FEMA makes it clear that the SC is to conduct detailed studies for areas that have existing and projected floodplain development pressures. The FEMA Guidelines and Specifications state

> In general, the decision to utilize one study method over another is based on existing and projected floodplain development pressures; flood hazard determinations for flooding sources that affect developing areas should be based on detailed studies when possible.

(FEMA Guidelines and Specifications, Ch. 2A, p. 2-1.)

Developing areas are defined as:

> Areas where industrial, commercial or residential growth is beginning and/or where subdivision is underway and where these trends are likely to continue. They include areas that are likely to be developed within five years following the completion of the study.

(FEMA Guidelines and Specifications, Ch. 2A, p. 2-1.)

In the case of the City, the area east of Interstate 5 is the primary development area within the community. This information was relayed to FEMA and the SC time and time again, but was ignored. It is unconscionable that FEMA would attempt to implement an A-zone in the City's primary development area with virtually no detailed study at all. But this is exactly what FEMA is attempting to do.

The record is replete with requests from the City to undertake a detailed study for areas within the eastern portion of Interstate 5. At the very start of the FIS and FIRM study, FEMA Region IX sent a letter containing conflicting information. (FEMA Region IX letter, dated October 16, 1996, to the Mayor of the City (Exhibit 11).) The letter contains conflicting information on exactly what the proposed re-study boundaries would be. Enclosure 1 to that

letter is a draft announcement to be published in the newspaper. That announcement states only that FEMA "will fund a detailed study of the flood hazard areas in the City of Woodland, California." However, enclosure 2 of that same letter states: "The total scope of the re-study will encompass Cache Creek and any overflow areas from Capay Dam to Interstate 5. The coverage of the City of Woodland can be approximated by the areas west of Interstate 5 and south of Cache Creek." As a result of that letter, the City Manager of the City sent a letter to FEMA Region IX, on November 19, 1996 (Exhibit 15). The purpose of that letter was to inform FEMA that the City's urban line limit and developable areas included areas east of Interstate 5. The letter included maps depicting the City's urban limit line and referenced that information to the existing FIRM. To make doubly sure the area east of Interstate 5 was included, Mr. Gary Wegener, Director of Public Works for the City, sent a letter on November 22, 1996 (Exhibit 16) to the SC including maps depicting the urban growth limit from the City's general plan, clearly showing the area east of Interstate 5. The letter closes with the statement that:

> It is my understanding that you will be doing FIRM map updates to the Woodland panel for the area north of Main Street and west of I-5. Les Sakumoto is also sending us information on the scope. We will be seeking clarification on why the entire area within the urban limits can't be included.

(Wegener letter, dated November 22, 1996, p. 2.)

Mr. Wegener sent another letter on February 27, 1997 (Exhibit 17) discussing the same issue. In that letter, Mr. Wegener references a discussion with Mr. Ray Lendburg (sic) of FEMA, whereby Mr. Lenaburg assured Mr. Wegener that "FEMA's intent is to route the 100-year flood flows through the City, and if areas in addition to that currently in the scope of work need to be added, there was a process for doing that (I believe he referred to it as a special

problem report funding)." (Wegener letter, dated February 27, 1997, p. 1.) Again, on June 3, 1997, Mr. Wegener wrote Ray Lenaburg of FEMA Region IX (Exhibit 18) stating once again of the need to "expand the scope to fully route identified flows through the City." (Wegener letter, dated June 3, 1997.) Finally, it appeared that a compromise had been reached. On December 17, 1997, Mr. Wegener sent a letter to Mr. Lenaburg in FEMA Region IX (Exhibit 19) reiterating a discussion with Les Sakumoto of FEMA. That letter states:

> [Mr. Sakumoto] informs me that the FIRM update for Woodland is going to be done in two parts. The first part is basically the land west of interstate highway I-5 affected by the flooding from Cache Creek upstream of I-5. He stated the preliminary FIRM would be forwarded for 'second level review' next quarter and likely ready around October 1998 for agency . . . review. . . . For information, this process started with an October 31, 1995 kickoff meeting in Yolo County. It was our understanding that the entire FIRM was to be updated. Now it is apparent that only a portion of the panel will be updated and the manner in which the rest of the incorporated area will be addressed in this revision is unclear. . . . Mr. Sakumoto also stated that the second phase of the study (Cache Creek flows from the I-5 crossing downstream to the Cache Creek settling basin) is in preliminary budget submittal and would likely be moved up to allow starting in the federal fiscal year beginning October 2000.

