FINAL ENVIRONMENTAL IMPACT REPORT

VOLUME 1

WEST PATTERSON PROJECTS

WEST PATTERSON BUSINESS PARK MASTER DEVELOPMENT PLAN

KEYSTONE PACIFIC BUSINESS PARK

PATTERSON GARDENS

STATE CLEARINGHOUSE NOS. 2001022031 AND 2001032037
CITY OF PATTERSON

REVISED DRAFT EIR PUBLICATION DATE:
OCTOBER 3, 2002

REVISED DRAFT EIR PUBLIC COMMENT PERIOD:
OCTOBER 3 THROUGH NOVEMBER 18, 2002

FINAL EIR CERTIFICATION DATE:
JANUARY 9, 2003

PREPARED FOR THE CITY OF PATTERSON BY
TURNSTONE CONSULTING

VOLUME 1

WEST PATTERSON PROJECTS
FINAL ENVIRONMENTAL IMPACT REPORT

WEST PATTERSON BUSINESS PARK MASTER DEVELOPMENT PLAN

KEYSTONE PACIFIC BUSINESS PARK

PATTERSON GARDENS

STATE CLEARINGHOUSE NOS. 2001022031 AND 2001032037
CITY OF PATTERSON

REVISED DRAFT EIR PUBLICATION DATE:
OCTOBER 3, 2002

REVISED DRAFT EIR PUBLIC COMMENT PERIOD:
OCTOBER 3 THROUGH NOVEMBER 18, 2002

FINAL EIR CERTIFICATION DATE:
JANUARY 9, 2003

Vertical line indicates material that is new or revised since publication of the Revised Draft EIR.

PREPARED FOR THE CITY OF PATTERSON BY
TURNSTONE CONSULTING

WEST PATTERSON PROJECTS
FINAL EIR

VOLUME I

INTRODUCTION

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

This Environmental Impact Report (EIR) has been prepared by the City of Patterson, as "Lead Agency," and Stanislaus County, pursuant to the California Environmental Quality Act (California Public Resources Code Section 21000 and following, "CEQA") and the State CEQA Guidelines (California Code of Regulations Title 14, Section 15000 and following, "CEQA Guidelines"). The EIR has been prepared to address the potential impacts of development under the West Patterson Business Park Master Development Plan (Business Park Plan) proposed by the City of Patterson and Stanislaus County, the potential impacts of development of the Keystone Pacific Business Park proposed by the Keystone Corporation in the Business Park Plan area, and the potential impacts of development of the Patterson Gardens project proposed by the Keystone Corporation on a site adjacent to the Business Park Plan area. Draft EIRs were prepared for the West Patterson Master Development Plan and the Patterson Gardens project, both published in August 2001. Following receipt of comments on those Draft EIRs, and receipt of more detailed information on the Keystone Pacific Business Park proposal, the City of Patterson and Stanislaus County staff determined that a revised, combined EIR should be prepared to comprehensively cover impacts of the three proposals.

This EIR provides additional detail about the proposed West Patterson Business Park Master Development Plan and the two development proposals in Chapter II, Project Description, including information about proposed infrastructure improvements such as widening Sperry Avenue, supplying water to the project area, and expanding the wastewater treatment system. It also provides additional detail in the impacts analyses in Chapter III, Environmental Setting, Impacts, and Mitigation. The project description and analyses in part respond to comments received on the prior two Draft EIRs. However, those comments have not been incorporated by reference in this EIR and are not considered to be comments on this EIR. Thus, any reviewer who chooses to submit comments on this document should not assume that comments submitted on the prior Draft EIRs will be responded to in the Responses to Comments section of the current EIR, and should submit all comments to the City of Patterson, as noted on the EIR Title Page.

Type of EIR

This EIR is a "Program EIR" pursuant to CEQA Guidelines Section 15168. A Program EIR is prepared on a series of actions that can be characterized as a single large project related geographically, as is the case here; as logical parts in the chain of contemplated actions; or in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program. The West Patterson Business Park Master Development Plan covers a single geographic area between Baldwin Road on the east and Rogers Road on the west and bisected by Sperry Avenue. The Patterson Gardens site is immediately east of Baldwin Road and south of Sperry Avenue. Thus, the projects are geographically adjacent to one another. Together, the projects analyzed in this EIR extend development in Patterson and its sphere of influence west of existing developed areas. This EIR addresses impacts of the Business Park Plan at a general level of detail commensurate with the amount of information available about potential development likely to occur if the Plan is adopted. A Program EIR allows decision-makers to consider the environmental implications of broader policy decisions and develop mitigation measures that will apply to all development within a proposed planning area. This Program EIR can be used later by agencies such as the City of Patterson, Stanislaus County, or the Local Agency Formation Commission (LAFCO) to consider impacts of specific development proposals in the Business Park Plan area, or specific infrastructure facilities, simplifying the environmental review of those later projects.

Some of the technical impact analyses for the West Patterson projects as a whole, including the West Patterson Business Park Master Development Plan, the Keystone Pacific Business Park, and Patterson Gardens, are based on assumptions that the entire area would be fully built out by 2025. This is a conservative assumption, as it is possible that much of the Business Park Plan area would not build out for at least an additional 10 to 15 years, to 2035 or 2040. The year 2025 was selected because that is the buildout year for the Stanislaus County traffic model that was used in the traffic impact analysis. The Water Supply analysis assumes buildout of the West Patterson projects by 2020, an even more conservative assumption that is based on the analysis in the Patterson Urban Water Management Plan.

EIR Organization

The EIR is also a project-level EIR pursuant to CEQA Guidelines Section 15161 for the proposed development projects–the Keystone Pacific Business Park and Patterson Gardens–and infrastructure to serve these development projects. As a project EIR, this document assesses the potential impacts of development at a greater level of detail, including, for example, traffic and air quality impacts, noise impacts, hazardous waste issues, and visual impacts related specifically to the construction and operation of the proposed development projects and infrastructure.

The EIR is organized as follows: following this Introduction, Chapter I, Summary, briefly describes the projects analyzed in the EIR and lists impacts and related mitigation measures in a table, identifying impacts as significant or less than significant and indicating which measures are included in one of the development proposals. Chapter I also summarizes the alternatives analyzed in the EIR. Chapter II, Project Description, provides a detailed description of the Business Park Plan and the proposed development programs for the Keystone Pacific Business Park and Patterson Gardens projects. Chapter II identifies the objectives of the City of Patterson and Stanislaus County and those of the project sponsor of the development projects.

The analyses of impacts and mitigation measures are presented in Chapter III, Environmental Setting, Impacts, and Mitigation Measures, and Chapter IV, Other CEQA Considerations, including a list of significant, unavoidable impacts that would occur if the projects analyzed were fully implemented. Chapter V, Alternatives to the Proposed Project, presents and analyzes five alternatives, including No Project and an alternative location. Chapter VI, Authors and Persons Consulted, lists the preparers of the report and those consulted in its preparation. The Appendices include the full text of the West Patterson Business Park Master Development Plan, a list of types of uses proposed for the Keystone Pacific Business Park, details on biological resources, the full text of the Traffic Impact Analysis, and the West Patterson Water Supply Assessment. Cumulative impacts are addressed under appropriate topics; for example, cumulative loss of agricultural land is discussed in Section III.C, Agricultural Resources; cumulative traffic impacts are discussed in Section III.E, Traffic and Circulation; and cumulative air quality impacts are discussed in Section III.F, Air Quality.

EIR Process

The Draft EIR is circulated for public review and comment for a period of 45 days. The City of Patterson EIR process for this project includes a public hearing by the Planning Commission to receive oral comments on the Draft EIR during the 45-day public comment period. Following receipt of all oral and written comments, a Final EIR will be prepared containing the comments and/or summaries of the comments received, responses to those comments that raise environmental issues, and any revisions to the Draft EIR made in response to comments. The Final EIR is comprised of the Draft EIR, comments received, and responses to the comments. The Patterson City Council will certify the Final EIR when they believe the document is accurate and complete. As explained in Chapter II, Project Description, decision-makers, including the City, Stanislaus County, and LAFCO, will use the information in the Final EIR in their deliberations on the projects analyzed.

I. SUMMARY

A. SUMMARY OF PROJECT DESCRIPTION

The proposed project includes light industrial, business park, commercial, and residential uses. Development would occur in two separate but adjacent sites west of downtown Patterson. The West Patterson Business Park Master Development Plan, the light industrial and business park component of the project, would be developed on an 820-acre site located outside of, but contiguous to, Patterson's western city boundary, and east of Interstate 5 (I-5). The Patterson Gardens Planned Development, the project's residential and commercial component, would be annexed to the City of Patterson.

The City of Patterson and Stanislaus County have chosen a Business Park Plan as the appropriate instrument to regulate the development of approximately nine million square feet of light industrial and business park uses. The Business Park Plan would provide a recommended land use plan for the site and would supplement the general plans of the City of Patterson and Stanislaus County. It would create two new zoning districts and establish zoning, allowable uses, development standards and an infrastructure framework that would apply to all development within the Business Park Plan's boundaries.

The land comprising the Business Park Plan is owned by 13 different landowners. The owner of the 224-acre property in the northeastern quadrant of the Business Park Plan site has applied for development entitlements before the City and County for this property. The applicant, Keystone Corporation of Raleigh, North Carolina, is proposing to construct approximately 2.5 million square feet of flex,[1] light industrial, and distribution/warehouse uses. This proposal, known as the Keystone Pacific Business Park proposal, is the only specific development project before the County and City within the West Patterson Business Park Master Development Plan area at this time.

The Keystone Corporation is also proposing to develop residential and commercial uses on a separate 305-acre site located south of the City, between Baldwin Road and Ward Avenue. This community, known as the Patterson Gardens Planned Development, or

[1] "Flex" space is typically one-story office buildings with rear loading docks to provide the flexibility of combining other business park uses consistent with the Business Park Master Development Plan with office use within each building.

Patterson Gardens, is outside the jurisdictional boundary of the City but within its sphere of influence, and is proposed to be annexed to the City of Patterson. The site is contiguous to the Business Park Plan area between Baldwin Road and Ward Avenue, south of Sperry Avenue. Patterson Gardens would consist of approximately 940 single-family homes, a 47-unit senior residential neighborhood, an approximately 300,000-square-foot commercial/office area, and recreational and open space amenities. The Patterson Gardens proposal includes land set aside for expansion of the Patterson Sports Park, and a potential school site. The Keystone Corporation is also considering a proposal to develop an approximately 16-acre lake on the Patterson Gardens site that would serve as a neighborhood amenity and stormwater detention basin.

The West Patterson Business Park Master Development Plan, the Keystone Pacific Business Park proposal and the Patterson Gardens proposal are hereinafter referred to as the West Patterson projects.

Various infrastructure improvements would be developed as part of the West Patterson projects. Sperry Avenue, Baldwin Road and Ward Avenue would be widened. The City would provide domestic water and wastewater treatment facilities, and sewer trunk lines to serve both the Patterson Gardens project and the West Patterson Business Park area. The City has prepared and adopted a Water Supply Assessment, which concludes that the City can provide raw and/or treated groundwater sufficient to serve the proposed project. The City has formed a community facilities financing district (Mello-Roos District) to fund the infrastructure improvements necessary to support development of a large portion of the City's sphere of influence, including Patterson Gardens, and additional financing districts may be established during the 25-year buildout period.

OVERVIEW OF BUSINESS PARK PLAN

The Business Park Plan would establish an infrastructure and regulatory framework for the development of employment-generating land uses on about 820 acres of land located west of downtown Patterson. The Business Park Plan site is located outside, but contiguous to, Patterson's western city boundary. A key component of the Business Park Plan calls for expanding the City's sphere of influence to include the 119-acre northern portion of the Cozzens property and the 224-acre Keystone property. The Business Park Plan recommends land uses and zoning, and would establish allowable uses, development standards, and a program for providing infrastructure and public services. At buildout, the Business Park Plan is expected to accommodate approximately nine million square

feet of light industrial and business park uses and add approximately 16,000 employees to the Patterson and west Stanislaus County economy.

The overall land use concept for the Business Park Plan is to develop light industrial and business park uses. The majority of land within the City's existing sphere of influence is already designated *Light Industrial* under the City of Patterson General Plan and *Planned Industrial* under the Stanislaus County General Plan. Under the proposed Business Park Plan, the Keystone and northern Cozzens properties would also be designated *Light Industrial* in the City General Plan and *Planned Industrial* in the County General Plan.

At this time, one application for development has been submitted within the Business Park Plan area, by the Keystone Corporation for the northeastern portion of the area (discussed below). Light industrial and business park facilities on the remaining parcels of the Business Park Plan site have generally not been defined beyond the gross square footage estimates for the development.

The Business Park Plan would regulate the uses allowed within the Plan area through the creation of two new City and county zoning districts: 1) *the West Patterson Industrial Business Park District*, which would allow manufacturing and assembly processes, research and development, and corporate offices: and 2) *the West Patterson Light Industrial District*, which would allow light industrial and manufacturing, warehousing, offices and assembly uses. The City and County would each amend the texts of their zoning ordinances to provide for the two new zoning classifications.

One of the goals of the Business Park Plan is to provide suitable locations for the development of business park and industrial uses that are not accommodated elsewhere in Stanislaus County. Accordingly, uses such as food processing that are water and sewer intensive have been excluded in the proposed *West Patterson Industrial Business Park* and *West Patterson Light Industrial* zoning districts in favor of uses such as research and development that can be supported in an office/business park setting. Permitted uses include computer systems research and development, electronic repair and assembly, and software development. Retail and service uses such as banks, convenience stores, and restaurants would also be allowed, subject to a conditional use permit and only if they are integrated into the design of a business park and sized to be subordinate to the primary business or businesses.

The Business Park Plan would establish detailed guidelines for the design of development on the Business Park Plan site. The design guidelines would aid developers, designers,

the public, and decision-makers by expressing a shared vision for the quality and attractiveness expected from development in the Plan area. The design guidelines would emphasize the use of architectural themes, landscaping, screening, sign control, and other techniques to ensure that light industrial and business park facilities include compatible features and materials so that the entire plan area attains an attractive design.

This EIR assumes complete buildout of the Business Park Plan site by the year 2025. It is unlikely, however, that this level of development would be realized within the 2025 planning horizon.

OVERVIEW OF KEYSTONE PACIFIC BUSINESS PARK PROPOSAL

The Keystone Corporation has applied for development entitlements from the City and County for the 224-acre property located in the northeastern quadrant of the West Patterson Business Park Master Development Plan site. The Keystone Pacific Business Park would be developed with approximately 2.5 million square feet of flex, light industrial, and distribution/warehouse uses. The Keystone Pacific Business Park would constitute the initial phase of development of the West Patterson Master Development Plan site and is expected to set the pace of absorption for the remaining Plan area. The preliminary schematic plan calls for the subdivision of the 224-acre property into three basic uses: "flex" space, light industrial and warehousing. About 52 acres would be developed as flex space, about 12 light industrial buildings would be built on 63 acres, and about eight warehouse buildings would be developed on the remainder of the site.

OVERVIEW OF PATTERSON GARDENS PROPOSAL

The Patterson Gardens component of the project involves the development of a master planned community with between 930 and 970 single family detached dwelling units, 47 single family detached dwelling units designed for seniors, reservation of about 12.4 acres for a school site, and development of a 21.4-acre site with approximately 302,500 square feet of commercial retail and offices uses. About four acres would be set aside for the potential expansion of the Patterson Sports Complex. The Patterson Gardens project would include reshaping the Salado Creek channel, development of approximately 10 acres of neighborhood parks and two acres of parkland and open space within the new Salado Creek right-of-way, and a potential 16-acre lake that would also serve as a flood control detention basin.

The residential uses would include a variety of designs. Development in the master planned community would contain different roof styles, projections, and other architectural features to create a varied street scene. Where residential back yards are adjacent to roadways, block or wood and plaster walls would be included in the neighborhood design. Walls would be six feet in height and would be consistent with the design of the existing walls on Sperry Avenue and Ward Avenue, adjacent to the Heartland Ranch Development.

INFRASTRUCTURE FACILITIES

Urban infrastructure would be provided to the West Patterson project area. The City's existing wastewater treatment facility would undergo a two-phase, one million gallon per day (mgd) expansion of approximately 0.5 mgd per phase. The first phase expansion would serve the under construction and approved residential development in the Creekside Development area, including Creekside Meadows, Walker Ranch I and II, and Shire Place residential projects. It would provide additional capacity to serve the Patterson Gardens proposal, and a portion of the Keystone Pacific Business Park. The second-phase expansion is intended to serve the balance of the Keystone Pacific Business Park, and future development within the Business Park Plan area. The plant expansion would include the construction of approximately 120 acres of percolation ponds adjacent to the north or west of the treatment plant site.

The Water Supply Assessment prepared for the West Patterson projects concludes that the City's groundwater supply is sufficient to serve projected development levels. The City plans to use untreated groundwater to supply existing and new demand until the quality of that groundwater deteriorates to below applicable drinking water standards, anticipated to occur at some point between 2008 and 2012. At that point, the City plans to either begin treatment of groundwater through wellhead desalinization or switch to a surface water supply, to be used conjunctively with groundwater through an aquifer storage and recovery system. Although treated groundwater would provide a feasible water supply for the proposed projects, obtaining a surface water supply is the preferred alternative and is assessed as a water supply variant. Accordingly, the City has already begun to pursue surface water entitlements.

As specific development projects are proposed on the Business Park Plan site, storm drainage facilities would be constructed in a manner consistent with the City's *Master Storm Drainage Plan City of Patterson Western Expansion Area.* Initially, construction would include seven stormwater detention basins in the Keystone Pacific Business Park,

sufficient to provide storage volume in excess of anticipated flow. Interconnecting pipes would drain all seven basins to an existing 30-inch line within the Baldwin Road right-of-way, and would continue into a 36-inch line that, in turn, drains to existing twin 72-inch lines in Salado Creek.

ACCESS AND CIRCULATION

Regional access to the Business Park and Patterson Gardens would be provided via I-5 and the I-5/Sperry Avenue interchange. Direct access to the site would be from Sperry Avenue, Rogers Road, and Baldwin Road. Sperry Avenue would be widened to four lanes to accommodate traffic from business park and light industrial development. The Business Park Plan would also include the development of new roadways, internal to the site. Sperry Avenue would be improved between I-5 and Baldwin Road to four travel lanes with an ultimate width of 116 feet, except at intersections, which would have an ultimate width of 122 feet. The improved roadway would consist of four 14-foot travel lanes, with a 12- to 24-foot-wide landscaped median, with breaks for left-hand turns and emergency vehicle access. The improved roadway would include a meandering landscaped sidewalk. Both crossings at the California Aqueduct and the Delta Mendota canal would be improved to four lanes.

APPROVALS REQUIRED

WEST PATTERSON BUSINESS PARK MASTER DEVELOPMENT PLAN AND KEYSTONE PACIFIC BUSINESS PARK

The following approvals are required for the West Patterson Business Park Master Development Plan and Keystone Pacific Business Park.

City of Patterson

- City Environmental Impact Report/CEQA Review. Certification of an EIR must occur prior to the City's approval of any of the project applications listed below. This EIR is being prepared to fulfill this requirement.

- City's approval of the West Patterson Business Park Master Development Plan. (Approval of this Plan would include an amendment to the City zoning ordinance to establish two new zoning districts: *the West Patterson Industrial Business Park District*, and *the West Patterson Light Industrial District.)*

- Amendment to the City's General Plan as follows: 1) establish *Light Industrial* as the land use designation for the northern Cozzens and Keystone properties; 2)

change the land use designations for the Rea and Falzone properties from their current designation of *Medical/Professional Office* to *Light Industrial*; 3) change the land use designation for the southern 30 acres of the F. Hansen West property from its current designation of *Highway Service* to *Light Industrial*; and 4) change the land use designation for the State of California parcel from *Light Industrial* to *Public/Quasi-Public*.