(Wegener letter, dated December 17, 1997, p. 1.)

In addition to the extensive letter writing, the record also includes several FIS contact reports prepared by the SC. These include contact reports dated November 15, 1996, December 1, 1996, December 16, 1996 (two), December 17, 1996 and February 25, 1997 (collectively found in Exhibit 20). Those contact reports make it clear in no uncertain terms that the City wanted detailed studies to be done within the entire City limits and planned expansion areas. Thus, it is easy to see why the City was shocked to see that after all the coordination efforts on its part, the proposed FIRM and FIS included an A-zone for the areas east of Interstate

5, because the SC and FEMA failed to perform a detailed study. The importance of this area to the City's future is immense. This area was not only under development in 1995, but it was, and is, slated for additional major developments. This area is the primary development area within the City. The proposed FIS and FIRM would virtually end all development within the City. Development in this area is estimated at $45 million a year in new construction, 1,200 new jobs per year, and $500,000 in new property taxes annually. The fact that FEMA did not undertake a detailed study of this area is totally unacceptable. This is particularly problematic, given the cost-cutting overtones presented previously in this appeal. It seems clear that FEMA is willing to destroy the City's future merely because it was too cheap to fund a detailed study. Even this excuse is poor, since it is also clear that the City had been ready, willing and able to assist financially in expanding the study to that area. Instead, the City was told

> The study will be funded entirely by the Federal Insurance Administration and will begin during the month of October 1996. We know that the City had contemplated funding part of the survey costs, but this will not be necessary, and the money saved by the City can be applied toward any public works or flood control measures that you had considered cost-sharing with the Corps of Engineers.

(Letter from FEMA Region IX, dated October 16, 1996, to Mayor Elaine Rominger (Exhibit 11).)

Instead of having a valuable floodplain management tool, as it had hoped, the City now finds itself in the worst possible situation. The most valuable part of the City in development terms is now proposed to be placed in an undefined A-zone. This cannot be allowed to stand. The Administrator must require FEMA to undertake a detailed study of this area before implementing any changes to the FIRM that is presently in place. Only after a

detailed study has been completed, complete with BFEs, should the existing FIRM for that area be changed.

VI.
PROPERTY OWNER OR LESSEE APPEALS

Pursuant to 44 C.F.R. Part 67.5, the City received several appeals from owners or lessees of real property affected by the proposed FIS and FIRM. In general, these individual appeals focus on specific areas of the City. While the City staff has reviewed these appeals, time and opportunity has precluded an in-depth review. Thus, while the City endorses the individual appeals at this time, the City reserves the right to re-evaluate its decision. On that basis, each of the individual appeals are incorporated by reference. The individual appeals are presented collectively in Exhibit 21.

VII.
CONCLUSION

This appeal presents numerous significant scientific and technical errors in the proposed FIS and FIRM. The scientific and technical errors presented within this appeal demand a thorough review of the appeal issues before issuing the FIRM west of Interstate 5. Moreover, the City has presented a compelling argument why FEMA should have studied the developable area east of Interstate 5 in detail. Therefore, the proposed A-zone for that area is inappropriate, and the existing FIRM for that area should remain in place until a detailed study can be completed. In the event FEMA disagrees with the City's demands, it is the City's position that the A-zone be changed to an AR-zone, and the flood insurance rates for that zone remain at reduced levels , such as other California cities. (See Exhibit 22.)

The City is committed to protecting its citizens from the flood threat of Cache Creek. However, the City needs time to address this costly, major problem. The City Council

recently passed Resolution No. 4115, committing to cost-share a $2.5 million feasibility study with the Corps to identify a project to provide at least 100-year flood protection for the City. In addition, City representatives have just returned from a trip to Washington, D.C., seeking expedited congressional support to add funding to the Corps' budget to begin the feasibility study. The City is committed to cost-share with the Corps to provide upgraded flood protection to the City. (See Exhibit 23.) Given this significant commitment and progress the City is making toward providing at least 100-year flood protection, the City requests FEMA's cooperation in achieving this goal with as little impact to the community as possible.