- City approval of prezoning for West Patterson Business Park Master Development Plan area.
- Out of Boundary Service Extension pursuant to Government Code Section 56133.
- City application of the Stanislaus County Local Agency Formation Commission (LAFCo) for a Sphere of Influence Amendment to include the northern Cozzens and Keystone properties.
- Amendment of the City of Patterson/Stanislaus County Development Cooperation Agreement.
- Approval of a Development Agreement between Keystone Pacific Corporation and the City of Patterson.
- Approval of a Master Services Element.

Stanislaus County

- County Environmental Impact Report/CEQA Review. Certification of an EIR must occur prior to the County's approval of any of the project applications listed below. This EIR is being prepared to fulfill this requirement
- County approval of the West Patterson Business Park Master Development Plan. (Approval of this plan would include an amendment to the County zoning ordinance to establish two new zoning districts: *the West Patterson Industrial Business Park District* and *the West Patterson Light Industrial District.*)
- Amendment of the Stanislaus County General Plan to change the land use designation for the northern Cozzens and Keystone properties from their existing *Agriculture* designation to *Planned Industrial*.
- County Rezoning of the Keystone property from *General Agriculture* to *West Patterson Light Industrial*.
- County approval of a vesting parcel map for the Keystone Pacific Business Park.
- Amendment of the City of Patterson/Stanislaus County Development Cooperation Agreement.

- Development Agreement between the County and the Keystone Pacific Business Park, LLC.
- County would issue Building permits, Use permits and staff approvals for buildings.
- County approval of Mello-Roos Districts or similar infrastructure mechanism.

Local Agency Formation Commission

- Sphere of influence amendment to include the northern Cozzens and Keystone properties within the City's sphere of influence.
- City-County Public Services Agreement and Out-of-Boundary Services Extension pursuant to Government Code Section 56133.
- Reorganization to remove properties from the West Stanislaus Fire Protection District and the West Stanislaus Irrigation District and add them to City services.
- LAFCo adopts Service Review and Master Service Element for City's Sphere of Influence.

PATTERSON GARDENS

City of Patterson

The following approvals are requested from the City of Patterson for Patterson Gardens.

- General plan amendment on the 21.4-acre portion of the site from *Low Density Residential* to *General Commercial*, and to modify the *Bicycle Transportation Master Plan* to remove the bicycle route from Sperry Avenue west of Ward Avenue.
- Prezoning to *Planned Development Overlay*.
- Approval of the Patterson Gardens Preliminary and Final Development Plan.
- Approval of a tentative vesting subdivision "A" map (large lots, for later subdivision into neighborhoods).
- Approval of a tentative vesting subdivision "B" map(s) (neighborhoods).
- City application to LAFCo for annexation.
- Approval of Development Agreement between the City and Patterson Gardens, LLC.
- City approval of building permits and use permits
- Approval of annexation to Mello-Roos District.

Local Agency Formation Commission

- Annexation of Patterson Gardens site to the City.
- Reorganization to remove property from fire and irrigation districts and add to City service areas.

Other Agencies

Agencies other than the City and the County have authority over changes to Salado Creek in the Patterson Gardens project.

- U.S. Army Corps of Engineers (Section 404 permit).
- Regional Water Quality Control Board (Section 401 certification).
- California Department of Fish and Game (Section 1603 Streambed Alteration Agreement).

B. SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A summary list of environmental impacts identified for the West Patterson projects, and mitigation measures that would avoid or reduce significant impacts, is provided in Summary Table 1. Significance before and after mitigation is indicated. The organization of topics in the table is the same as in Chapter III, Environmental Setting, Impacts, and Mitigation Measures.

Table S.1: Summary of Impacts and Mitigation

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Land Use	**A.1.** Development of the business park and residential uses of the West Patterson projects may create potential land use compatibility conflicts with surrounding, ongoing agricultural operations.	Less than Significant	No mitigation necessary.		Less than Significant
	A.2. Development under the West Patterson Business Park Master Development Plan may create the potential for conflict between the proposed commercial and light industrial uses of the Plan and future adjacent residential uses across Baldwin Road.	Less than Significant	No mitigation necessary		Less than Significant
	A.3. Development of the business park and residential uses of the West Patterson projects may create potential land use compatibility conflicts with existing Patterson Airport operations.	Less than Significant	No mitigation necessary		Less than Significant
	A.4. The expansion of the City's wastewater treatment plant may create potential land use compatibility conflicts with existing nearby rural residences.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Agricultural Resources	**C.1.** Implementation of the West Patterson projects would directly result in the permanent loss of prime agricultural land.	Significant	**C.1:** Development agreements established pursuant to the West Patterson projects shall provide for the following prior to issuance of any building permit: an applicant seeking a building permit shall supply documentation acceptable to the City or County that the applicant has contributed to the California Farmland Conservancy Fund for the purposes of funding projects in Stanislaus County under the California Farm Conservancy Program, to encourage the preservation of prime farmland in Stanislaus County. The amount of such contribution shall reflect the value of an agricultural conservation easement on comparable prime agricultural land of comparable size in the project vicinity as that for which a permit is being sought. The per acre valuation of such easement shall be determined by both the Patterson and Stanislaus County Planning Directors.		Significant, Unavoidable
	C.2. Development of the business park and residential uses of the West Patterson projects may create potential land use compatibility conflicts, burdening surrounding agricultural operations.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	C.3. Implementation of the West Patterson projects would contribute to the cumulative loss of prime agricultural land in the West Patterson project vicinity.	Significant	**C.3:** Same as Mitigation Measure C.1.		Significant, Unavoidable
Biological Resources	**D.1.** Development of the West Patterson Project area would result in loss of habitat for, and potential take of, San Joaquin kit foxes.	Significant	**D.1.a+b:** Either purchase or dedication of a permanent easement, at a ratio of 2:1 (two acres replaced for each acre developed), of land west of I-5 in Stanislaus County, OR payment of an in-lieu fee of $2000 per developed acre to either the County, the Center for Natural Lands Management, the California Wildlife Foundation, or CDFG to establish a free movement corridor in Western Stanislaus County. Land selected shall be approved by USFWS. Although kit foxes are not known to currently occupy the project area, the following measures will be undertaken to minimize impacts: pre-construction surveys, and employee education will be conducted. A 20-mph speed limit will be imposed, off-road traffic prohibited, and nighttime construction shall be minimized. All excavated holes or trenches, more than two feet deep, shall be covered after each working day, or equipped with escape ramps. All construction pipes stored at the site overnight shall be inspected for kit foxes. All food-related trash items shall be removed at least once a week from construction sites.		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	D.2. Development of the West Patterson project area and wastewater evaporation pond site(s) would result in loss of foraging habitat for Swainson's hawks.	Significant	**D.2: a)** A qualified ornithologist shall conduct pre-construction surveys for Swainson's hawk nests at appropriate times. If a nest site is found, consultation with the CDFG shall be required. **b)** For each acre of Swainson's hawk foraging habitat developed within five miles of an active nest tree, but greater than one mile from the nest tree, 0.75 acres of "Habitat Management" land shall be provided. For projects within one mile, the ratio is 1:1. Land selected for conservation shall be approved by CDFG. Habitat Management lands shall be protected either by placement of a permanent conservation easement on agricultural lands or other suitable foraging habitat, or by payment of an in-lieu fee of $600 per developed acre, to be held by an agency approved by CDFG for the ultimate purpose of purchasing permanent conservation easements over Swainson's Hawk foraging habitat.		Less than Significant
	D.3. Development of the West Patterson project area and wastewater evaporation pond site(s) would result in loss of habitat for burrowing owls and potentially could result in take of individual burrowing owls.	Significant	**D.3:** Pre-construction surveys for burrowing owls shall be conducted by a qualified biologist per CDFG guidelines, prior to any soil-altering activity. If burrowing owls are found, consultation with and authorization by CDFG shall be required. Mitigation proposed for Swainson's hawk, and/or kit foxes would benefit burrowing owls, and more than compensate for any potential impacts to owls.		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	D.4. Excavation of Salado Creek on the Patterson Gardens site would impact 0.36 acres of Jurisdictional Waters.	Significant	**D.4:** The channel and banks of Salado Creek shall be restored and enhanced. The creek shall be buffered on both sides. The creek shall be buffered on both sides with an oak savannah and other landscaping. The bottom and lower banks shall be seeded and/or planted with wet meadow species. Water in the channel during construction shall be temporarily diverted using a cofferdam, and shall be piped around the work areas. Standard best management practices shall be used during construction for erosion and sedimentation control.	Included in Patterson Gardens project	Less than Significant
	D.5. Development of the West Patterson project area would potentially result in disturbance of nesting raptors during construction.	Significant	**D.5: a)** If feasible, demolition and construction shall be scheduled to avoid the raptor nesting season, from January to August. **b)** If not feasible, pre-construction surveys for nesting raptors shall be conducted by a qualified ornithologist or biologist to ensure that no raptor nests will be disturbed during project implementation. With the approval of the CDFG, trees containing known or potential raptor nest sites may be removed to discourage future nesting attempts on the condition that no raptor pair is currently utilizing the site. If a nest is found close enough to a construction /demolition area to be disturbed, the ornithologist, in consultation with CDFG, shall determine the extent of a construction-free buffer zone to be established around the nest.		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	D.6. Certain construction activities could potentially affect western pond turtles.	Significant	**D.6:** Prior to the start of any construction activities within a percolation pond, the pond shall be drained. A qualified biologist shall be present to survey for western pond turtles during the pond draining. If any turtles are found, they shall be captured and moved to suitable habitat outside of the construction area.		Less than Significant
	D.7. Construction of an additional wastewater pond and expansion of the wastewater treatment plant could result in temporary disturbance, direct, or indirect impacts to the biological mitigation site located immediately north of the existing wastewater treatment plant.	Significant	**D.7:** The biological mitigation site at the north edge of the existing wastewater treatment plant shall be avoided during construction so that its function as a mitigation site is not adversely affected.		Less than Significant
	D.8. Construction activities could inadvertently impact riparian woodland located adjacent to the northeastern-most percolation pond site.	Significant	**D.8:** No construction activities may occur within a 100-foot setback from the riparian woodland adjacent to the northeastern-most percolation pond site. The setback area shall be fenced with high visibility fencing to prevent access. All grading plans shall include appropriate control measure to minimize runoff into riparian woodland.		Less than Significant
	D.9. Development in the West Patterson project area would cause loss of agricultural and ruderal habitats.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	D.10. Development of the West Patterson project area would cause loss of seasonal aquatic habitat associated with man-made ponds.	Less than Significant	No mitigation necessary		Less than Significant
	D.11. Development of the West Patterson project area would result in impacts to aquatic habitat in linear drainage features.	Less than Significant	No mitigation necessary		Less than Significant
	D.12. Development of the West Patterson project area would result in impacts to habitat for certain special-status animal species.	Less than Significant	No mitigation necessary		Less than Significant
	D.13. Development of the West Patterson project area would result in impacts to nesting habitat for the White-tailed Kite.	Less than Significant	No mitigation necessary other than measures D.5.a and D.5.b as identified in Section III.D, Biological Resources, under "Impact D.5," pp. III.D.53 to III.D.54 for nesting raptors.		Less than Significant
Transportation and Circulation	**E.1.** Traffic generated by full buildout of the proposed project would affect traffic levels of service at local intersections in the project vicinity in the near-term Existing-plus-Project scenario.	Significant	**E.1:** The City and County shall construct improvements at 12 intersections, including signalization and additional turn lanes, as new buildings are constructed and occupied in the West Patterson project area with sufficient employment to cause LOS to deteriorate below City standards. The City and/or County shall establish a community facilities funding district or other financing mechanism, and developers shall contribute a fair share of the costs of traffic mitigation (see pp. III.E.21-22 for intersections.)	Included in project	Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	E.2. Traffic generated by buildout of the proposed West Patterson projects would affect levels of service on freeway and roadway segments in the project vicinity.	Less than Significant	No mitigation necessary		Less than Significant
	E.3. The West Patterson projects would contribute to the demand for bicycle and pedestrian facilities in the area.	Less than Significant	No mitigation necessary		Less than Significant
	E.4. Construction and occupation of the Keystone Pacific Business Park would affect traffic service levels at local intersections in the project study area when added to existing traffic volumes.	Significant	**E.4:** The City of Patterson and Stanislaus County shall construct improvements at 7 intersections, along Sperry Ave and at other locations, including new traffic signals and additional left, through and right turn lanes as new buildings are constructed and occupied in the Keystone Pacific Business Park with sufficient employment to cause LOS to deteriorate below City and County standards. The project sponsors shall participate in a community facilities funding district or other funding mechanism. (See pp. III.E.27-28.)		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	E.5. Construction and occupation of Patterson Gardens would affect traffic service levels at local intersections in the project study area when added to existing traffic volumes.	Significant	**E.5:** The City and County shall construct improvements at 3 intersections, including new traffic signals and left turn lanes, as phases are occupied in Patterson Gardens with sufficient population to cause LOS to deteriorate below standards. The Keystone Corporation shall participate in the existing community facilities funding district to fund these improvements (see p. III.E.30).		Less than Significant
	E.6. The West Patterson Projects would contribute considerably to future cumulative significant traffic impacts at local intersections.	Significant	**E.6:** The City and County shall construct the identified improvements at 19 intersections, including new traffic signals, road widening, and creation of left, through, and right turn lanes. A funding mechanism shall be established requiring developers to contribute a "fair share" of the cost of these improvements (see pp. III.E.36-39).		Less than Significant
	E.7. Cumulative traffic, including traffic generated by the West Patterson projects, would contribute to unacceptable levels of service on Interstate-5 in the vicinity of the Sperry Avenue interchange.	Significant	Although widening the freeway would reduce this impact, only Caltrans has the jurisdiction to implement such a measure.		Significant, Unavoidable

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	E.8. The Keystone Pacific Business Park would contribute considerably to future cumulative significant traffic impacts at local intersections.	Significant	**E.8:** The City and County shall construct improvements at 10 intersections, including new traffic signals, and left, through and right turn lanes. A community facilities funding district, or other funding mechanism shall be established requiring the Keystone Pacific Business Park developer (or developers) to contribute to the cost of these improvements (see pp. III.E.42-43).		Less than Significant
	E.9. The Patterson Gardens project would contribute considerably to future cumulative significant traffic impacts at local intersections.	Significant	**E.9:** The City and County shall construct improvements at 6 intersections, including new traffic signals, and new turn lanes. A community facilities district shall be established requiring the Patterson Gardens developer to contribute to the cost of these improvements (see p. III.E.45).		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Air Quality	**F.1.** Construction activities would generate emissions of PM_{10} and ozone precursors that could cause or contribute to violations of the air quality standards.	Significant	**F.1: a)** Fugitive dust from all disturbed areas and on-site unpaved roads shall be stabilized using vegetative ground cover, or water or chemical stabilizer; from clearing, grubbing, scraping, excavation land leveling, grading cut and fill, and demolition shall be controlled using water or presoaking. Materials transported off-site shall be covered, wetted, or 6 inches of freeboard provided to limit visible dust emissions. All operations shall limit or remove the accumulation of mud or dirt from adjacent public streets at the end of the day. All storage piles shall be stabilized with water or chemicals. Any site with 150 or more vehicle trips per day shall prevent carryout and track out. Speeds on unpaved roads shall be 15 mph. Control measures shall be installed to prevent silt runoff to public roadways. When construction covers a site that is large in area, or located near sensitive receptors, use the following procedures: install wheel washers for exiting trucks, install windbreaks at windward sides of construction areas, and suspend excavation and grading in winds of over 20 mph. **b)** Ozone precursors shall be limited, where possible, by: use of alternative fueled or catalyst equipped diesel construction equipment; NO_x or PM_{10} controlled equipment; minimal idling time for all equipment; electrically driven equipment; and curtailed construction activities during periods of high pollutant concentrations.		Fugitive dust emissions less than significant. Ozone precursor emissions significant, unavoidable

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	F.2. Emissions from motor vehicles due to heavy project traffic could cause localized violations of carbon monoxide standards	Significant	**F.2:** Implement Mitigation Measures associated with Transportation and Circulation.		Less than Significant
	F.3. The new uses allowed under the West Patterson Business Park Master Development Plan could cause emissions of toxic air contaminants (TACs) or odors.	Significant	**F.3:** The Business Park Plan shall include adequate buffer zones for TACs and odors by prohibiting centers of intense diesel vehicle activity or odor sources from locating near existing or planned residences, schools, or other sensitive uses.	Included in Keystone Pacific Business Park	Less than Significant
	F.4. Construction and routine operation of the City's wastewater treatment plant expansion could cause increased emissions.	Less than Significant	No mitigation necessary		Less than Significant
	F.5. The expanded wastewater treatment plant and new percolation ponds would result in increased odor generating potential that could affect nearby residents.	Significant, Unavoidable	**F.5:** The City shall ensure that appropriate engineering controls have been incorporated into the design and construction of the proposed wastewater treatment and conveyance facilities to minimize production of objectionable odors. During operation of the expanded facilities the City shall ensure that engineering controls designed to suppress odors are functioning properly by periodically evaluating odor levels adjacent to the facilities. Should objectionable odors be present, the City shall take appropriate action to correct them.		Significant, Unavoidable

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	F.6. Emissions from increased motor vehicle activity and new area sources associated with the project could cause or contribute to ongoing violations of the ozone and PM_{10} standards.	Significant, Unavoidable	**F.6: a)** The Business Park Plan shall incorporate park-and-ride lots, require new uses/occupants employing 100 or more full-time-equivalent employees to submit to the reviewing authority an employee trip reduction plan, permit additional parking exclusively for alternative fuel vehicles, and permit clean-fuel fueling stations as an allowable use in the Business Park. **b)** The Patterson Gardens proposal shall incorporate pedestrian paths and bicycle features designed to improve access to alternative transportation modes. **c)** The West Patterson projects shall require commercial and light industrial development projects to incorporate measures such as pedestrian amenities and bicycle parking to reduce vehicle trips and on-site parking demand. **d)** The West Patterson projects shall use energy-efficient cooling and lighting throughout the project, and design all new and substantially remodeled structures to be energy efficient. Wood burning fireplaces shall be prohibited. Natural gas lines or electrical outlets shall be installed in patio areas when feasible to discourage use of charcoal or wood barbeques.	-Included, Patterson Gardens -Included, Keystone Business Park and Patterson Gardens	Significant, Unavoidable

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	F.7. Emissions from increased motor vehicle activity and new area sources associated with the Keystone Pacific Business Park could cause or contribute to ongoing violations of the ozone and PM_{10} standards.	Significant, Unavoidable	**F.7:** Implement Mitigation Measures F.6(a), F.6(c), and F.6(d)	F.6.c included	Significant, Unavoidable

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	F.8. Emissions from increased motor vehicle activity and new area sources associated with the Patterson Gardens proposal could cause or contribute to ongoing violations of the ozone and PM_{10} standards.	Significant, Unavoidable	**F.8:** Implement Mitigation Measures F.6(b), F.6(c), and F.6(d)	F.6.b and F.6.c included	Significant, Unavoidable
	F.9. The cumulative air quality effects of the development of the West Patterson projects could delay the region's progress in attaining the air quality standards.	Significant, Unavoidable	**F.9:** Implement Mitigation Measures associated with Impact F.6.		Significant, Unavoidable
	F.10. The cumulative air quality effects of development of the Keystone Pacific Business Park could delay the region's progress in attaining the air quality standards.	Significant, Unavoidable	**F.10:** Implement Mitigation Measures F.6(a), F.6(c), and F.6(d).	F.6.c included	Significant, Unavoidable
	F.11. The cumulative air quality effects of development of the Patterson Gardens project could delay the region's progress in attaining the air quality standards.	Significant, Unavoidable	**F.11:** Implement Mitigation Measures F.6(b), F.6(c), and F.6(d).	F.6.b and F.6.c included	Significant, Unavoidable

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Noise	**G.1.** Project-related construction could cause a substantial, though intermittent and short-term, increase in noise levels.	Significant	**G.1:** Construction activities shall be restricted to the hours between 7:00 a.m. and 7:00 p.m., Monday through Saturday, except holidays. Mufflers shall be provided for all heavy construction equipment and all stationary noise sources. Stationary noise sources shall not be located near occupied dwelling units. Staging areas shall be placed as far from existing residences as possible.		Less than Significant
	G.2. Increased traffic, including truck traffic, could cause substantial noise increases for existing sensitive receptors in the project vicinity.	Significant	**G.2:** Improvements to Ward Avenue shall provide acceptable future noise levels for existing residences by locating the centerline of the road at least 110 feet from the outdoor activity areas of existing residences. Improvements to Baldwin Road shall provide acceptable future noise levels either by locating the centerline of the road at least 210 feet from existing and proposed residential outdoor activity areas, or by improving the residential properties to satisfy the goals of City of Patterson Noise Element policy VII.E.6. The circulation system for the West Patterson Business Park Master Development Plan shall include alternate truck access routes from Sperry Avenue and/or Rogers Road for businesses that face Baldwin Road to reduce traffic noise impacts to residences on Baldwin Road.		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	G.3. Light industrial activities and truck loading operations under the Business Park Plan could generate noise levels inconsistent with the City's or the County's noise compatibility goals.	Significant	**G.3 a+b:** Light industrial tenants shall be required to provide an acoustical analysis demonstrating that adequate setbacks or other noise mitigation features are incorporated for uses that would not be conducted entirely within enclosed buildings or would involve intensive industrial operations not concentrated in the interior of the Business Park site. Light industrial uses adjacent to Baldwin Road shall be designed so that truck-loading operations and delivery areas are shielded from residences on Baldwin Road.	Included in Keystone Pacific Business Park	Less than Significant
	G.4. Routine operation of the City's wastewater treatment plant expansion could cause operation of noise sources exceeding the City's or County's noise exposure goals for existing residences near the plant.	Less than Significant	No mitigation necessary		Less than Significant
	G.5. Noise from ongoing agricultural operations and aircraft overflights could periodically exceed the City's noise exposure goals for Patterson Gardens residences.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	G.6. Increased traffic, including truck traffic, from the Keystone Pacific Business Park could cause substantial noise increases for existing sensitive receptors along Baldwin Road.	Significant	**G.6:** Improvements to Baldwin Road shall provide acceptable future noise levels for residences on Baldwin Road between Sperry Avenue and the Keystone Pacific site, either by locating the centerline of the road at least 140 feet from the homes' outdoor activity areas or by improving the residential properties to satisfy the goals of City of Patterson Noise Element policy VII.E.6.		Less than Significant
	G.7. Light industrial activities and truck loading operations with the Keystone Pacific Business Park proposal could generate noise levels inconsistent with the City's or the County's noise compatibility goals.	Significant	**G.7:** Implement Mitigation Measures G.3.a and G.3.b if the Keystone Pacific Business Park site plan and building designs change from those described in Chapter II, Project Description.	Included in Keystone Pacific Business Park	Less than Significant
	G.8. Increased traffic from the Patterson Gardens proposal could cause noise increases for existing sensitive receptors in the project vicinity.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	G.9. Cumulative development, including the West Patterson projects could lead to noise conflicts between incompatible land uses.	Significant	**G.9: a)** Noise levels in residential outdoor areas along Sperry Avenue shall be reduced from 65 to 60 dBA Ldn by improving noise insulation performance of the proposed 6-foot-high wall by increasing its height and mass, and by configuring the outdoor activity areas of the first row of residences to be approximately 160 feet from the centerline of Sperry Avenue. **b)** Noise levels in indoor spaces of the first row of residences shall be reduced by providing some or all of the following measures: air handling systems that enable windows facing traffic to be permanently closed; energy-efficient windows; solid core exterior doors with perimeter weather stripping; constructing exterior walls with a ½-inch minimum thickness fiberboard underlayer; installing roof or attic vents facing traffic that are baffled; creating floor plans oriented along roadways with bedrooms and living rooms facing towards the interior side of the home.		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Hydrology and Water Quality	**H.1.** Placement of housing in areas subject to flooding could result in severe hardship and property damage for project occupants.	Significant	**H.1:** New construction and substantial improvement of any structure in Zone B shall have the lowest floor elevation, including basement, elevated above the highest adjacent grade at least two feet. Upon completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, or verified by a community building inspector to be properly elevated. Certifications shall be provided to the floodplain administrator	Included in Patterson Gardens	Less than Significant
	H.2. Impervious surfaces and placement of structures in a floodplain would increase the amount of runoff, potentially exacerbating existing local flooding problems.	Significant	**H.2:** Each phase of development must design and install drainage systems in compliance with the intent of the recommended drainage plan detailed in the *2001 Master Storm Drainage Plan, City of Patterson, Western Expansion Area.* The detention basins shall be designed so that flow to the creek could be interrupted when insufficient capacity was available in the creek for conveyance of the flows. Design-level drainage plans for each phase of the development of the West Patterson projects shall be submitted to the City of Patterson for review.	Included in Keystone Pacific Business Park and Patterson Gardens	Less than Significant
	H.3. The increase in impervious surfaces could adversely affect groundwater recharge.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	H.4. Construction activities and post-construction land uses could result in degradation of water quality in nearby surface water bodies by reducing the quality of storm water runoff.	Significant	**H.4:** Each developer who proposes to construct a project within the project area, shall prepare a SWPPP designed to reduce potential impacts to surface water quality through the construction and life of the project whether or not the development site is over five acres. The City shall also prepare a SWPPP for its wastewater facility expansion project. The SWPPP would act as the overall document designed to provide measures to mitigate water quality impacts. At a minimum, BMPs shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies with storm water. Regular tailgate meetings shall be held to educate personnel on pollution prevention. An independent monitoring program shall be implemented to prevent pollution from construction runoff. BMPs to reduce erosion of exposed soils shall be implemented. The SWPPP shall include measures designed to mitigate potential water quality degradation of runoff from all portions of the completed development. The final design team for each development shall review and incorporate the concepts included in the *Start at the Source, Design Guidance Manual for Stormwater Quality Protection.*		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	H.5. Existing water supply wells in the project area, if not properly managed or decommissioned, could be damaged during construction, potentially allowing impacts to groundwater quality.	Significant	**H.5:** Prior to approval of a grading plan for development of a particular parcel or subarea of the project area, a well survey shall be conducted to determine the location and characteristics of each well. The water supply wells shall either be properly abandoned in compliance with the California Department of Water Resources, California Wells Standards, and Stanislaus County Code, or inspected by a qualified professional to determine whether each well is properly sealed to prevent infiltration of water-borne contaminants into the well casing or surrounding gravel pack. If any of the wells are found not to comply with this requirement, the applicant shall retain a qualified well driller to install the required seal.		Less than Significant
	H.6. The City's proposed wastewater treatment plant expansion could impair groundwater beneficial uses or quality.	Less than Significant	No mitigation necessary		Less than Significant
	H.7. The proposed change in land use at the project area could affect regional groundwater quality.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Water Supply	**I.1.** Treatment of groundwater would require the disposal of large quantities of concentrated brine created as a byproduct of groundwater treatment.	Significant, Unavoidable	If the City elects to use evaporation and disposal of solid salts as a method of brine disposal, the City shall require new development to pay its pro-rata share of the cost of an agricultural conservation easement, in the manner discussed in Mitigation Measure C.1, for the acreage converted for use as evaporation ponds.		Significant, Unavoidable

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	I.2. Groundwater treatment would consume substantial energy.	Less than Significant	No mitigation necessary		Less than Significant
	I.3. Pumping groundwater to serve the West Patterson p7rojects and other existing and planned demand could create a severe "cone of depression" beneath the City's well field.	Significant, Unavoidable	**I.3: a)** The City shall sample groundwater semiannually to assess water quality, and shall conduct additional studies to better understand direction and rate of groundwater flow in the confined aquifer. This will allow the City to optimize the arrangement of new wells to maximize water quality, and minimize the severity of the resulting cone of depression. **b)** If, in the unlikely event that an existing user of the confined aquifer finds its well affected by the City's pumping, the City shall compensate the user for the cost of deepening the pump setting and the increased cost of operating the well to draw water from greater depths and shall be reimbursed by developers. **c)** Subsidence shall be monitored annually at each well and new wells shall be designed to prevent damage to the wells from subsidence as described in the groundwater study.		Significant, Unavoidable
	I.4. Supplying water to the West Patterson projects would require extension of water supply conveyance infrastructure into previously unserved areas.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	I.5. Operation of existing wells and construction of new wells could lead to the introduction of new contaminants into the aquifer.	Potentially Significant	**I.5:** To avoid contaminating the aquifer, the City shall comply with all aspects of the County's water well ordinance.	Included	Less than Significant
	Variant I.1. Implementation of the surface water variant could interfere with the operation of SWP or CVP facilities, primarily in the Delta, or adversely affect water quality in the Delta.	Less than Significant	No mitigation necessary		Less than Significant
	Variant I.2. Implementation of the surface water variant could cause existing users of a supply obtained by the City to switch to other water sources, with attendant effects on those users.	Significant, unavoidable	**Variant I.2:** Impacts on groundwater supplies could be mitigated if existing users were to obtain replacement surface-water supplies. Such alternative supplies are potentially available from a number of sources. The City shall provide information about alternative surface-water supplies at its disposal to current users of the supply purchased by the City to assist them in securing such supplies.		Significant, Unavoidable
	Variant I.3. Pumping groundwater prior to switching to a surface-water source would cause a cone of depression.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	Variant I.4. Supplying water to the West Patterson projects would require extension of water supply conveyance infrastructure into previously unserved areas.	Less than Significant	No mitigation necessary		Less than Significant
	Variant I.5. Supplying water to the West Patterson projects with surface water would require construction of a water treatment plant.	Significant, Unavoidable	None determined to be available until a treatment plant is designed and its location ascertained.		Significant, Unavoidable
	Variant I.6. Installing new wells, pumping groundwater, or injecting treated surface water through the ASR system would introduce new contaminants into the aquifer.	Potentially Significant	**Variant I.6:** The City shall comply with the County's water well ordinance.	Included	Less than Significant
Wastewater	**J.1.** The City's wastewater collection systems would not have adequate capacity to serve the West Patterson projects and adjacent approved residential development.	Significant	**J.1:** The project sponsors for Patterson Gardens and the Keystone Pacific Business Park, and project applicants for future development in the Business Park Plan area shall construct all necessary wastewater system improvements on their property, or contribute to a new community facilities district to construct these improvements. The City shall, through a combination of sewer development fees and other funding mechanisms, ensure that new development pays its share of the costs of sewer system improvements.	Included in Keystone Pacific Business Park and Patterson Gardens	Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	J.2. The West Patterson projects would generate wastewater in excess of the existing capacity of the City's wastewater treatment facility.	Significant	**J.2:** Project applicants for future development in the Business Park Plan area shall participate in a new CFD or similar financing district established to finance the necessary second wastewater treatment plan expansion of 0.5 mgd.		Less than Significant
	J.3. The City's proposed wastewater treatment plant expansion project could exceed the wastewater treatment requirements of the Regional Water Quality Control Board.	Less than Significant	No mitigation necessary		Less than Significant
	J.4. Wastewater generated by past, present, and future cumulative projects would exceed the capacity of the City's wastewater treatment facilities.	Less than Significant	No mitigation necessary		Less than Significant
	J.5. Wastewater treatment facilities expansion would result in excess capacity of about 0.3 million gallons per day.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Geology and Seismicity	**K.1.** Development of the West Patterson projects could expose new residents and employees to geologic hazards and seismic risks.	Less than Significant	No mitigation necessary		Less than Significant
Hazards	**L.1.** New residents in Patterson Gardens and students at the school site in the Patterson Gardens site could be exposed to hazardous levels of chemicals in the soil.	Less than Significant	No mitigation necessary		Less than Significant
	L.2. Demolition of existing structures in the West Patterson project area or on the wastewater percolation pond sites could release hazardous chemicals such as asbestos or lead.	Potentially Significant	**L.2:** An investigation shall be made of each structure scheduled for demolition, focusing on asbestos and lead-based paint. Removal must be conducted according to OSHA and other regulations.		Less than Significant
	L.3. Agricultural spraying operations in the West Patterson project area, and storage of chemicals at the Patterson Airport could expose residents and businesses to hazardous materials.	Less than Significant	No mitigation necessary		Less than Significant
Community Services	**M.1.** The project would generate about 800 additional school-aged children which would increase the demand for school facilities.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	M.2. The expansion of employment opportunities in Patterson may attract households with school-aged children resulting in a secondary impact on area schools.	Less than Significant	No mitigation necessary		Less than Significant
	M.3. Development of the proposed West Patterson projects would increase the demand for construction of additional fire protection facilities.	Less than Significant	No mitigation necessary		Less than Significant
	M.4. Development of the proposed West Patterson projects would increase the demand for police facilities.	Less than Significant	No mitigation necessary		Less than Significant
	M.5. Development of the proposed West Patterson projects would generate additional solid waste in the City of Patterson.	Less than Significant	No mitigation necessary		Less than Significant
	M.6. Development of the Patterson Gardens proposal would generate the need for additional parkland and recreational facilities to serve new residents.	Less than Significant	No mitigation necessary		Less than Significant
Population, Housing and Employment	**N.1.** Development of the West Patterson projects would cause the City to exceed regional population projections.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
	N.2. Development of the proposed West Patterson projects would induce substantial growth in undeveloped areas and require extension of major infrastructure.	Significant	**N.2:** The City shall, through a combination of development fees, a community facilities financing district, or other funding mechanisms, ensure that new development pays its share of infrastructure and service costs.		Less than Significant
	N.3. Development of the proposed West Patterson projects would displace existing housing and existing jobs.	Less than Significant	No mitigation necessary		Less than Significant
Visual Resources	**O.1.** Development of the project area would change views for motorists on Interstate 5.	Less than Significant	No mitigation necessary		Less than Significant
	O.2. Development of Patterson Gardens and the Business Park Plan area would alter views of the Diablo Range for pedestrians and motorists on Sperry Avenue.	Less than Significant	No mitigation necessary		Less than Significant
	O.3. Development of the Patterson Gardens site would change the existing expansive agricultural visual character of the project vicinity.	Less than Significant	No mitigation necessary		Less than Significant
	O.4. Development under the West Patterson Business Park Master Development Plan / Keystone Pacific Business Park Proposal would change the existing expansive agricultural visual character of the project vicinity.	Less than Significant	No mitigation necessary		Less than Significant

Topic	Impact(s)	Significance Prior to Mitigation	Mitigation Measure(s)	Mitigation Measures Included in Project	Significance after Mitigation
Cultural Resources	**P.1.** Development of the West Patterson project area would remove buildings identified as having potential historic interest.	Less than Significant	No mitigation necessary		Less than Significant
	P.2. Development of the West Patterson projects may disturb or eliminate archeological resources from the prehistoric and historic eras.	Less than Significant	No mitigation necessary		Less than Significant

GROWTH INDUCEMENT

Employment growth resulting from development of the West Patterson Business Park Master Development Plan and the commercial portion of the Patterson Gardens project would be greater than that assumed from full buildout of the existing City *General Plan*. The West Patterson projects are intended to generate a substantial number of new jobs that would be higher paying than current jobs in the City. It is expected that as the number and quality of jobs improves, the City would reach a threshold where it could support a wider range of retail goods and services than at present.

Development of the Business Park Plan area is not expected to induce additional residential growth in Patterson because there is an existing imbalance in the jobs-to-housing ratio. New jobs could encourage some new employees who live elsewhere to relocate to Patterson or to other nearby communities in the county.

Development of the West Patterson projects could encourage additional development in Stanislaus County on parcels adjacent to those planned for conversion. Thus, development of the West Patterson projects could result in increased pressures to convert prime agricultural land to urban uses. This potential growth-inducing impact can be partially mitigated but not to less-than-significant levels.

No unusual labor requirements are expected from construction of the West Patterson projects. Given the current unemployment rate in the City of Patterson and Stanislaus County, it would be expected that construction would meet labor needs from within the regional labor market.

AREAS OF CONTROVERSY

Section 15123 of the CEQA Guidelines requires the agency preparing an EIR to disclose any areas of controversy about the project that became known to it during the preparation of the EIR. Areas of controversy include the potential loss of agricultural land, impacts relating to sensitive biological resources, traffic, air quality, water supply, wastewater, drainage and hydrology, public services and potential cumulative and growth inducing impacts.

C. SUMMARY OF ALTERNATIVES

ALTERNATIVE 1 - NO PROJECT

The No Project alternative has two scenarios: the No Action Alternative and the Existing General Plan Alternative. Under the No Action Alternative, the West Patterson Business Park Master Development Plan site, including the Keystone Pacific Business Park site, and the Patterson Gardens site would remain in their existing condition and no development would take place.

The Existing General Plan Alternative assumes development of the sites under the existing land use designations established by the City of Patterson and Stanislaus County General Plans, with no amendments to either General Plan and no expansion of the City's sphere of influence. The Keystone and northern Cozzens properties would remain in agricultural use. All of the 305-acre Patterson Gardens site would maintain its *Low Density Residential* land use designation under the City's *General Plan*. The general commercial, office and retail uses included in the Patterson Gardens proposal would not be developed and would be replaced by an additional 76 residential units.

The potential for land use compatibility conflicts would, on balance, be slightly greater with this alternative because development of the Business Park plan area would take place without the established design guidelines proposed under the West Patterson projects and because this alternative assumes an additional 76 residential units on the Patterson Gardens site.

This alternative would result in the loss of approximately 30 percent less prime agricultural land than the West Patterson projects but its impact on agricultural resources would remain significant and unavoidable.

Impacts to the Patterson Gardens site would be virtually identical under this alternative since the entire site would be developed.

The northern portion of the project area (northern Cozzens and Keystone Pacific properties) would remain in agricultural use, thereby reducing the potential impact to Swainson's hawk foraging by approximately 342 acres. Expansion of wastewater

treatment facilities would result in the same or similar impacts to Swainson's hawk foraging habitat as those of the proposed project.

The Existing General Plan Alternative would generate about 56 percent fewer vehicle trips during the A.M. and P.M. peak hours in comparison to the proposed project. This would significantly reduce impacts on the regional and local roadway network although major intersections would still fall below LOS C with cumulative traffic growth in 2025. Traffic-generated air emissions would also be substantially reduced under the Existing General Plan Alternative, but would continue to result in significant, unavoidable air quality effects, as with the proposed project.

Reductions in traffic volumes on local streets with this alternative would noticeably reduce traffic-generated noise levels compared to those identified with the proposed project, but cumulative traffic growth without the proposed project would continue to result in significant noise impacts. Therefore, the added traffic in this alternative would contribute to significant noise impacts.

Under this alternative, on-site flooding conditions would be expected to be similar to those under the proposed project. The potential for construction-period water quality degradation, and for increased discharge of urban pollutants would be reduced because less land would be developed with urban uses. There would be less of a decrease in the rate of regional groundwater salt loading relative to the proposed project since more of the Business Park Plan site would remain in agricultural production.

The Existing General Plan Alternative would increase the water demand in the City by about 56 percent compared to the 83 percent increase in demand created by the proposed project.

With reduction of the Business Park Plan area, this alternative would generate approximately 254,000 gallons per day (gpd) less wastewater than the proposed project, but would still require expansion of the City's wastewater collection and treatment facilities and about 100 acres of new percolation ponds. Significant impacts could be mitigated to less-than-significant levels.

As with the proposed project, the increase in population due to this alternative, would fall within *General Plan* projections. The residential component of this alternative would add about 3,190 residents, about 230 more than the West Patterson projects by 2025. This Alternative would add about 7,765 jobs to Stanislaus County and Patterson by 2025,

about 9,180 fewer jobs than the West Patterson projects. It would be more difficult for Patterson to achieve the target jobs-to-housing ratio of 1.5, but the number of employable residents would keep pace with the number of jobs in Patterson.

Impacts to visual resources under this alternative would, on balance, be greater than with the West Patterson projects, without the design guidelines and landscape improvements proposed by the Business Park Plan.

Impacts related to geology and seismicity, hazards, community services, cultural resources with this alternative would be essentially the same as those described for the proposed project. As with the proposed project, most impacts related to growth inducement would be limited or negligible. However, the inducement to convert prime agricultural land to urban uses would remain the same under the Existing General Plan Alternative.