APPENDIX D

STAFF REPORT REGARDING MITIGATION FOR IMPACTS TO SWAINSON'S HAWKS IN THE CENTRAL VALLEY OF CALIFORNIA

Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California

INTRODUCTION

The Legislature and the Fish and Game Commission have developed the policies, standards and regulatory mandates which, if implemented, are intended to help stabilize and reverse dramatic population declines of threatened and endangered species. In order to determine how the Department of Fish and Game (Department) could judge the adequacy of mitigation measures designed to offset impacts to Swainson's hawks in the Central Valley, Staff (WMD, ESD and Regions) has prepared this report. To ensure compliance with legislative and Commission policy, mitigation requirements which are consistent with this report should be incorporated into: (1) Department comments to Lead Agencies and project sponsors pursuant to the California Environmental Quality Act (CEQA); (2) Fish and Game Code Section 2081 Management Authorizations (Management Authorizations); and (3) Fish and Game Code Section 2090 Consultations with State CEQA Lead Agencies.

The report is designed to provide the Department (including regional offices and divisions), CEQA Lead Agencies and project proponents the context in which the Environmental Services Division (ESD) will review proposed project specific mitigation measures. This report also includes "model" mitigation measures which have been judged to be consistent with policies, standards and legal mandates of the Legislature and Fish and Game Commission. Alternative mitigation measures, tailored to specific projects, may be developed if consistent with this report. Implementation of mitigation measures consistent with this report are intended to help achieve the conservation goals for the Swainson's hawk and should complement multi-species habitat conservation planning efforts currently underway.

The Department is preparing a recovery plan for the species and it is anticipated that this report will be revised to incorporate recovery plan goals. It is anticipated that the recovery plan will be completed by the end of 1995. The Swainson's hawk recovery plan will establish criteria for species recovery through preservation of existing habitat, population expansion into former habitat, recruitment of young into the population, and other specific recovery efforts.

During project review the Department should consider whether a proposed project will adversely affect suitable foraging habitat within a ten (10) mile radius of an active (used during one or more of the last 5 years) Swainson's hawk nest(s). Suitable Swainson's hawk foraging habitat will be those habitats and crops identified in Bechard (1983), Bloom (1980), and Estep (1989). The following vegetation types/agricultural crops are considered small mammal and insect foraging habitat

for Swainson's hawks:

- alfalfa
- fallow fields
- beet, tomato, and other low-growing row or field crops
- dry-land and irrigated pasture
- rice land (when not flooded)
- cereal grain crops (including corn after harvest)

The ten mile radius standard is the flight distance between active (and successful) nest sites and suitable foraging habitats, as documented in telemetry studies (Estep 1989, Babcock 1993). Based on the ten mile radius, new development projects which adversely modify nesting and/or foraging habitat should mitigate the project's impacts to the species. The ten mile foraging radius recognizes a need to strike a balance between the biological needs of reproducing pairs (including eggs and nestlings) and the economic benefit of development(s) consistent with Fish and Game Code Section 2053.

Since over 95% of Swainson's hawk nests occur on private land, the Department's mitigation program should include incentives that preserve agricultural lands used for the production of crops, which are compatible with Swainson's hawk foraging needs, while providing an opportunity for urban development and other changes in land use adjacent to existing urban areas.

LEGAL STATUS

Federal

The Swainson's hawk is a migratory bird species protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in Section 50 of the Code of Federal Regulations (C.F.R.) Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 C.F.R. 21).

State

The Swainson's hawk has been listed as a threatened species by the California Fish and Game Commission pursuant to the California Endangered Species Act (CESA), see Title 14, California Code of Regulations, Section 670.5(b)(5)(A).

LEGISLATIVE AND COMMISSION POLICIES, LEGAL MANDATES AND STANDARDS

The FGC policy for threatened species is, in part, to: "Protect and preserve all native species...and their habitats...." This policy also directs the Department to work with all interested persons to protect and preserve sensitive resources and their habitats. Consistent with this policy and direction, the Department is enjoined to implement measures that assure protection for the Swainson's hawk.