ALTERNATIVE 2 – NO DEVELOPMENT ON NORTHERN COZZENS AND KEYSTONE PROPERTIES

Under this alternative, as with the Existing General Plan Alternative, the northern Cozzens property and the Keystone Pacific property would not be developed, and the City's sphere of influence would not be expanded to include these properties. Development would otherwise conform to the requirements of the West Patterson Business Park Master Development Plan. This is 4,202,600 square feet less development than proposed as part of the Business Park Plan.

The 987 residential units and the 302,500 square feet of commercial-retail and office space on the Patterson Gardens site would also be eliminated under Alternative 2.

Land use compatibility issues arising from the placement of commercial and light industrial uses adjacent to residential land uses would be less than that of the West Patterson projects because less business park development would take place.

Without the development of the northern Cozzens and the Keystone Pacific properties, this alternative would entail the loss of approximately 58 percent less prime agricultural land than with the West Patterson projects but its impact on agricultural resources would remain significant and unavoidable.

The northern portion of the Business Park project area (northern Cozzens and Keystone Pacific Business Park) would not be developed, reducing the potential impact to Swainson's hawk habitat by approximately 342 acres.

The expansion of the City's wastewater treatment facilities would result in potentially significant impacts to Swainson's hawk foraging habitat, which could be mitigated to less-than-significant levels.

This Alternative would generate about 55 percent fewer trips during the A.M. and P.M. peak hours in comparison to the proposed project, significantly reducing impacts on the regional and local roadway network, although many of the major intersections would still fall below LOS C in 2025. Traffic-generated air emissions would also be substantially reduced under this alternative, but would continue to result in significant, unavoidable air quality effects, as with the proposed project.

Reductions in traffic volumes with this alternative would noticeably reduce traffic-generated noise levels compared to those identified with the West Patterson projects. However, Alternative 2 would continue to result in significant noise impacts to residences adjacent to Sperry Avenue and Baldwin Road due to cumulative traffic growth. Noise impacts associated with the construction of new residential uses at the Patterson Gardens site would be eliminated under this alternative.

The Patterson Gardens portion of the project would not be developed and, therefore, Salado Creek improvements would not be completed. Although on-site flooding at the Patterson Gardens site would likely continue, no housing would be placed in the flood hazard zone.

The potential for construction-period water quality impacts from increased discharge of urban pollutants would be reduced with the decrease in the amount of urban development. Under this alternative, there would be less of a decrease in the rate of regional groundwater salt loading relative to the proposed project since more of the Business Plan site and the Patterson Gardens site would remain in agricultural production.

Alternative 2 would increase the water demand in the City by 36 percent as compared to the 83 percent increase in demand created by the West Patterson projects.

Alternative 2 would generate approximately 528,350 gpd less wastewater than the proposed project. This would still require expansion of the City's wastewater collection and treatment facilities, including construction of approximately 70 acres of new percolation ponds.

This Alternative would add about 9,250 jobs to Stanislaus County and Patterson by 2025, about 7,695 fewer jobs than the West Patterson projects. It would be more difficult for Patterson to achieve the target jobs-to-housing ratio of 1.5, but the number of employable residents would keep pace with the number of jobs in Patterson.

Impacts to visual resources under this alternative would be less than those of the West Patterson projects to the extent that the northern portion of the Business Park Plan area would remain undeveloped.

Impacts related to geology and seismicity, hazards, community services, cultural resources with this alternative would be essentially the same as those described for the proposed project. As with the proposed project, most impacts related to growth inducement would be limited or negligible. However, the inducement to convert prime agricultural land to urban uses would remain the same under Alternative 2.

ALTERNATIVE 3 -- BUSINESS PARK USES RELOCATED EAST

This alternative would allow development of the Business Park Plan site with the exception of the northern Cozzens property and the Keystone Pacific property. These properties would retain their *Agricultural* designation and remain in agricultural use. A sizable portion of the light industrial and business park uses that would have been developed on the northern Cozzens and Keystone properties would instead be developed southeast of downtown Patterson on a 231-acre site designated in the City's General Plan for *Light Industrial* and *Heavy Industrial* uses. This alternative would include the development of a mix of uses similar to those proposed as part of the project. The Patterson Gardens component of the project would remain unchanged under this Alternative.

Land use compatibility issues arising from the placement of commercial and light industrial uses adjacent to residential land uses would be lessened under this alternative from those of the West Patterson projects, since the northern portion of the Plan area would remain undeveloped and locating light industrial uses on the east side site would not place light industrial uses adjacent to residential land uses.

Without developing the northern parcels of the Business Park Plan area and, instead, developing the eastside site, Alternative 3 would result in about 10 percent less loss of prime farmland than would the West Patterson projects. The loss of prime farmland under this alternative would, however, continue to be a significant and unavoidable impact.

The Patterson Gardens project would remain unchanged, and impacts to biological resources on this site would remain the same as the proposed project. The northern Cozzens and Keystone Pacific properties would remain in agricultural production and thereby continue to provide potential foraging habitat for Swainson's hawks and other raptor species. The development of the 231-acre east Patterson site and the construction of the wastewater treatment plant would result in potentially significant impacts to Swainson's hawk foraging habitat, which could be mitigated to less-than-significant levels.

Alternative 3 would generate about 23 percent fewer trips during the A.M. and P.M. peak hours in comparison to the proposed project, and trip distribution would be quite different under this alternative. Traffic impacts would nonetheless continue to be significant. Construction period impacts would be slightly reduced in comparison to those identified for the proposed West Patterson projects since this alternative would result in less development.

Traffic generated air emissions would be reduced slightly in comparison to the proposed project. The reduction in vehicle trips in Alternative 3 would not noticeably reduce traffic-generated noise levels compared with the proposed project.

Hydrology and water quality impacts under Alternative 3 would remain essentially the same as with the West Patterson projects, although changes in construction-period water quality degradation and the potential for increased discharge under Alternative 3 would be reduced due to less development. Under this alternative, there would be less decrease in the rate of regional groundwater salt loading relative to the proposed project since more of the Business Plan site would remain in agricultural production.

Alternative 3 would increase the water demand in the City by 75 percent, compared to the 83 percent increase in demand created by the proposed project.

Overall, Alternative 3 would generate approximately 67,150 gpd less wastewater than the proposed project. Expansion of the City's wastewater collection and treatment facilities would be the same as for the proposed project.

As with the proposed project, the increase in population due to this alternative, would fall within General Plan projections and the residential component of this alternative would add about 2,960 residents 2025. This Alternative would add about 14,695 jobs to Stanislaus County and Patterson by 2025, about 2,250 fewer jobs than the West Patterson projects. As with the proposed project, this alternative would exceed the target jobs-to-housing ratio of 1.5, but the number of jobs would keep pace with the number of employable residents.

Impacts to visual resources under this alternative would be less than those of the West Patterson projects since the northern portion of the Plan area would remain undeveloped, lessening visual impacts to that extent. Locating development away from the base of the Diablo Range would also better preserve views from within the City of those hills and have less impact on views across the valley, for I-5 motorists.

Impacts related to geology and seismicity, hazards, community services, cultural resources with this alternative would be essentially the same as those described for the proposed project. As with the proposed project, most impacts related to growth inducement would be limited or negligible. The inducement to convert prime agricultural land to urban uses would remain the same under Alternative 3.

ALTERNATIVE 4 – REDUCED SPHERE OF INFLUENCE

The Business Park Plan development program under this alternative would be largely identical to that of the proposed project. Under Alternative 4, however, the City's sphere of influence would be reduced on the east and on the south sides by about 516 acres and designated *Agriculture* in the County's General Plan. Under this alternative, the reduction in the City's sphere of influence would result in the elimination of approximately half of the residential and commercial development on the Patterson Gardens site.

The potential for land use compatibility conflicts would be reduced in comparison to the proposed project.

Alternative 4 would directly result in the loss of about 150 fewer acres of prime agricultural land in the West Patterson project area (about 13 percent less), than the West Patterson projects. By removing farmland from the City's sphere of influence and redesignating these areas for agriculture, this alternative would also offset growth-inducing impacts of development on agricultural resources.

This alternative calls for the same level of development as the proposed project and the specific impacts to biological resources and required mitigation are identical to the proposed project. Cumulative long-term effects within the region on Swainson's hawks and other foraging raptors would likely be less under this alternative because of the redesignation of over 500 acres currently within the City of Patterson's sphere of influence to agricultural use.

Development under Alternative 4 would generate about 16 percent fewer trips during the A.M. and P.M. peak hours in comparison to the proposed project. However, most of the intersections would fall below LOS C in 2025, resulting in the same significant traffic impacts as those identified for the proposed project.

The air quality and noise impacts associated with Alternative 4 would be identical to the proposed project.

On-site flooding conditions at the Patterson Gardens site would be the same as for the proposed project, but over a smaller area. The potential for increased discharge of urban pollutants on the Business Park Plan site would be identical to the West Patterson projects. The potential for construction-period water quality degradation would be reduced on the Patterson Gardens site because less development would occur. Under this alternative, there would be less of a decrease in the rate of regional groundwater salt loading relative to the proposed project since one-half of the Patterson Gardens site would remain in agricultural production.

Alternative 4 would increase water demand in the City by 83 percent, as for the proposed project.

Alternative 4 would generate approximately 159,700 gpd less wastewater than the proposed project. This would still require expansion of the City's wastewater collection and treatment facilities, including construction of approximately 105 acres of new percolation ponds.

As with the proposed project, the increase in population due to this alternative would fall within *Patterson General Plan* projections, and the residential component of this alternative would add about 1,480 residents by 2025, about 1,480 fewer than the proposed project. This Alternative would add about 16,595 jobs to Stanislaus County and Patterson by 2025, about 350 fewer jobs than the West Patterson projects. As with the proposed project, this alternative would exceed the target jobs-to-housing ratio of 1.5, and the number of jobs would more than keep pace with the number of employable residents.

Impacts related to geology and seismicity, hazards, community services, visual resources and cultural resources with this alternative would be essentially the same as those described for the proposed project. As with the proposed project, most impacts related to growth inducement would be limited or negligible. However, the inducement to convert prime agricultural land to urban uses would remain the same under Alternative 4.

ALTERNATIVE 5 –HOWARD ROAD-WESTLEY TRIANGLE ALTERNATIVE LOCATION

This alternative would include development of a 1,300-acre site about 5 miles north of the West Patterson project area, roughly comparable in area to the 1,120-acre West Patterson project area. Like the project area, the alternative site is primarily in agricultural use. This alternative would establish similar land use designations as those proposed under the West Patterson projects and include a similar range of land uses and an equivalent amount of development as that proposed for the West Patterson projects site.

The potential for land use compatibility conflicts arising from the placement of residences at the alternative site would be increased under this alternative because there is no existing adjacent residential development and the long and narrow configuration of the site would increase the length of the interface between residential and agricultural uses.

The amount of prime farmland that would be converted under Alternative 5, about 1,300 acres, would be roughly comparable to the approximately 1,125 acres of prime farmland that would be lost under the West Patterson projects. As with the West Patterson projects, the impact would be significant and unavoidable.

The Westley Triangle site lies in an area with potential value to the San Joaquin kit fox. Development in this area could adversely affect the movement of kit foxes through the area. Because of the need for additional and expanded wastewater treatment facilities at both Westley and Patterson, this alternative would result in greater conversion of existing agricultural lands than the proposed project. Construction of these facilities could result in significant impacts to Swainson's hawks and other raptors.

Currently, there is very little traffic on roadways in the vicinity of the Westley site and roadways operate at level of service (LOS) A or better. Buildout at the Westley site would result in an additional 1,000 to 2,000 vehicles per hour on roadways in the project vicinity. Significant improvements would be needed at the Howard Road/I-5 interchange, at Wesley site intersections, and on Hamilton Road to accommodate the increased volume. Future 2025 cumulative traffic growth with this alternative would require further interchange improvements and widening of Gaffery Road, Hamilton Road, and McCracken Road in the vicinity of the alternative site.

Air quality impacts would be the same as those from the proposed project. Noise impacts to new proposed residents would be similar to those of the proposed project. Noise impacts to existing residents along Ward Avenue and approved residential development on Baldwin Road would not occur with Alternative 5.

The Westley site is located along the periphery of the major groundwater aquifer and, as a result, there would be less available groundwater to serve this site, in comparison to the West Patterson projects site. The County would likely need to acquire a surface water supply either through transfer or conversion. Development at the Westley site would complicate the operation of the Aquifer Storage and Recovery system proposed to "bank" surface water.

Because this alternative would include the same range of land uses and the same amount of development as the proposed project, it would generate a similar amount of wastewater as the proposed project. However, this alternative would require construction of a new wastewater collection system, treatment plant and approximately 90 acres of percolation ponds in the Westley area. This alternative would result in new significant impacts to biological resources as well as a greater loss of agricultural resources than the proposed project because the Patterson wastewater treatment facilities would still need to be expanded by 0.5 mgd to accommodate approved future development.

With Alternative 5, Patterson would lose an opportunity of generating nearly 17,000 jobs by year 2025. Therefore, this alternative would make it more difficult for Patterson to achieve the target jobs-to-housing ratio of 1.5, and the number of employable residents would continue to outpace the number of jobs in Patterson.

Alternative 5 would line the west side of I-5, a designated Scenic Highway, with urban development for a distance of about 5.5 miles, obscuring views of the San Joaquin Valley for I-5 motorists. The impact of Alternative 5 on visual resources would be significant.

Impacts related to hydrology and water quality, geology and seismicity, hazards, community services, visual resources and cultural resources with this alternative would be essentially the same as those described for the proposed project but in a new location. No new community services would be needed in Patterson.

Similar to the proposed project, impacts related to growth inducement would be limited or negligible. However, the inducement to convert prime agricultural land to urban uses would remain the same under Alternative 5 but would occur in the unincorporated Wesley area.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project – No Action Alternative is considered the environmentally superior alternative because impacts associated with development of the site would be reduced to the greatest extent. Where the No Project Alternative is the environmentally superior alternative, CEQA requires that the second most environmentally superior alternative be identified.

Comparison of the environmental impacts associated with each alternative, as described above, indicates that Alternative 2, No Development on Northern Cozzens Property, Keystone Pacific Site, and Patterson Gardens Site, is the environmentally superior alternative after the No Project – No Action Alternative. This alternative would generally be associated with less severe impacts than the proposed project with respect to land use, agricultural resources, biological resources, traffic, air quality, noise, hydrology and water quality, water supply, wastewater, and visual resources.

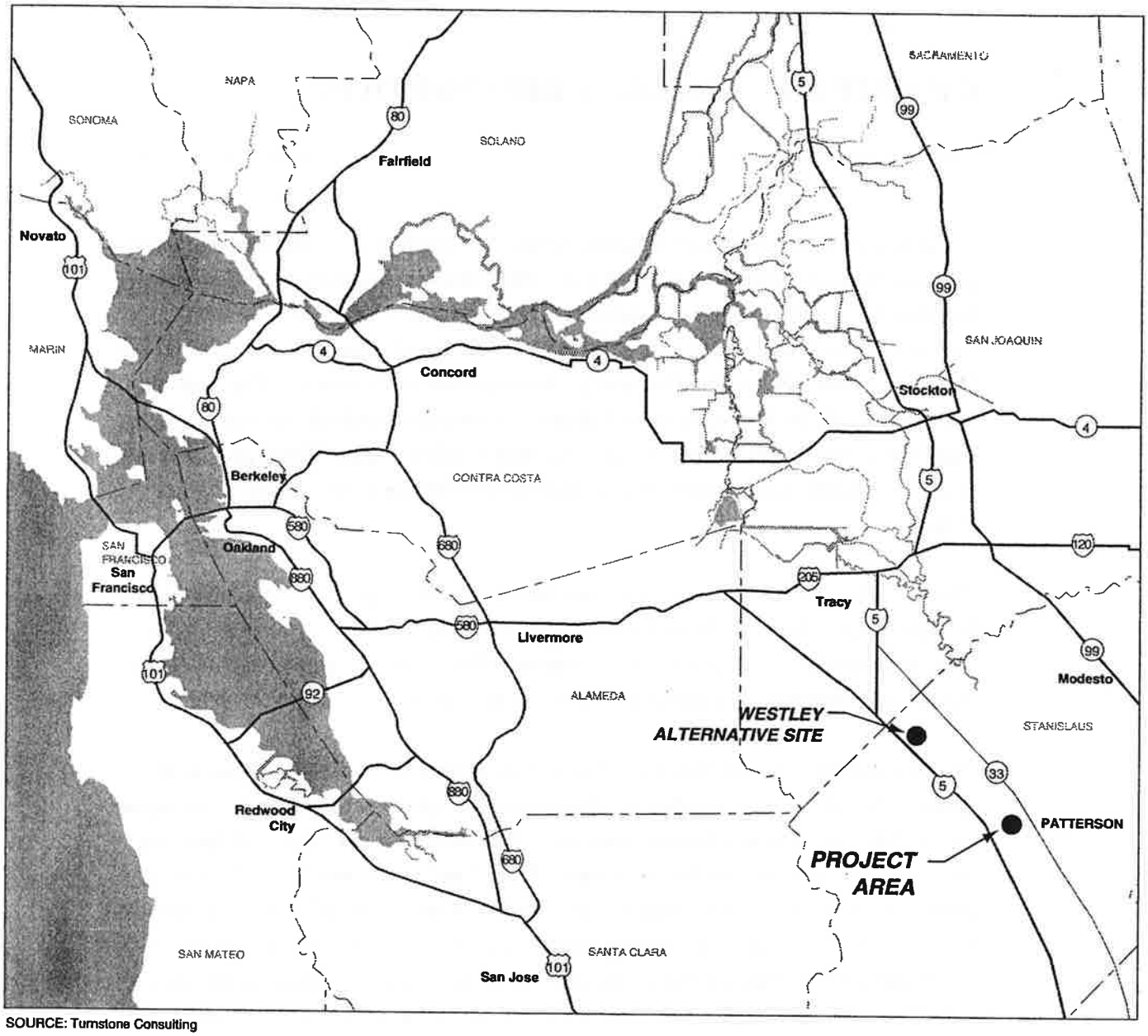
CHAPTER II. PROJECT DESCRIPTION

The proposed project is a development program that includes light industrial, business park, commercial, and residential land uses. Development would occur on two separate, but adjacent, sites located west of downtown Patterson (see Figure II.1: Regional Location). The West Patterson Business Park Master Development Plan (Business Park Plan) is the light industrial and business park component of the project. The Business Park Plan would be developed on an 820-acre site located outside of, but contiguous to, Patterson's western city boundary. The Patterson Gardens Planned Development is the project's residential and commercial component; it would be annexed to the City of Patterson.

This site is located immediately east of the Interstate-5 (I-5)/Sperry Avenue interchange between Rogers Road, the Delta Mendota Canal, and the California Aqueduct on the west, and Baldwin Road on the east. As shown in Figure II.2: Project Location, the site extends approximately one mile north and one-half mile south of Sperry Avenue.