The California State Legislature, when enacting the provisions of CESA, made the following findings and declarations in Fish and Game Code Section 2051:

a) "Certain species of fish, wildlife, and plants have been rendered extinct as a consequence of man's activities, untempered by adequate concern and conservation";

b) "Other species of fish, wildlife, and plants are in danger of, or threatened with, extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment because of overexploitation, disease, predation, or other factors (emphasis added)";and

c) "These species of fish, wildlife, and plants are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of this state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern" (emphasis added).

The Legislature also proclaimed that it "is the policy of the state to conserve, protect, restore, and enhance any endangered or threatened species and its habitat and that it is the intent of the Legislature, consistent with conserving the species, to acquire lands for habitat for these species" (emphasis added).

Section 2053 of the Fish and Game Code states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" (emphasis added).

Section 2054 states "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided" (emphasis added).

Loss or alteration of foraging habitat or nest site disturbance which results in:

(1) nest abandonment; (2) loss of young; (3) reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), may ultimately result in the take (killing) of nestling or fledgling Swainson's hawks incidental to otherwise lawful activities. The taking of Swainson's hawks in this manner can be a violation of Section 2080 of the Fish and Game Code. This interpretation of take has been judicially affirmed by the landmark appellate court decision pertaining to CESA (DFG v. ACID, 8 CA App.4, 41554). The essence of the decision emphasized that the intent and purpose of CESA applies to all activities that take or kill endangered or threatened species, even when the taking is incidental to otherwise legal activities. To avoid potential violations of Fish and Game Code Section 2080, the Department recommends and encourages project sponsors to obtain 2081 Management Authorizations for their projects.

Although this report has been prepared to assist the Department in working with the development community, the prohibition against take (Fish and Game Code Section 2080) applies to all persons, including those engaged in agricultural activities and routine maintenance of facilities. In addition, sections 3503, 3503.5, and 3800 of the Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

To avoid potential violation of Fish and Game Code Section 2080 (i.e. killing of a listed species), project-related disturbance at active Swainson's hawk nesting sites should be reduced or eliminated during critical phases of the nesting cycle (March 1 - September 15 annually). Delineation of specific activities which could cause nest abandonment (take) of Swainson's hawk during the nesting period should be done on a case-by-case basis.

CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 (c), 21083, Guidelines Sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports findings of Overriding Consideration. The CEQA Lead Agency's Findings of Overriding Consideration does not eliminate the project sponsor's obligation to comply with Fish and Game Code Section 2080.

NATURAL HISTORY

The Swainson's hawk (*Buteo swainsoni*) is a large, broad winged buteo which frequents open country. They are about the same size as a red-tailed hawk (*Buteo jamaicensis*), but trimmer, weighing approximately 800-1100 grams (1.75 - 2 lbs). They have about a 125 cm. (4+foot) wingspan. The basic body plumage may be highly variable and is characterized by several color morphs - light, dark, and rufous. In dark phase birds, the entire body of the bird may be sooty black. Adult birds generally have dark backs. The ventral or underneath sections may be light with a characteristic dark, wide "bib" from the lower throat down to the upper

breast, light colored wing linings and pointed wing tips. The tail is gray ventrally with a subterminal dusky band, and narrow, less conspicuous barring proximally. The sexes are similar in appearance; females however, are slightly larger and heavier than males, as is the case in most sexually dimorphic raptors. There are no recognized subspecies (Palmer 1988).

The Swainson's hawk is a long distance migrator. The nesting grounds occur in northwestern Canada, the western U.S., and Mexico and most populations migrate to wintering grounds in the open pampas and agricultural areas of South America (Argentina, Uruguay, southern Brazil). The species is included among the group of birds known as "neotropical migrants". Some individuals or small groups (20-30 birds) may winter in the U.S., including California (Delta Islands). This round trip journey may exceed 14,000 miles. The birds return to the nesting grounds and establish nesting territories in early March.

Swainson's hawks are monogamous and remain so until the loss of a mate (Palmer 1988). Nest construction and courtship continues through April. The clutch (commonly 3-4 eggs) is generally laid in early April to early May, but may occur later. Incubation lasts 34-35 days, with both parents participating in the brooding of eggs and young. The young fledge (leave the nest) approximately 42-44 days after hatching and remain with their parents until they depart in the fall. Large groups (up to 100+ birds) may congregate in holding areas in the fall and may exhibit a delayed migration depending upon forage availability. The specific purpose of these congregation areas is as yet unknown, but is likely related to: increasing energy reserves for migration; the timing of migration; aggregation into larger migratory groups (including assisting the young in learning migration routes); and providing a pairing and courtship opportunity for unattached adults.

Foraging Requirements

Swainson's hawk nests in the Central Valley of California are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. These open fields and pastures are the primary foraging areas. Major prey items for Central Valley birds include: California voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae*), deer mice (*Peromyscus maniculatus*), California ground squirrels (*Spermophilus beecheyi*), mourning doves (*Zenaida macroura*), ring-necked pheasants (*Phasianus colchicus*), meadowlarks (*Sturnella neglecta*), other passerines, grasshoppers (*Conocephalinae* sp.), crickets (*Gryllidae* sp.), and beetles (Estep 1989). Swainson's hawks generally search for prey by soaring in open country and agricultural fields similar to northern hariers (*Circus cyaneus*) and ferruginous hawks (*Buteo regalis*). Often several hawks may be seen foraging together following tractors or other farm equipment capturing prey escaping from farming operations. During the breeding season, Swainson's hawks eat mainly vertebrates (small rodents and reptiles), whereas during migration vast numbers of insects are consumed (Palmer 1988).

Department funded research has documented the importance of suitable foraging habitats (e.g., annual grasslands, pasture lands, alfalfa and other hay crops, and combinations of hay, grain and row crops) within an energetically efficient flight distance from active Swainson's hawk nests (Estep pers. comm.). Recent telemetry studies to determine foraging requirements have shown that birds may use in excess of 15,000 acres of habitat or range up to 18.0 miles from the nest in search of prey (Estep 1989, Babcock 1993). The prey base (availability and abundance) for the species is highly variable from year to year, with major prey population (small mammals and insects) fluctuations occurring based on rainfall patterns, natural cycles and agricultural cropping and harvesting patterns. Based on these variables, significant acreages of potential foraging habitat (primarily agricultural lands) should be preserved per nesting pair (or aggregation of nesting pairs) to avoid jeopardizing existing populations. Preserved foraging areas should be adequate to allow additional Swainson's hawk nesting pairs to successfully breed and use the foraging habitat during good prey production years.

Suitable foraging habitat is necessary to provide an adequate energy source for breeding adults, including support of nestlings and fledglings. Adults must achieve an energy balance between the needs of themselves and the demands of nestlings and fledglings, or the health and survival of both may be jeopardized. If prey resources are not sufficient, or if adults must hunt long distances from the nest site, the energetics of the foraging effort may result in reduced nestling vigor with an increased likelihood of disease and/or starvation. In more extreme cases, the breeding pair, in an effort to assure their own existence, may even abandon the nest and young (Woodbridge 1985).

Prey abundance and availability is determined by land and farming patterns including crop types, agricultural practices and harvesting regimes. Estep (1989) found that 73.4% of observed prey captures were in fields being harvested, disced, mowed, or irrigated. Preferred foraging habitats for Swainson's hawks include:

- alfalfa;
- fallow fields;
- beet, tomato, and other low-growing row or field crops;
- dry-land and irrigated pasture;
- rice land (during the non-flooded period); and
- cereal grain crops (including corn after harvest).

Unsuitable foraging habitat types include crops where prey species (even if present) are not available due to vegetation characteristics (e.g. vineyards, mature orchards, and cotton fields, dense vegetation).