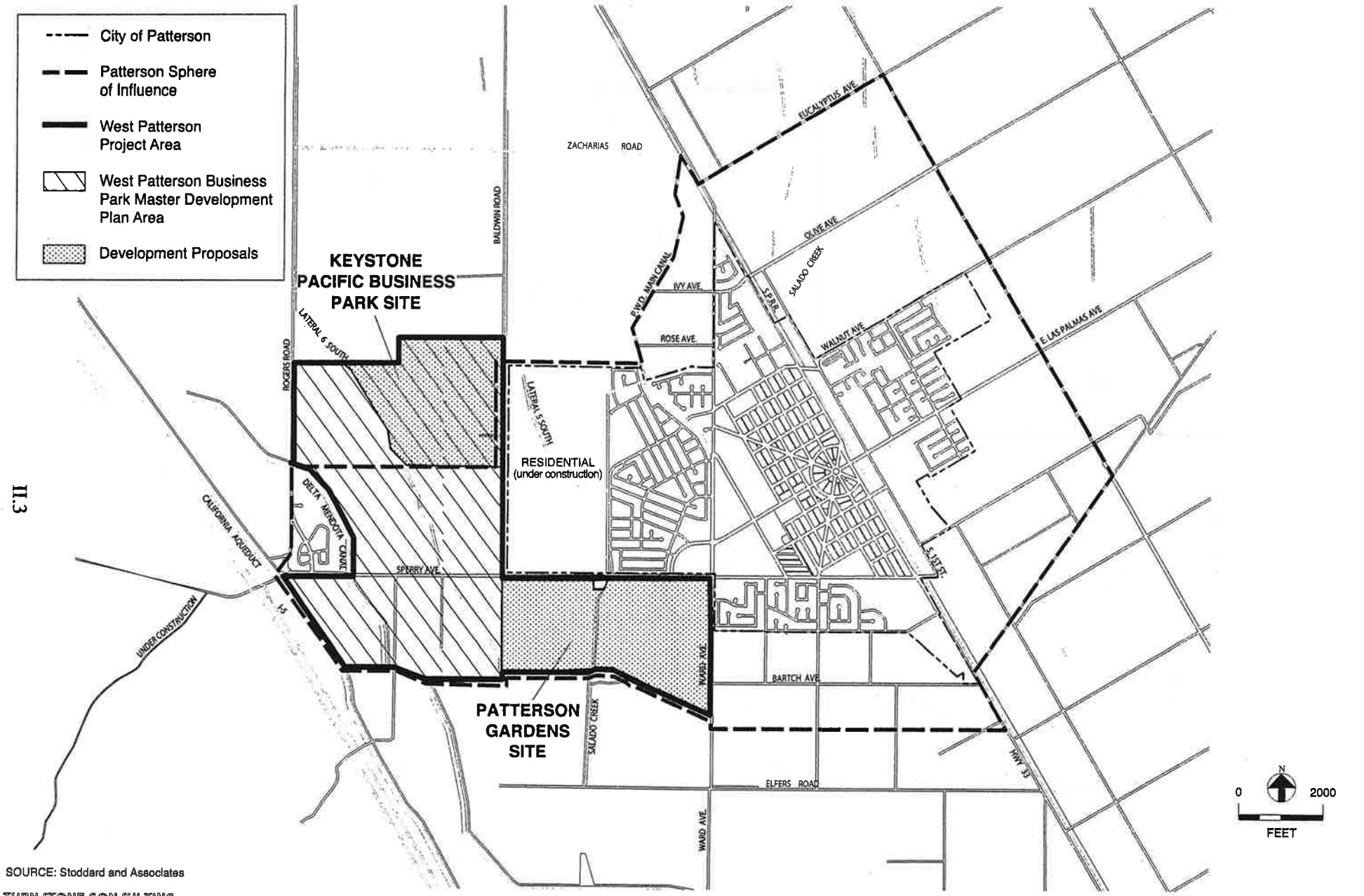
The City of Patterson and Stanislaus County have chosen a Business Park Plan as the appropriate instrument to regulate the development of approximately nine million square feet of light industrial and business park uses. The Business Park Plan would provide a recommended land use plan for the Business Park Plan site and would supplement the general plans of the City of Patterson and Stanislaus County. In addition, it would create two new zoning districts and establish zoning, allowable uses, development standards and an infrastructure framework that would apply to all development within the Business Park Plan's boundaries. The West Patterson Business Park Master Development Plan is attached as Appendix A.

The Business Park Plan area's 16 parcels are owned by 13 different landowners (see Figure II.3: Project Area Properties). The owner of the 224-acre property located in the northeastern quadrant of the Business Park Plan site has applied for development entitlements before the City and the County for this property. The applicant, Keystone Corporation of Raleigh, North Carolina, is proposing to construct approximately



SOURCE: Turnstone Consulting

FIGURE II.1: REGIONAL LOCATION

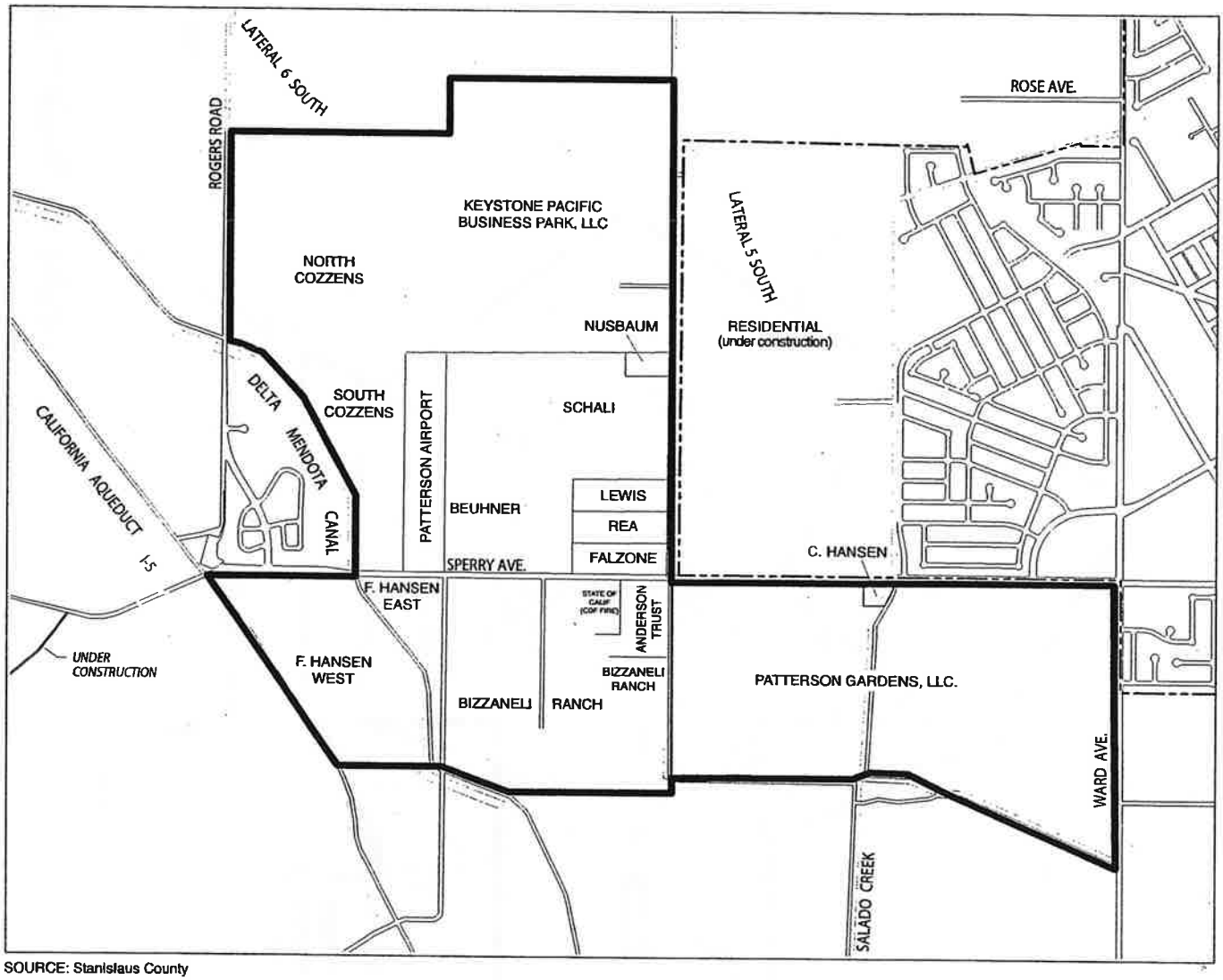


SOURCE: Stoddard and Associates

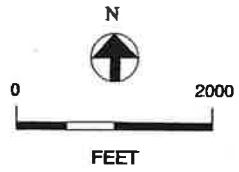
TURNSTONE CONSULTING

PATTERSON

FIGURE II.2: PROJECT LOCATION



SOURCE: Stanislaus County



City Limits

Project Area Boundary

TURNSTONE CONSULTING

PATTERSON

FIGURE II.3: PROJECT AREA PROPERTIES

2.5 million square feet of flex,[1] light industrial, and distribution/warehouse uses. This proposal, known as the Keystone Pacific Business Park proposal, is the only specific development project before the County and the City within the West Patterson Business Park Master Development Plan area at this time. Light industrial and business park facilities on the remaining parcels of the Business Park Plan site have generally not been defined beyond the gross square footage estimates of development for analysis purposes.

The Keystone Corporation is also proposing to develop residential and commercial uses on a separate 305-acre site located south of the City, between Baldwin Road and Ward Avenue (see Figure II.2). This master planned community, known as the Patterson Gardens Planned Development, or Patterson Gardens, is located outside the jurisdictional boundary of the City but within its sphere of influence, and is proposed to be annexed to the City of Patterson. This site is contiguous to, but not included in, the West Patterson Business Park Master Development Plan. The Patterson Gardens proposal consists of approximately 940 single-family residential homes, a 47-unit senior residential neighborhood, a 300,000-square-foot commercial /office area, and recreational and open space amenities.[2] The Patterson Gardens proposal also includes a dedication of land for the expansion and improvement of the City's Sports Park, and a potential school site. The Keystone Corporation is also considering a proposal to develop an approximately 16-acre lake on the Patterson Gardens site that would serve both as a neighborhood amenity and a stormwater detention basin.

The West Patterson Business Park Master Development Plan, the Keystone Pacific Business Park proposal and the Patterson Gardens proposal are hereinafter referred to as the West Patterson projects.

Various infrastructure improvements, including an expansion of the City's wastewater treatment plant and collection facilities, its domestic water system, new roadways, and new or upgraded drainage facilities would be developed as part of the West Patterson

---

[1] "Flex" space is typically one-story office buildings with rear loading docks to provide the flexibility of combining other business park uses consistent with the Business Park Master Development Plan with office use within each building.

[2] The exact number of single-family homes would vary depending on whether the Patterson Unified School District chooses to acquire the school site and on whether the residential community would include a lake. Thus, the total number of single-family homes proposed for the Patterson Gardens site would range from about 980 to 1,050.

projects. The City would provide domestic water, wastewater, and drainage facilities for both the Patterson Gardens project that would be annexed to the City immediately and the West Patterson Business Park area that would develop initially in the County and be annexed to the City at a future time. In addition, the City has prepared and adopted a Water Supply Assessment, which concludes that the City will use raw and/or treated groundwater sufficient to serve the proposed project. The City has formed a community facilities financing district (Mello-Roos District) as a mechanism to fund infrastructure improvements necessary to support development of a large portion of the City's sphere of influence, including the West Patterson projects.

A. PROJECT OBJECTIVES

CITY OF PATTERSON OBJECTIVES – WEST PATTERSON BUSINESS PARK MASTER DEVELOPMENT PLAN

The City of Patterson's objectives for the Business Park Plan are identified below:

- Enhance the quality of life for residents through the creation of job opportunities within the region.
- Achieve a more equitable jobs/housing balance in the region.
- Enhance economic development opportunities and implement economic development policies and programs found in the City of Patterson and Stanislaus County General Plans.
- Establish an infrastructure and regulatory framework conducive to attracting and retaining high quality light industrial/business park development that emphasizes job creation.
- Provide a comprehensive plan for the financing and installation of infrastructure improvements that would enable full development of the area with job-generating land uses.
- Improve transportation and air quality by reducing commuting to the Bay Area and other employment centers.

CITY OF PATTERSON OBJECTIVES – PATTERSON GARDENS PROPOSAL

The City of Patterson's objectives for the Patterson Gardens proposal are identified below:

- Provide a variety of residential lot sizes and housing types, including a designated area for senior housing, commercial and office uses, public facilities, recreation amenities, and landscaping.
- Complete the western gateway to the City by developing residential uses on the Patterson Gardens site, thus completing the necessary improvements to Sperry Avenue and by expanding the City's regional sports complex.

STANISLAUS COUNTY OBJECTIVES – WEST PATTERSON BUSINESS PARK MASTER DEVELOPMENT PLAN

Stanislaus County's objectives for the Business Park Plan are identified below:

- Provide land that has been appropriately zoned and designated for a master planned, multiple purpose, business/industrial park adjacent to city services and I-5.
- Develop a framework for the County and the City to work in partnership to provide a jobs/housing balance, including liveable wage job creation opportunities, in western Stanislaus County.
- Implement the County's I-5 corridor economic development study by creating a business park at the location identified in that study as most suitable for economic development.

KEYSTONE CORPORATION OBJECTIVES – KEYSTONE PACIFIC BUSINESS PARK PROPOSAL

The Keystone Corporation's objectives for the Business Park Plan and Keystone Pacific Business Park proposal are identified below:

- Develop a 224-acre business park of approximately 2.5 million square feet of flex, light industrial, and distribution/warehouse uses along Baldwin Road north of Sperry Avenue.

- Assist in establishing an inaugural business park in a strategic area of western Stanislaus County, the I-5/Sperry Avenue area, that would serve as the catalyst for a significant job creation center in western Stanislaus County.
- Assist in creating a jobs-housing balance in the City and western Stanislaus County by providing job opportunities locally instead of in the Bay Area.
- Assist in creating a business park to facilitate retention and expansion of successful existing Stanislaus County firms.
- Assist in creating a cost-competitive business park to attract firms relocating from the Bay Area and Silicon Valley that are being priced out of those markets.
- Assist the County's economic development efforts by providing sites for large, quality employers that currently are in short supply in Stanislaus County.
- Capitalize on the proposed project site's proximity to I-5 in western Stanislaus County by locating a business park near this existing facility instead of locating in an area that requires the construction of new freeway facilities.

THE KEYSTONE CORPORATION'S OBJECTIVES – PATTERSON GARDENS PROPOSAL

The Keystone Corporation's objectives for the Patterson Gardens proposal are identified below:

- Assist the City in meeting its regional fair-share of housing.
- Assist the City in providing senior housing through the inclusion of a senior housing project on the Patterson Gardens proposal site.
- Provide an elementary school site to the Patterson Unified School District on the Patterson Gardens site in accordance with a pre-existing agreement with the district.
- Assist the City in meeting current and future infrastructure needs, in addition to those needed by the Patterson Gardens proposal, through participation in a Mello-Roos financing district.

B. PROJECT LOCATION

The West Patterson project area covers approximately 1,127 acres and is located contiguous to the City of Patterson in Stanislaus County, approximately 14 miles southwest of the City of Modesto (see Figure II.1). Regional access to the site is provided via Interstate 5. Sperry Avenue is the major east/west arterial in West Patterson and provides access between I-5 and downtown Patterson.

The West Patterson Business Park Master Development Plan (Business Park Plan), the light industrial and business park component of the West Patterson projects, contains 820 acres (see Figure II.2). The Business Park Plan site is located one-half mile east of the I-5/Sperry Road interchange. The site is bounded by Rogers Road, the Delta Mendota Canal and the California Aqueduct on the west and Baldwin Road on the east. The site extends approximately one mile north and one-half mile south of Sperry Avenue.

The Patterson Airport, a privately operated general aviation facility, occupies approximately 30 acres near the center of the Business Park Plan site. Caltrans and the California Department of Forestry occupy approximately eight acres on the south side of Sperry Avenue, just west of Baldwin Road. The existing land use on the rest of the Business Park Plan site is primarily agricultural. Adjacent lands to the north and south of the Business Park Plan area are also privately held agricultural lands.

The residential component of the project, the Patterson Gardens Planned Development (Patterson Gardens), would be developed on a 305-acre site on the south side of Sperry Avenue, between Ward Avenue and Baldwin Road.[3] The Patterson Gardens site has historically been utilized for agricultural purposes as orchards and for row crop farming. West of Salado Creek, a portion of the Patterson Gardens site is currently in agricultural production as a walnut orchard. East of Salado Creek, the site is farmed with row crop products. The Business Park Plan area and the Patterson Gardens site share a border along Baldwin Road, south of Sperry Avenue as shown in Figure II.2.

---

[3] Note that the approximately 2-acre C. Hansen property is contiguous to the Patterson Gardens site and is located within the project area. However, it is not part of the Patterson Gardens proposal or site.

The West Patterson project area is crossed by a number of water conveyances. The Delta Mendota Canal, operated by the U.S. Department of Interior, Bureau of Reclamation, traverses the western portion of the Business Park Plan site from the northwest to the southeast, and forms a partial boundary on the west. The California Aqueduct, which is part of the State Water Project, operated by the State Department of Water Resources, also forms a partial boundary on the western edge of the Business Park Plan site. Lateral 6 South, a canal operated by the West Stanislaus Irrigation District that conveys irrigation water to farming operations in the area, bisects the Business Park Plan site from northwest to southeast, and is adjacent to the southern boundary of the Patterson Gardens site. Salado Creek, an intermittent stream that functions as a drainage ditch, traverses the Patterson Gardens site from south to north, bisecting the site into two roughly equal areas.

The City's wastewater treatment plant is about three miles east of the West Patterson project area on an approximately 160-acre site along the San Joaquin River (see Figure II.3a: Location of the City of Patterson Wastewater Treatment Plant). Immediately to the east of the treatment plant site is the San Joaquin River floodplain. The adjacent land to the north, south and west of the plant, including the areas identified as potential sites for expansion of the plant, is primarily in agricultural use.

C. DESCRIPTION OF PROPOSED PROJECT

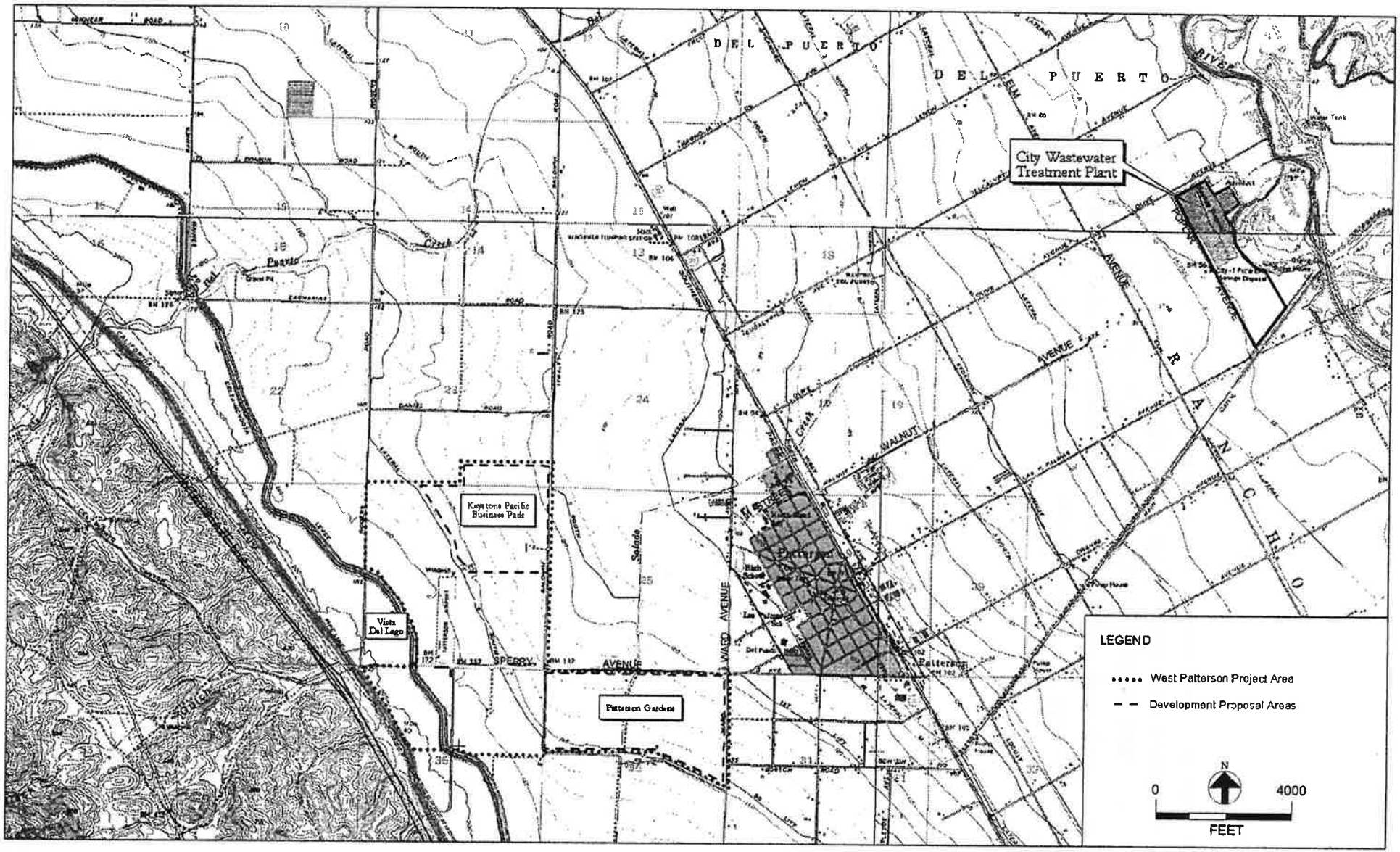
WEST PATTERSON BUSINESS PARK MASTER DEVELOPMENT PLAN

This section provides a description of the West Patterson projects based on information provided by the City, the County, and the Keystone Corporation, the applicant for development of the Keystone Pacific Business Park and the Patterson Gardens proposals.