Nesting Requirements

Although the Swainson's hawk's current nesting habitat is fragmented and unevenly distributed, Swainson's hawks nest throughout most of the Central Valley floor. More than 85% of the known nests in the Central Valley are within riparian systems in Sacramento, Sutter, Yolo, and San Joaquin counties. Much of the potential nesting habitat remaining in this area is in riparian forests, although isolated and roadside trees are also used. Nest sites are generally adjacent to or within easy flying distance to alfalfa or hay fields or other habitats or agricultural crops which provide an abundant and available prey source. Department research has shown that valley oaks (*Quercus lobata*), Fremont's cottonwood (*Populus fremontii*), willows (*Salix* spp.), sycamores (*Platanus* spp.), and walnuts (*Juglans* spp.) are the preferred nest trees for Swainson's hawks (Bloom 1980, Schlorff and Bloom 1983, Estep 1989).

Fall and Winter Migration Habitats

During their annual fall and winter migration periods, Swainson's hawks may congregate in large groups (up to 100+ birds). Some of these sites may be used during delayed migration periods lasting up to three months. Such sites have been identified in Yolo, Tulare, Kern and San Joaquin counties and protection is needed for these critical foraging areas which support birds during their long migration.

Historical and Current Population Status

The Swainson's hawk was historically regarded as one of the most common and numerous raptor species in the state, so much so that they were often not given special mention in field notes. The breeding population has declined by an estimated 91% in California since the turn of the century (Bloom 1980). The historical Swainson's hawk population estimates are based on current densities and extrapolated based on the historical amount of available habitat. The historical population estimate is 4,284-17,136 pairs (Bloom 1980). In 1979, approximately 375 ($\pm$ 50) breeding pairs of Swainson's hawks were estimated in California, and 280 (75%) of those pairs were estimated to be in the Central Valley (Bloom 1980). In 1988, 241 active breeding pairs were found in the Central Valley, with an additional 78 active pairs known in northeastern California. The 1989 population estimate was 430 pairs for the Central Valley and 550 pairs statewide (Estep, 1989). This difference in population estimates is probably a result of increased survey effort rather than an actual population increase.

Reasons for decline

The dramatic Swainson's hawk population decline has been attributed to loss of

native nesting and foraging habitat, and more recently to the loss of suitable nesting trees and the conversion of agricultural lands. Agricultural lands have been converted to urban land uses and incompatible crops. In addition, pesticides, shooting, disturbance at the nest site, and impacts on wintering areas may have contributed to their decline. Although losses on the wintering areas in South America may occur, they are not considered significant since breeding populations outside of California are stable. The loss of nesting habitat within riparian areas has been accelerated by flood control practices and bank stabilization programs. Smith (1977) estimated that in 1850 over 770,000 acres of riparian habitat were present in the Sacramento Valley. By the mid-1980s, Warner and Hendrix (1984) estimated that there was only 120,000 acres of riparian habitat remaining in the Central Valley (Sacramento and San Joaquin Valleys combined). Based on Warner and Hendrix's estimates approximately 93% of the San Joaquin Valley and 73% of the Sacramento Valley riparian habitat has been eliminated since 1850.

MANAGEMENT STRATEGIES

Management and mitigation strategies for the Central Valley population of the Swainson's hawk should ensure that:

- suitable nesting habitat continues to be available (this can be accomplished by protecting existing nesting habitat from destruction or disturbance and by increasing the number of suitable nest trees); and

- foraging habitat is available during the period of the year when Swainson's hawks are present in the Central Valley (this should be accomplished by maintaining or creating adequate and suitable foraging habitat in areas of existing and potential nest sites and along migratory routes within the state).

A key to the ultimate success in meeting the Legislature's goal of maintaining habitat sufficient to preserve this species is the implementation of these management strategies in cooperation with project sponsors and local, state and federal agencies.

DEPARTMENT'S ROLES AND RESPONSIBILITIES IN PROJECT CONSULTATION AND ADMINISTRATION OF CEQA AND THE FISH AND GAME CODE

The Department, through its administration of the Fish and Game Code and its trust responsibilities, should continue its efforts to minimize further habitat destruction and should seek mitigation to offset unavoidable losses by (1) including the mitigation measures in this document in CEQA comment letters and/or as

management conditions in Department issued Management Authorizations or (2) by developing project specific mitigation measures (consistent with the Commission's and the Legislature's mandates) and including them in CEQA comment letters and/or as management conditions in Fish and Game Code Section 2081 Management Authorizations issued by the Department and/or in Fish and Game Code Section 2090 Biological Opinions.