BACKGROUND

In 1999, Stanislaus County commissioned a study to investigate the feasibility of locating light industrial and business park uses at one of five locations along the I-5 corridor in the western portion of the County (EDAW, 1999). The feasibility study envisioned a cooperative effort among the County, local jurisdictions, and private property owners to undertake industrial and business park development as part of an ongoing strategy for

economic development. The cities located in western Stanislaus County have emerged as housing centers for commuters to the San Francisco Bay Area, but the development of business uses and job centers has lagged. Increasing business and industrial development in the west County would contribute significantly to generating needed jobs for the community and would greatly improve the balance between jobs and housing in the region.



SOURCE: EDAW

TURNSTONE CONSULTING

PATTERSON

FIGURE II.3a: LOCATION OF THE CITY OF PATTERSON WASTEWATER TREATMENT PLANT

The feasibility study evaluated factors including land use policy and planning, water supply, wastewater treatment and disposal, freeway interchange accessibility, San Joaquin kit fox mitigation requirements, and the economic feasibility of developing light industrial and business park uses at the five study area locations. The study concluded that the land between the Sperry Avenue/I-5 interchange and the City of Patterson (i.e., West Patterson) offered the best opportunity for this light industrial and business park development and represented a logical area for urban growth. The City is expanding its residential community west of the downtown area and has approved development of several neighborhoods (e.g., Walker Ranch I and II, Creekside Meadows and Heartland Ranch) on the west side of the City, adjoining the north and east sides of the West Patterson projects. The Business Park Plan would continue this westward expansion, consistent with the City's General Plan, and would locate light industrial and business park uses adjacent to and with direct access to I-5. Industrial and business park development in West Patterson would make a sizable contribution to the long-term employment growth needs of the City and Stanislaus County, while growing in a planned, efficient manner from downtown Patterson toward I-5. The proposed Business Park Plan was thus prepared by the City of Patterson, in collaboration with Stanislaus County, to achieve these land use planning, economic development, and job creation goals.

The West Patterson area was also chosen as the preferred location for this light industrial and business park development, in part, because of the interest expressed by the Keystone Corporation. The Keystone Corporation has a demonstrated record of developing light industrial business parks and attracting the types of businesses envisioned by the County and the City for the project area.

OVERVIEW OF BUSINESS PARK PLAN

The Business Park Plan would establish an infrastructure and regulatory framework for the development of employment-generating land uses on approximately 820 acres of land located west of downtown Patterson. The Business Park Plan recommends land uses and zoning, and would establish allowable uses, development standards, and a program for providing infrastructure and public services. At buildout, the Business Park Plan is expected to accommodate approximately nine million square feet of light industrial and business park uses and add approximately 16,000 employees to the Patterson and west Stanislaus County economy.

RECOMMENDED LAND USE PLAN

The 820-acre Business Park Plan site is located outside, but contiguous to, Patterson's western city boundary. Approximately 477 acres are located within the City's existing sphere of influence and planning area and 343 acres lie immediately north of, and contiguous to, the City's sphere of influence. A key component of the Business Park Plan calls for expanding the City's sphere of influence to include the 119-acre northern Cozzens property and the 224-acre Keystone property (see Figure II.3: Project Area Properties).

The overall land use concept for the Business Park Plan is to develop the 820-acre site with light industrial and business park uses. The majority of land within the City's existing sphere of influence is already designated *Light Industrial* under the City of Patterson General Plan and *Planned Industrial* under the Stanislaus County General Plan (see Table II.1: Existing and Proposed General Plan Land Use Designations and Zoning for the West Patterson Project Area; Figure II.4: Existing City of Patterson General Plan Land Use Designations; and Figure II.5: Existing Stanislaus County General Plan Land Use Designations and Airport Zone).

The City's *Light Industrial* designation allows industrial development such as warehousing, manufacturing, and related uses. Under the proposed Business Park Plan, the northern Cozzens and Keystone properties would also be designated *Light Industrial* in the City General Plan and *Planned Industrial* in the County General Plan. In addition, the area designated as City *Highway Service Commercial* on the south side of Sperry Avenue at the I-5 interchange (the F. Hansen West property) would be reduced, and the Rea and Falzone properties at the northeast corner of Sperry Avenue at Baldwin Road, which are currently designated as *Medical/Professional Office* under the City General Plan, would be redesignated as *Light Industrial* (City) (see Table II.1 and Figure II.6: Proposed City Land Use Designations).

At this time, there is only one specific development proposal before the County and the City within the Business Park Plan area. The Keystone Corporation is proposing to develop approximately 2.5 million square feet of light industrial and warehouse uses on the northeastern portion of the Business Park Plan site (see Figure II.2). A detailed description of this proposal, referred to as the Keystone Pacific Business Park proposal, is provided below (starting on p. II.31). Light industrial and business park facilities on the

Table II.1: Existing and Proposed General Plan Land Use Designations and Zoning for the West Patterson Project Area

	STANISLAUS COUNTY			CITY OF PATTERSON		
	Existing Gen. Land Use Designation	**Proposed Gen. Land Use Designation**	**Proposed Zoning [1]**	**Existing Gen. Plan Land Use Designation [2]**	**Proposed Gen. Plan Land Use Designation**	**Proposed Zoning [3]**
PARCEL						
Keystone Pacific (2 parcels, 224 acres total)	Agriculture	Planned Industrial	WPLI[4] (164 acres) WPIBP [4] (60 acres)	N/A (outside of City's sphere of influence)	Light Industrial (after extension of City's sphere of influence)	WPLI [4] (164 acres) WPIBP [4] (60 acres)
North Cozzens[5] (119 acres)	Agriculture	Planned Industrial	WPLI (77 acres) WPIBP (42 acres)	N/A (outside of City's sphere of influence)	Light Industrial (after extension of City's sphere of influence)	WPLI (77 acres) WPIBP (42 acres)
South Cozzens[5] (58 acres)	Planned Industrial	Planned Industrial	WPIBP	Light Industrial	Light Industrial	WPIBP
Beuhner (45 acres)	Planned Industrial	Planned Industrial	WPLI (25 acres) WPIBP (20 acres)	Light Industrial	Light Industrial	WPLI (25 acres) WPIBP (20 acres)
Schali (74 acres)	Planned Industrial	Planned Industrial	WPLI (50 acres) WPIBP (24 acres)	Light Industrial	Light Industrial	WPLI (50 acres) WPIBP (24 acres)
Nusbaum (5 acres)	Planned Industrial	Planned Industrial	WPIBP	Light Industrial	Light Industrial	WPIBP
Lewis (10 acres)	Planned Industrial	Planned Industrial	WPIBP	Light Industrial	Light Industrial	WPIBP
Rea (10 acres)	Planned Industrial	Planned Industrial	WPIBP	Medical / Professional Office	Light Industrial	WPIBP
Falzone (9 acres)	Planned Industrial	Planned Industrial	WPIBP	Medical /Professional Office	Light Industrial	WPIBP
Anderson (13 acres)	Planned Industrial	Planned Industrial	WPIBP	Light Industrial	Light Industrial	WPIBP
Bizanelli (two parcels, 132 acres total)	Planned Industrial	Planned Industrial	WPIBP	Light Industrial	Light Industrial	WPIBP

(Table continued on next page)

(Table II.1, Continued)

F. Hansen East (19 acres)	Planned Industrial	Planned Industrial	WPIBP	Light Industrial	Light Industrial	WPIBP
F. Hansen West (64 acres within the project area)	Planned Industrial	Planned Industrial	Highway Commercial (34 acres) WPLI (30 acres)	Highway Service Commercial	Highway Service Commercial (34 acres) Light Industrial (30 acres)	Highway Service Commercial (34 acres) WPLI (30 acres)
Patterson Airport (30 acres)	Planned Industrial	Planned Industrial	Planned Industrial	Public / Quasi-Public	Public / Quasi-Public	Public / Quasi-Public
State of California (8 acres)	Planned Industrial	Planned Industrial	Planned Industrial	Light Industrial	Public / Quasi-Public	Public / Quasi-Public
C. Hansen (1.76 acres)	Agriculture	N/A (after annexation)	N/A (after annexation)	Low Density Residential	Low Density Residential	Low Density Residential
Patterson Gardens (305 acres)	Agriculture	N/A (after annexation)	N/A (after annexation)	Low Density Residential	Low Density Residential (283 acres) General Commercial (22 acres)	Planned Development

Notes:

[1] The existing County zoning for the entire West Patterson project area is General Agriculture (A-2). Parcels would retain their current County General Agriculture zoning until the County amends its zoning map to rezone a parcel or subdivided parcel. Rezoning would take place in relation to a specific development proposal. If a parcel is eventually annexed by the City, County zoning and land use designations would no longer apply.

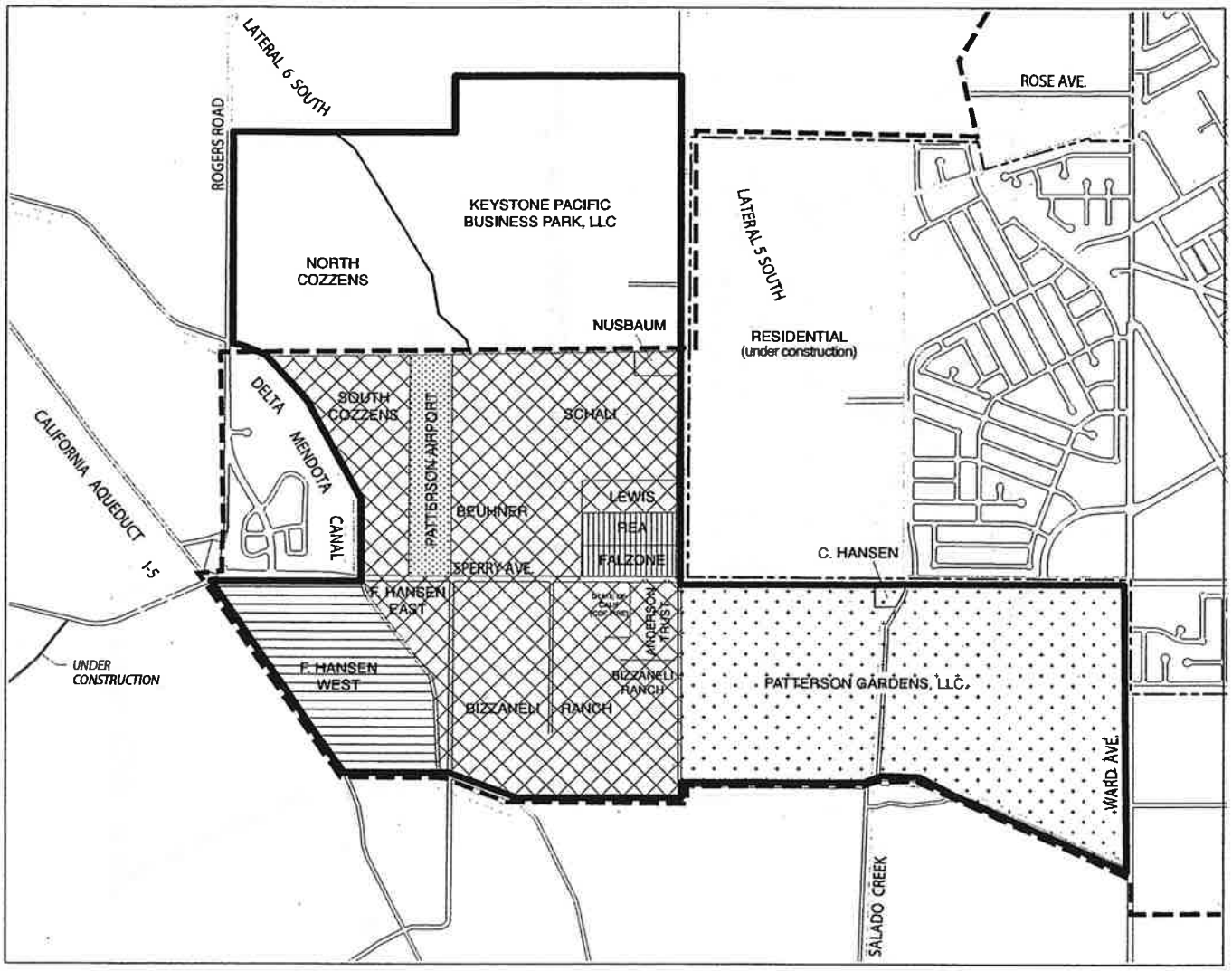
[2] The City of Patterson has provided General Plan designations for the portions of the project area within the City's sphere of influence. City zoning does not apply because the project area is outside of Patterson's city limits.

[3] Proposed City zoning districts would not apply to any parcel until annexation of the parcel and amendment of the City's zoning map to establish the proposed zoning district on the parcel. Annexation and zoning map amendment would take place in relation to a specific development proposal.

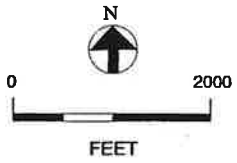
[4] The County and City would each amend the texts of their zoning ordinances to provide for two new zoning classifications: West Patterson Light Industrial (WPLI), and West Patterson Industrial Business Park (WPIBP).

[5] Cozzens North and Cozzens South are a single parcel. For the purposes of this report, it is treated as two separate parcels.

Source: City of Patterson General Plan; Stanislaus County General Plan; West Patterson Business Park Master Development Plan; Turnstone Consulting.

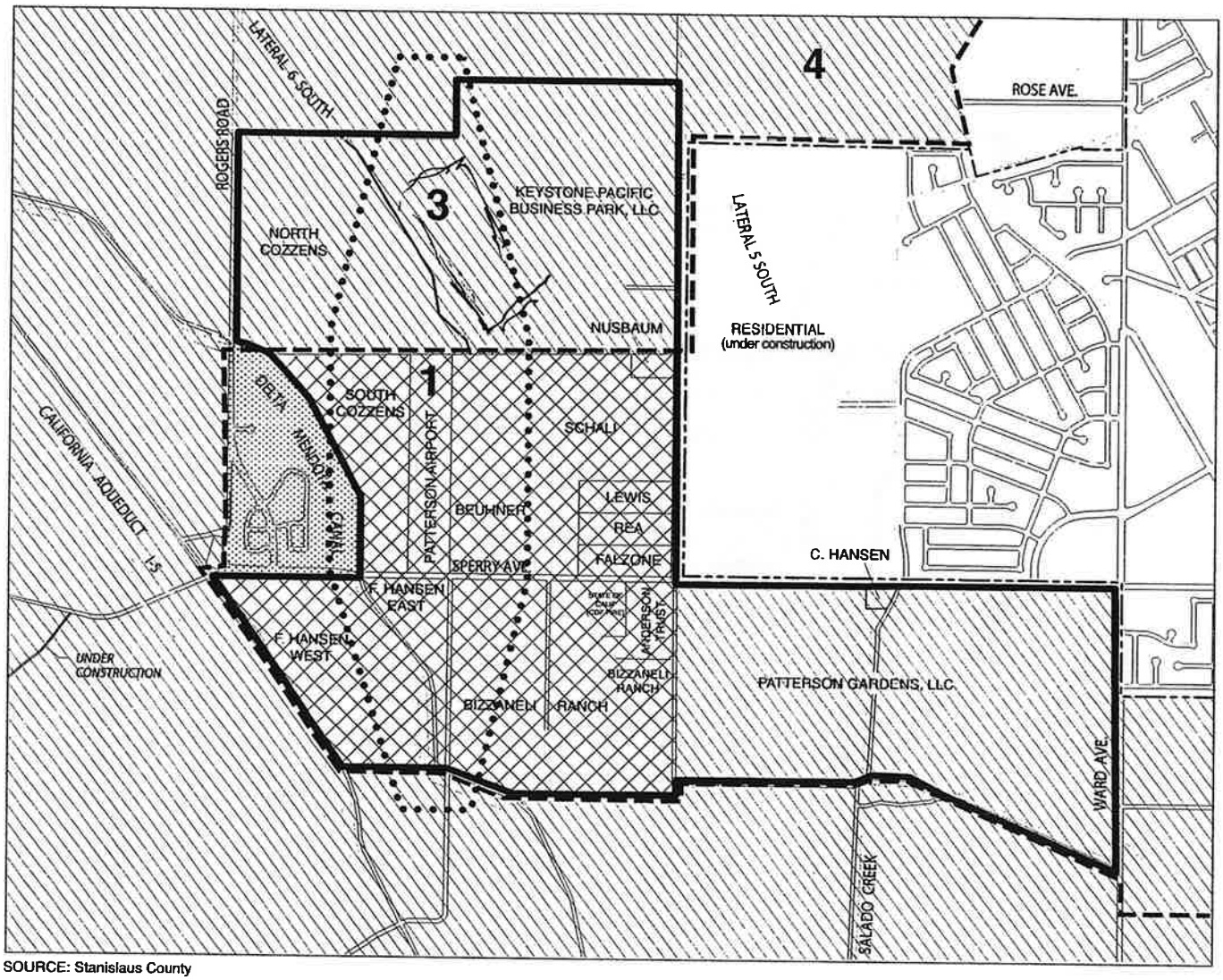


SOURCE: City of Patterson

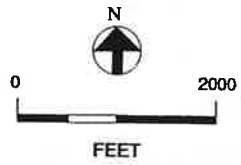


- City Limits
- Project Area Boundary
- Patterson Planning Area Boundary
- LI Light Industrial
- MPO Medical/Professional Office
- PQP Public/Quasi-Public
- HSC Highway Service Commercial
- LR Low Density Residential

FIGURE II.4: EXISTING CITY OF PATTERSON GENERAL PLAN LAND USE DESIGNATIONS

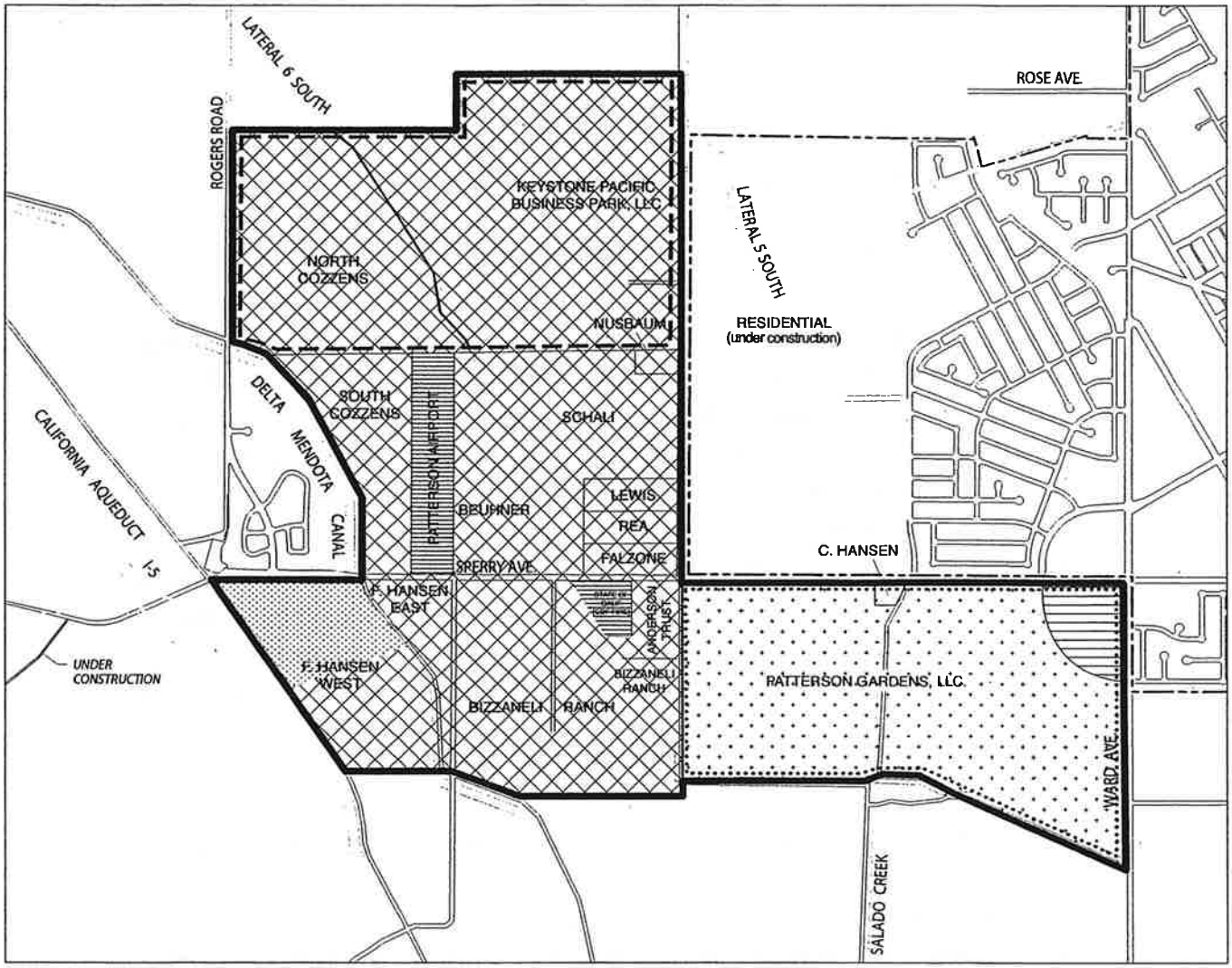


SOURCE: Stanislaus County



- City Limits
- Project Area Boundary
- Patterson Planning Area Boundary
- Planned Industrial
- Agriculture
- Highway Commerical
- 3 Airport Land Use Plan Zones (See Section III.A, Land Use)

FIGURE II.5: EXISTING STANISLAUS COUNTY GENERAL PLAN DESIGNATIONS AND AIRPORT ZONES



SOURCE: West Patterson Business Park Master Development Plan, City of Patterson

N

0 2000

FEET

- City Limits
- Project Area Boundary
- LI Light Industrial
- HSC Highway Service Commercial
- PQP Public/Quasi-Public
- LR Low Density Residential
- GC General Commercial
- Area Added to City's Planning Area and Sphere of Influence
- Area Added to City

FIGURE II.6: PROPOSED CITY LAND USE DESIGNATIONS

remaining parcels of the Business Park Plan site have generally not been defined beyond the gross square footage estimates for development.