The Department should submit comments to CEQA Lead Agencies on all projects which adversely affect Swainson's hawks. CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 (c), 21083. Guidelines 15380, 15064, 15065). Impacts must be: (1) avoided; or (2) appropriate mitigation must be provided to reduce impacts to less than significant levels; or (3) the lead agency must make and support findings of overriding consideration. If the CEQA Lead Agency makes a Finding of Overriding Consideration, it does not eliminate the project sponsor's obligation to comply with the take prohibitions of Fish and Game Code Section 2080. Activities which result in (1) nest abandonment; (2) starvation of young; and/or (3) reduced health and vigor of eggs and nestlings may result in the take (killing) of Swainson's hawks incidental to otherwise lawful activities (urban development, recreational activities, agricultural practices, levee maintenance and similar activities. The taking of Swainson's hawk in this manner may be a violation of Section 2080 of the Fish and Game Code. To avoid potential violations of Fish and Game Code Section 2080, the Department should recommend and encourage project sponsors to obtain 2081 Management Authorizations.

In aggregate, the mitigation measures incorporated into CEQA comment letters and/or 2081 Management Authorizations for a project should be consistent with Section 2053 and 2054 of the Fish and Game Code. Section 2053 states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" . Section 2054 states: "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided."

State lead agencies are required to consult with the Department pursuant to Fish and Game Code Section 2090 to ensure that any action authorized, funded, or carried out by that state agency will not jeopardize the continued existence of any threatened or endangered species. Comment letters to State Lead Agencies should also include a reminder that the State Lead Agency has the responsibility to consult with the Department pursuant to Fish and Game Code Section 2090 and obtain a written findings (Biological Opinion). Mitigation measures included in Biological Opinions issued to State Lead Agencies must be consistent with Fish and Game

Code Sections 2051-2054 and 2091-2092.

NEST SITE AND HABITAT LOCATION INFORMATION SOURCES

The Department's Natural Diversity Data Base (NDDB) is a continually updated, computerized inventory of location information on the State's rarest plants, animals, and natural communities. Department personnel should encourage project proponents and CEQA Lead Agencies, either directly or through CEQA comment letters, to purchase NDDB products for information on the locations of Swainson's hawk nesting areas as well as other sensitive species. The Department's Nongame Bird and Mammal Program also maintains information on Swainson's hawk nesting areas and may be contacted for additional information on the species.

Project applicants and CEQA Lead Agencies may also need to conduct site specific surveys (conducted by qualified biologists at the appropriate time of the year using approved protocols) to determine the status (location of nest sites, foraging areas, etc.) of listed species as part of the CEQA and 2081 Management Authorization process. Since these studies may require multiple years to complete, the Department shall identify any needed studies at the earliest possible time in the project review process. To facilitate project review and reduce the potential for costly project delays, the Department should make it a standard practice to advise developers or others planning projects that may impact one or more Swainson's hawk nesting or foraging areas to initiate communication with the Department as early as possible .

MANAGEMENT CONDITIONS

Staff believes the following mitigation measures (nos. 1-4) are adequate to meet the Commission's and Legislature's policy regarding listed species and are considered as preapproved for incorporation into any Management Authorizations for the Swainson's hawk issued by the Department. The incorporation of measures 1-4 into a CEQA document should reduce a project's impact to a Swainson's hawk(s) to less than significant levels. Since these measures are Staff recommendations, a project sponsor or CEQA Lead agency may choose to negotiate project specific mitigation measures which differ. In such cases, the negotiated Management Conditions must be consistent with Commission and Legislative policy and be submitted to the ESD for review and approval prior to reaching agreement with the project sponsor or CEQA Lead Agency.