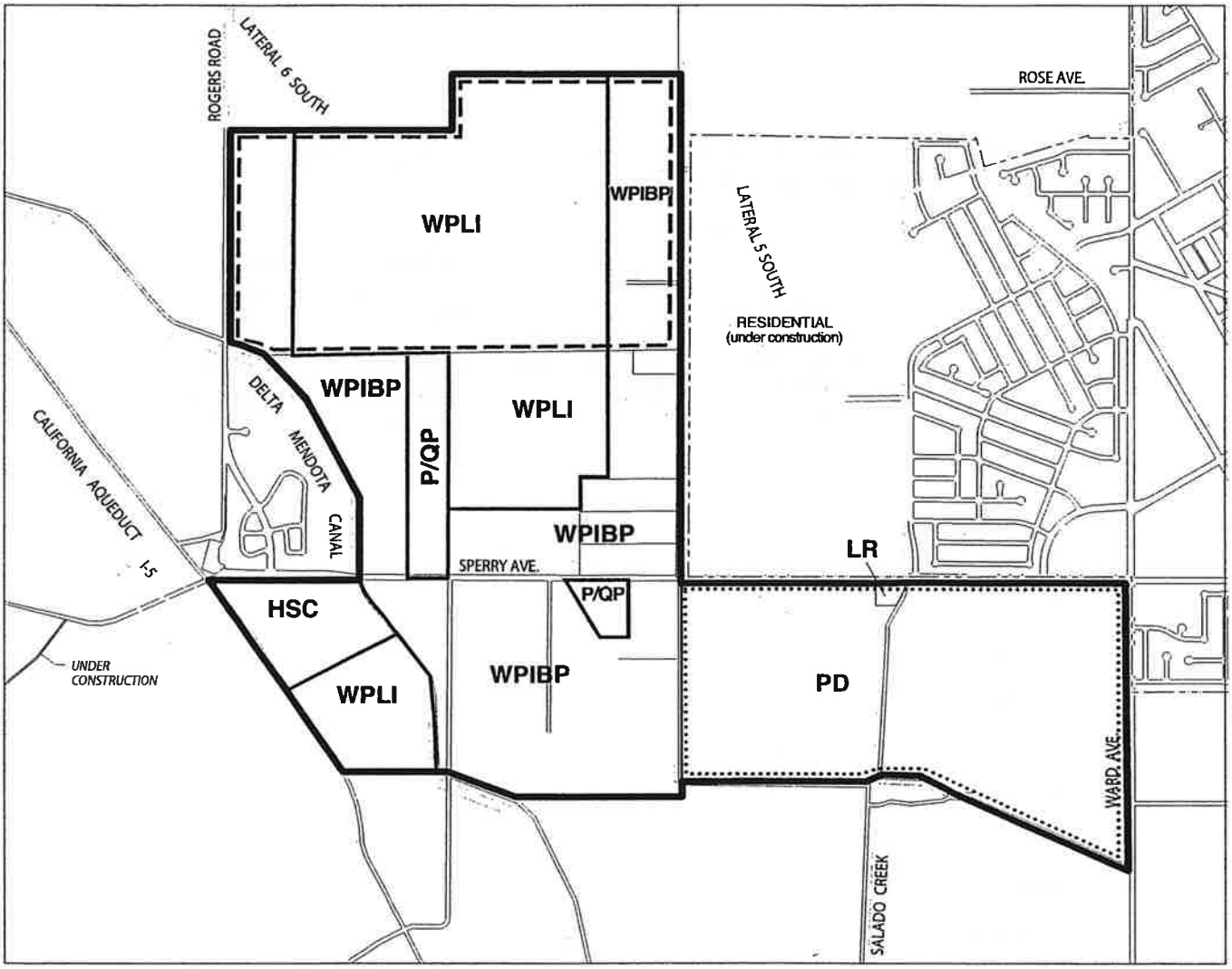
PROPOSED ZONING AND ALLOWABLE USES

The Business Park Plan would regulate the uses that would be allowed within the Plan area through the creation of two new City and County zoning districts: 1) *the West Patterson Industrial Business Park District*, which would allow manufacturing and assembly processes, research and development, and corporate offices; and 2) *the West Patterson Light Industrial District,* which would allow light industrial and manufacturing, warehousing, offices and assembly uses. Figure II.7: Proposed City and County Zoning Districts, shows the proposed zoning districts for the Business Park Plan, and Table II.2 shows the distribution of acreage by proposed zoning district. Under the proposed project, approximately 402 acres of land would be zoned *West Patterson Industrial Business Park* and 346 acres would be zoned *West Patterson Light Industrial.*

The County and City would each amend the texts of their zoning ordinances to provide for the two new zoning classifications: West Patterson Light Industrial, and West Patterson Industrial Business Park. The existing County zoning for the entire West Patterson project area is General Agriculture. Parcels would retain their current County General Agriculture zoning until the County amends its zoning map to rezone a parcel or subdivided parcel. Rezoning would take place in relation to a specific development proposal. Proposed City zoning districts would not apply to any parcel until annexation of the parcel and amendment of the City's zoning map to establish the proposed zoning district on the parcel. Annexation and zoning map amendment would take place in relation to a specific development proposal. If a parcel is eventually annexed by the City, County zoning and land use designations would no longer apply.

In addition, a 34-acre portion of the F. Hansen West property near I-5 would be zoned *Highway Service Commercial* (City) and *Highway Commercial* (County). The Airport, the Caltrans and CDF facilities (38 acres) would be zoned *Public/Quasi Public* (City) and Light Industrial (County).

One of the goals of the Business Park Plan is to provide suitable locations for the development of business park and industrial uses that are not accommodated elsewhere in Stanislaus County. Accordingly, uses such as food processing that are water and sewer



SOURCE: West Patterson Business Park Master Development Plan, City of Patterson

N

0 2000

FEET

- City Limits
- Project Area Boundary
- **WPIBP** West Patterson Industrial Business Park
- **WPLI** West Patterson Light Industrial
- **HSC** Highway Service Commercial (County Highway Commercial)
- **P/QP** Public/Quasi Public (County Light Industrial)
- **PD** Planned Development Overlay (County Zoning N/A)
- **LR** Low Density Residential (County Zoning N/A)
- Area Added to City's Planning Area and Sphere of Influence
- Area Added to City

FIGURE II.7: PROPOSED CITY AND COUNTY ZONING DISTRICTS

Table II.2: West Patterson Business Park Plan: Summary of Acreage by Proposed Zoning District

PROPERTY	West Patterson Industrial Business Park (City and County)	West Patterson Light Industrial (City and County)	Highway Service Commercial (City) Highway Commercial (County)	Public / Quasi-Public (City) Planned Industrial (County)
Keystone Pacific	60	164		
North Cozzens	42	77		
South Cozzens	58			
Beuhner	20	25		
Schali	24	50		
Nusbaum	5			
Lewis	10			
Rea	10			
Falzone	9			
Anderson	13			
Bizanelli	132			
F. Hansen East	19			
F. Hansen West		30	34	
Airport				30
State of CA				8
TOTAL	**402**	**346**	**34**	**38**

Source: West Patterson Business Park Master Development Plan

intensive have been excluded in the proposed *West Patterson Industrial Business Park* and *West Patterson Light Industrial* zoning districts in favor of uses such as research and development that can be supported in an office/business park setting. The Business Park Plan also distinguishes among the types of allowable "manufacturing" uses.

Manufacturing that is not water or sewer intensive and employs a more highly skilled work force is favored over more traditional types of manufacturing. Permitted uses in the *West Patterson Industrial Business Park* and the *West Patterson Light Industrial* zoning districts could thus include computer systems research and development, electronic repair and assembly, and software development. Uses such as pharmaceutical manufacturing and sheet metal fabrication would be allowable subject to the City and County's issuance of a conditional use permit.

Retail and service uses such as banks, convenience stores, and restaurants would also be allowed, subject to a conditional use permit, and only if they are integrated into the design of a business park and sized to be subordinate to the primary business or businesses. A complete list of allowable and conditionally allowable uses is shown in Table II.3. The full text of the proposed *West Patterson Industrial Business Park* and *West Patterson Light Industrial* zoning districts is provided in the West Patterson Business Park Master Development Plan, Appendix A.

GUIDELINES FOR DESIGN OF NEW DEVELOPMENT

The Business Park Plan would establish detailed guidelines for the design of development on the Business Park Plan site. The design guidelines would aid developers, designers, the public, and decision-makers by expressing a shared vision for the quality and attractiveness expected from development in the Plan area. The design guidelines would emphasize the use of architectural themes, landscaping, screening, sign control, and other techniques to ensure that light industrial and business park facilities include compatible features and materials so that the entire Plan area attains an attractive design. A full description of the design guidelines is provided in the West Patterson Business Park Master Development Plan, Appendix A.

BUILDOUT, MARKET ABSORPTION, AND EMPLOYMENT PROJECTIONS

The Keystone Pacific Business Park would constitute the first phase of development on the West Patterson Business Park Master Development Plan site. Subsequent industrial and business park development would progress in a manner consistent with the phased development of infrastructure systems and dependent on market demand. Upon buildout, the Business Park Plan is expected to accommodate approximately 8,979,000 square feet

Table II.3: Allowed Uses and Permit Requirements for *West Patterson Light Industrial* and *West Patterson Industrial Business Park* Zoning Districts

Land Use	Light Industrial[1]	Industrial Business Park[1]
AGRICULTURE AND OPEN SPACE USES		
Interim crop production and horticulture	P	P
INDUSTRY, MANUFACTURING & PROCESSING USES		
Assembly of Products	P	P
Bakery wholesale and distribution	P	--
Bottling plant	P	--
Call centers	P	P
Communication systems research and development	P	P
Computer systems research and development	P	P
Conference center	--	CUP[3]
Furniture manufacturing	P	CUP
Electronic repair and assembly	P	P
Food packaging	P	--
Interior design and office equipment sales	--	CUP
Manufacturing and tech support industries	P	P
Packaging	P	P
Pharmaceutical manufacturing	CUP	CUP
Printing and publishing, book binding	P	P
Research and development, laboratories	CUP	CUP
Seed processing and packaging	CUP	--
Sheet metal fabrication[1]	CUP	CUP

(Table continued on next page)

(Table II.3, Continued)

Sign fabrication companies	CUP	CUP
Software development	P	P
Warehouses as a principal use	P	--
Wholesale distribution and catalog sales	P	P
RETAIL AND SERVICES USES		
Banks	CUP	CUP
Broadcast studios	CUP	CUP
Convenience store	CUP	CUP
Day care center	CUP	CUP
Gymnasium/exercise business	CUP	CUP
Offices	CUP	CUP
Parcel delivery service	P	P
Government buildings and facilities	CUP	CUP
Copying and reprographics service	CUP	CUP
Restaurants, food take-out	CUP	CUP

Notes:
[1]P = Principal Permitted Use
CUP = Conditional Use Permit required
– = Use not allowed
[2] The City acts as an advisory agency to the County in the issuance of conditional use permits within the Business Park Plan area.
[2] So long as the use is conducted entirely within an enclosed building and complies with the performance standards established by the County Zoning Code. Outdoor storage is prohibited.
Source: Crawford, Multari & Clark, 2001.

of light industrial and business park uses, and is expected to add approximately 16,000 employees to the Patterson and west Stanislaus County economy.

For purposes of conservatively analyzing the environmental impacts associated with the Business Park Plan, this EIR assumes complete buildout of the Business Park Plan site

(i.e., roughly nine million square feet of development) by 2025. It is unlikely, however, that this level of development would be realized within the 2025 planning horizon. A study, commissioned by the City in February 2001, forecast the market and absorption capacity for the West Patterson area for commercial and light industrial development (Meyers Group, 2001). That study concluded that the City could annually absorb 100,000 to 200,000 square feet of light industrial space over the next decade, substantially less than assumed in this EIR.

DEVELOPMENT REVIEW PROCESS

Until properties within the Business Park Plan site are annexed to the City, they would be developed in the County and provided with City services.[4] It is anticipated that the Business Park Plan site would be annexed to the City at some time in the future. Since each jurisdiction would share in the benefits and costs of development in the planning area, both would exercise development review authority. The City would act as lead agency for CEQA purposes and would have an advisory development review role. Stanislaus County would retain final authority over the issuance of building permits. The goal of the two-tiered (City and County) review process would be to provide opportunities for public participation under both jurisdictions.

INFRASTRUCTURE FACILITIES

The Business Park Plan includes a program for providing urban infrastructure to the Plan area. Changes to Sperry Avenue are described below in detail under "Access and Circulation." Other key components of the proposed infrastructure systems are summarized below and are discussed further in the description of the Keystone Pacific Business Park. In addition, these other key components of the proposed infrastructure system are addressed in Section III.H, Hydrology and Water Quality; Section III.I, Water Supply; and Section III.J, Wastewater.

---

[4] It is anticipated that annexation of the Business Park Plan site to the City would occur within the next five to ten years.

Access and Circulation

Regional access to the Business Park Plan site would be provided via I-5 and the I-5/Sperry Avenue interchange. Direct access to the site would be from Sperry Avenue, Rogers Road and Baldwin Road. As discussed immediately below, and in the description of the Keystone Pacific Business Park, Sperry Avenue would be widened ultimately to four lanes to accommodate traffic from business park and light industrial development. The Business Park Plan would also include the development of new roadways, internal to the site (see Figure II.8: West Patterson Business Park - Proposed Circulation Plan). The other internal roadways are discussed below under "Keystone Pacific Business Park, Access and Circulation."

Sperry Avenue would be improved between Interstate-5 and Baldwin Road to four travel lanes with an ultimate width of 116 feet, except at intersections, which would have an ultimate width of 122 feet (see Figure II.9: Proposed Improvements to Sperry Avenue - Interim and Ultimate). The improved roadway would consist of four 14-foot travel lanes, (except at the intersections) with a 12- to 24-foot-wide landscaped median, with breaks for left-hand turns and emergency vehicle access. The improved roadway would include a meandering landscaped sidewalk. Both crossings at the California Aqueduct and The Delta Mendota canal would be improved to four lanes. Curbs and gutters would be constructed on each side of the roadway.

Improvements to Sperry Road would be implemented in phases, with Phase 1 consisting of two 14-foot travel lanes and a landscaped median. These improvements would include a 10-foot-wide public utility easement immediately adjacent to the 116-foot right-of-way. The bridge crossing at the Delta Mendota Canal would be expanded to four lanes with a 126-foot-long, 86-foot-wide clear-span bridge. These improvements would include a 10-foot-wide public utility easement immediately adjacent to the 116-foot-wide and 122-foot-wide rights-of-way. The County would construct the Phase 1 improvements with an estimated completion date prior to December 2003. The timing of the remaining Sperry Avenue improvements is discussed in Section III.E, Traffic and Circulation, in relation to the timing of development in the West Patterson project area.