Staff recommended Management Conditions are:

1. No intensive new disturbances (e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing

activities) or other project related activities which may cause nest abandonment or forced fledging, should be initiated within 1/4 mile (buffer zone) of an active nest between March 1 - September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained for the project. The buffer zone should be increased to 1/2 mile in nesting areas away from urban development (i.e. in areas where disturbance [e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities] is not a normal occurrence during the nesting season). Nest trees should not be removed unless there is no feasible way of avoiding it. If a nest tree must be removed, a Management Authorization (including conditions to off-set the loss of the nest tree) must be obtained with the tree removal period specified in the Management Authorization, generally between October 1- February 1. If construction or other project related activities which may cause nest abandonment or forced fledging are necessary within the buffer zone, monitoring of the nest site (funded by the project sponsor) by a qualified biologist (to determine if the nest is abandoned) should be required . If it is abandoned and if the nestlings are still alive, the project sponsor shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s). Routine disturbances such as agricultural activities, commuter traffic, and routine facility maintenance activities within 1/4 mile of an active nest should not be prohibited.

2. Hacking as a substitute for avoidance of impacts during the nesting period may be used in unusual circumstances after review and approval of a hacking plan by ESD and WMD. Proponents who propose using hacking will be required to fund the full costs of the effort, including any telemetry work specified by the Department.

3. To mitigate for the loss of foraging habitat (as specified in this document), the Management Authorization holder/project sponsor shall provide Habitat Management (HM) lands to the Department based on the following ratios:

(a) Projects within 1 mile of an active nest tree shall provide:

- <u>one acre of HM land</u> (at least 10% of the HM land requirements shall be met by fee title acquisition or a conservation easement allowing for the active management of the habitat, with the remaining 90% of the HM lands protected by a conservation easement [acceptable to the Department] on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk) <u>for each acre of development authorized (1:1 ratio);</u> or

- <u>one-half acre of HM land</u> (all of the HM land requirements shall be met by fee title acquisition or a conservation easement

[acceptable to the Department] which allows for the active management of the habitat for prey production on the HM lands) for each acre of development authorized (0.5:1 ratio).

(b) Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acres of HM land for each acre of urban development authorized (0.75:1 ratio). All HM lands protected under this requirement may be protected through fee title acquisition or conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

(c) Projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acres of HM land for each acre of urban development authorized (0.5:1 ratio). All HM lands protected under this requirement may be protected through fee title acquisition or a conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

4. Management Authorization holders/project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands) at the rate of $400 per HM land acre (adjusted annually for inflation and varying interest rates).

Some project sponsors may desire to provide funds to the Department for HM land protection. This option is acceptable to the extent the proposal is consistent with Department policy regarding acceptance of funds for land acquisition. All HM lands should be located in areas which are consistent with a multi-species habitat conservation focus. Management Authorization holders/project sponsors who are willing to establish a significant mitigation bank (> 900 acres) should be given special consideration such as 1.1 acres of mitigation credit for each acre preserved.

PROJECT SPECIFIC MITIGATION MEASURES

Although this report includes recommended Management Measures, the Department should encourage project proponents to propose alternative mitigation strategies that provide equal or greater protection of the species and which also expedite project environmental review or issuance of a CESA Management Authorization. The Department and sponsor may choose to conduct cooperative, multi-year field studies to assess the site's habitat value and determine its use by nesting and foraging Swainson's hawk. Study plans should include clearly defined criteria for judging the project's impacts on Swainson's hawks and the methodologies (days of monitoring, foraging effort/efficiency, etc.) that will be used.

The study plans should be submitted to the Wildlife Management Division and ESD for review. Mitigation measures developed as a result of the study must be reviewed by ESD (for consistency with the policies of the Legislature and Fish and Game Commission) and approved by the Director.

EXCEPTIONS

Cities, counties and project sponsors should be encouraged to focus development on open lands within already urbanized areas. Since small disjunct parcels of habitat seldom provide foraging habitat needed to sustain the reproductive effort of a Swainson's hawk pair, Staff does not recommend requiring mitigation pursuant to CEQA nor a Management Authorization by the Department for infill (within an already urbanized area) projects in areas which have less than 5 acres of foraging habitat and are surrounded by existing urban development, unless the project area is within 1/4 mile of an active nest tree.

REVIEW

Staff should revise this report at least annually to determine if the proposed mitigation strategies should be retained, modified or if additional mitigation strategies should be included as a result of new scientific information.

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