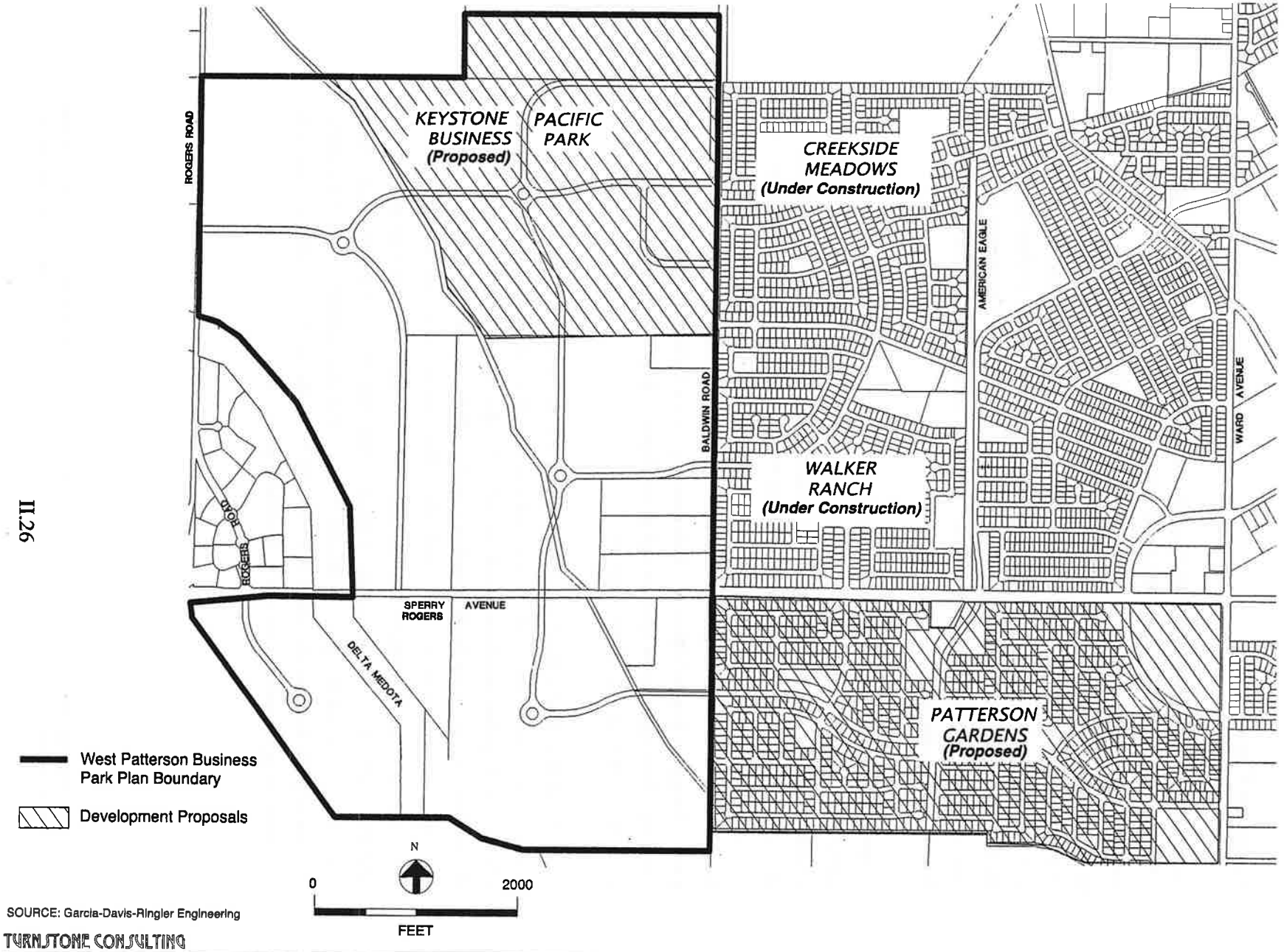
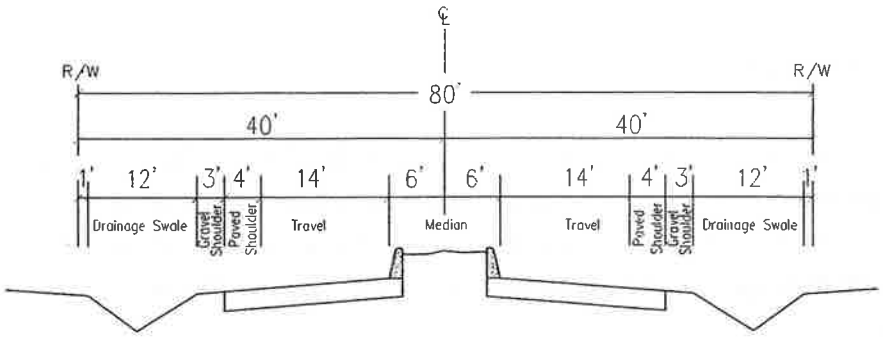
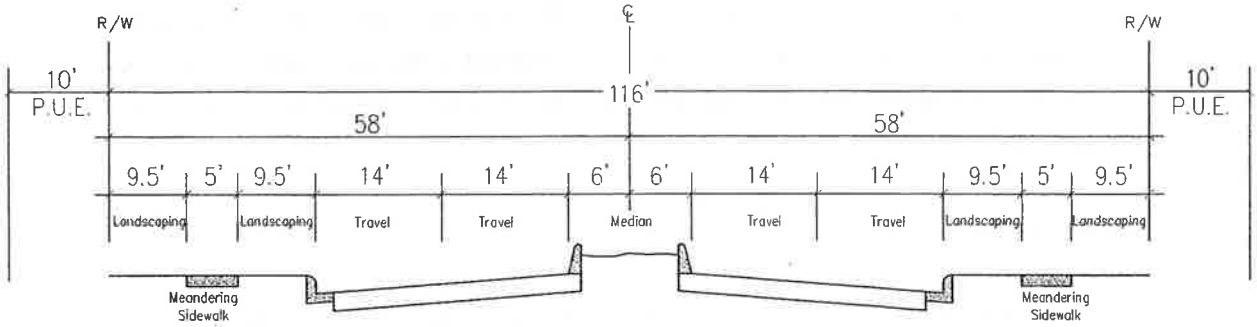


FIGURE II.8: WEST PATTERSON BUSINESS PARK-PROPOSED CIRCULATION PLAN



TYPICAL SECTION
Sperry Avenue
2-Lane Alternative (Interim)



TYPICAL SECTION
Sperry Avenue
4-Lane Alternative (Ultimate)

SOURCE: Garcia Davis Ringler Engineering

FIGURE II.9: PROPOSED SPERRY AVENUE IMPROVEMENTS-INTERIM AND ULTIMATE

Storm Drainage

As specific development projects are proposed on the Business Park Plan site, storm drainage facilities would be constructed in a manner consistent with the City's *Master Storm Drainage Plan City of Patterson Western Expansion Area* (July 2001). Details of the storm drainage facilities necessary to serve the Keystone Pacific Business Park are discussed below.

Water Supply

The Water Supply Assessment prepared for the West Patterson projects concludes that the City's groundwater supply is sufficient to serve projected development levels (see Section III.I, Water Supply). The City plans to use untreated groundwater to supply existing and new demand until the quality of that groundwater deteriorates to below applicable drinking water standards, as is anticipated to occur at some point between 2008 and 2012. At that point, the City plans to either begin treatment of groundwater through wellhead desalination or switch to a surface water supply, to be used conjunctively with groundwater through an aquifer storage and recovery system. Although treated groundwater would provide a feasible water supply for the proposed projects and all other existing and planned development, obtaining a surface water supply is the preferred alternative. Accordingly, the City has already begun to pursue surface water entitlements.

Wastewater

The City's existing wastewater treatment facility would undergo a two-phase, one-million-gallon-per-day (mgd) expansion of approximately 0.5 mgd per phase. The first-phase expansion would be constructed to serve under construction and approved residential development in the Creekside development area, including Creekside Meadows, Walker Ranch I and II, and Shire Place residential projects. It would provide additional capacity to serve the Patterson Gardens proposal and a portion of the Keystone Pacific Business Park. The second-phase expansion is intended to serve the balance of the Keystone Pacific Business Park, and future development within the Business Park Plan Area. The treatment plant expansion would also include the construction of approximately 120 acres of percolation ponds adjacent to the north or west of the treatment plant site (see Figure III.J.4).

Implementation, Timing and Financing

As discussed above, the City would provide infrastructure and services to development in the Business Park Plan area. The City and County would work together to ensure that public and private improvements are provided in a logical and viable sequence, so that each increment of development is supported by adequate public infrastructure and improvements.

Implementation of the infrastructure improvements necessary to support the Business Park Plan would occur concurrently, or in advance of the demand anticipated from new development. Table II.4 provides a tentative schedule for design and construction based on the amount and type of development anticipated in the Business Park Plan and surrounding areas within the City and County.

The City has established a Mello-Roos Facilities District that provides the primary funding mechanism for the necessary infrastructure improvements to serve the westerly portion of the City's planning area. The Mello-Roos District was established in accordance with the Mello-Roos Community Facilities Act of 1982. The Act permits the formation of community facilities districts to fund public infrastructure improvements such as sewers, storm drains, water systems, roads, and similar improvements. A community facilities district (CFD) is a geographically designated area within which a special tax or fee is levied to pay for the facilities authorized to be funded in the CFD formation process, either by paying the costs of the facilities directly or by paying debt service on bonds issued to finance the facilities.

The Mello-Roos District requires that individual developers be responsible for implementing their fair share of improvements necessary to serve their project through participation in the community facilities district and through direct construction or direct payment for infrastructure improvements. Development within the Business Park Plan could not occur without participation in the Mello-Roos District. Participation in the Mello-Roos District would occur once an individual developer receives its entitlements.

Since all of the Business Park Plan is currently within the County's jurisdiction, the County would need to participate in the Mello-Roos District program. The City and County have a pre-existing Development Cooperation Agreement that would be amended to establish the County's participation in the Mello-Roos program.

Table II.4: Tentative Infrastructure Design & Construction Schedule

FACILITY	DATES[1]
Sewer Collection System	
Design Complete	December 2002
Construction Complete	December 2003
Wastewater Treatment-Phase I Expansion	
Design Complete	March 2003
Construction Complete	June 2004
Zone II Water System	
Design Complete	March 2003
Construction Complete	June 2004
Sperry Avenue	
Design Complete	January 2003
Construction Complete	December 2003
Baldwin Road	
Design Complete	January 2003
Construction Complete	December 2003
Wastewater Treatment-Phase II Expansion	
Design Complete	Dates to be Determined
Construction Complete	
I-5 Sperry Interchange	
Design Complete	Dates to be Determined
Construction Complete	
Zone III Water System	
Design Complete	Dates to be Determined
Construction Complete	
Other Traffic Mitigation Projects	
Design Complete	Dates to be Determined
Construction Complete	

Notes:

[1] Dates subject to change based on bond and other financing

Source: City of Patterson; Stanislaus County

Development impact fees applied by the County and the City would continue to be collected by the respective agency to defray the cost of other public facilities, such as police and fire protection facilities, school facilities, and parks, which are not covered by the CFD. The City of Patterson Sphere of Influence Plan and Master Services Element contains a comprehensive description of the CFD, in addition to other funding strategies for public services and facilities. This document is available for review at the City of Patterson Planning Department, 33 So. Del Puerto Avenue.

KEYSTONE PACIFIC BUSINESS PARK PROPOSAL

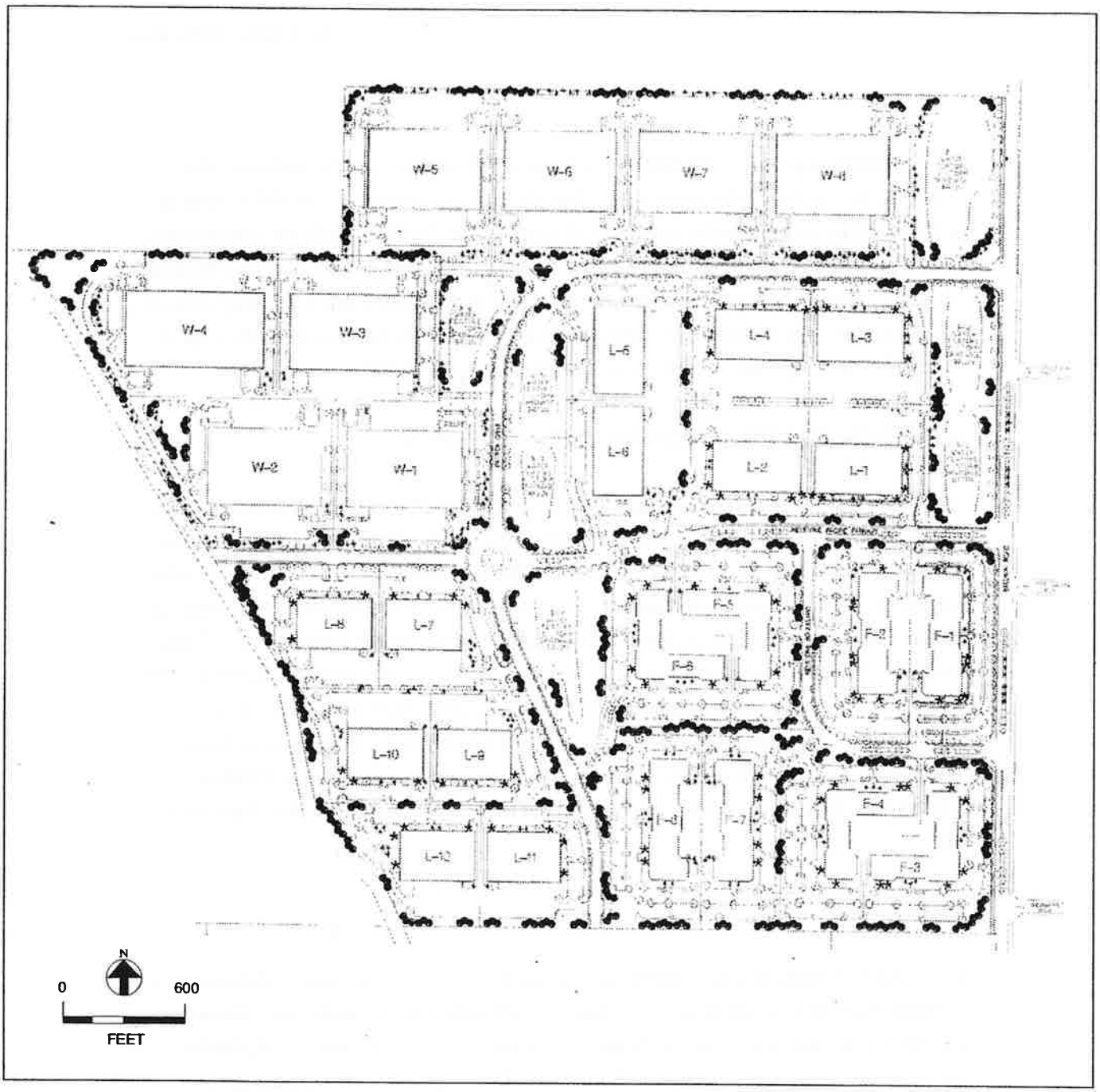
The Keystone Corporation has applied for development entitlements from the City and the County for the 224-acre property located in the northeastern quadrant of the West Patterson Business Park Master Development Plan site (see Figure II.2). As currently proposed, the Keystone Pacific Business Park would be developed with approximately 2.5 million square feet of flex, light industrial, and distribution/warehouse uses.[5] The Keystone Pacific Business Park would constitute the initial phase of development of the West Patterson Master Development Plan site and is expected to set the pace of absorption for the remaining Plan area. Once a few companies locate in or relocate to the Keystone Pacific Business Park, it is expected that other companies would follow and occupy the other parcels on the West Patterson Business Park Master Development Plan site.

PROPOSED LAND USE PLAN

Keystone Corporation's proposal establishes, among other requirements, the land uses and standards that would govern development of the Keystone Pacific site. Because tenants for the Keystone Pacific Business Park have not yet been identified, the design of the development is conceptual in order to allow flexibility to accommodate future tenants' needs. The preliminary schematic plan calls for the subdivision of the 224-acre property into three basic uses: "flex" space, light industrial and warehousing, as shown in Figure II.10: Keystone Pacific Business Park - Schematic Master Plan.

---

[5] "Flex" space is typically one-story office buildings with rear loading docks to provide the flexibility of combining other business park uses consistent with the Business Park Master Development Plan with office use within each building.



SOURCE: Garcia-Davis-Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

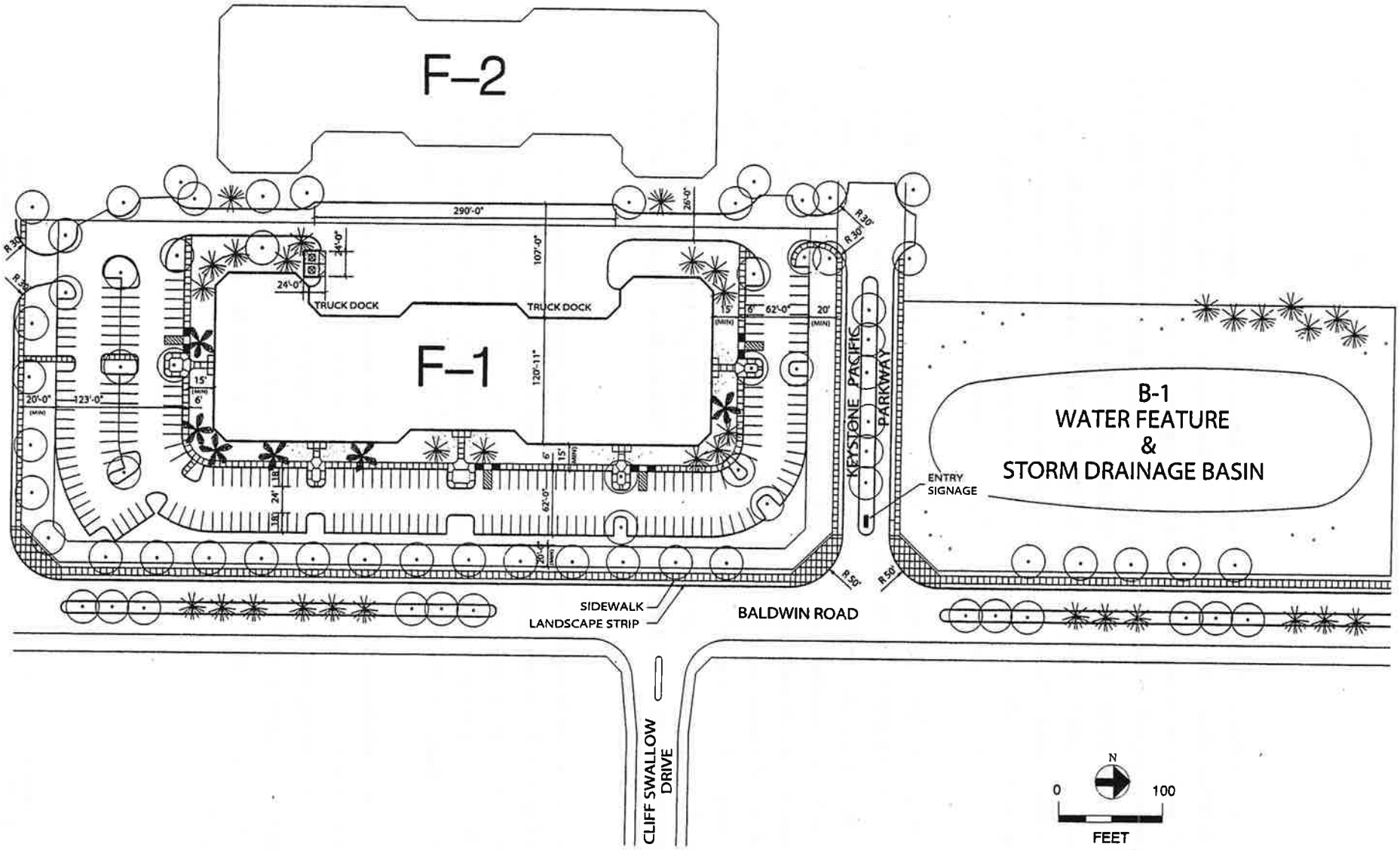
FIGURE II.10: KEYSTONE PACIFIC BUSINESS PARK-SCHEMATIC MASTER PLAN

Keystone Corporation proposes to develop the flex space uses on approximately 52 acres, generally located in the southeast quadrant of the Keystone Pacific site. Current plans call for the construction of eight buildings, ranging in size from approximately 60,000 to approximately 65,000 square feet, for a total of approximately 500,000 square feet of flex space uses. Vehicular access to the flex space facilities would generally be from Keystone Pacific Parkway, Keystone Boulevard, and Patrick Drive. While the exact amount of parking would vary depending on the size of the building, tenants would be required to provide 3.75 off-street spaces per 1,000 gross square feet (see Figure II.11: Keystone Pacific Business Park - Flex Space Conceptual Site Plan).

Development of the light industrial uses would generally occur west of Baldwin Road and north of Keystone Pacific Parkway (six buildings on 33 acres) and south of Keystone Pacific Parkway, west of Patrick Drive (six buildings on 30 acres). Buildings would range in size from about 60,000 to 75,000 square feet, totaling approximately 810,000 square feet of light industrial uses. Users with larger space needs would construct larger individual buildings; total square footage of this building type would not be exceeded. Loading dock access would be provided in the rear of individual buildings. Tenants would be required to provide 2.0 off-street parking spaces per 1,000 gross square feet of development (see Figure II.12: Keystone Pacific Business Park - Light Industrial Space Conceptual Site Plan).

Distribution/warehouse uses would generally be developed in the northwest quadrant of the Keystone Pacific site, west of Patrick Drive and north of Keystone Pacific Parkway, and along the northern boundary of the site. Keystone Corporation's proposal calls for eight one-story buildings ranging in size from approximately 135,000 to approximately 180,000 square feet, totaling approximately 1,200,000 square feet of warehouse uses.

Some users with larger space needs may construct substantially larger warehouse/ distribution structures; the total square footage of this type of building would not be exceeded. Loading docks would likely be constructed on two sides of the warehouse buildings. Tenants would be required to provide 0.62 parking spaces per 1,000 square feet (see Figure II.13: Keystone Pacific Business Park - Warehouse Space Conceptual Site Plan).

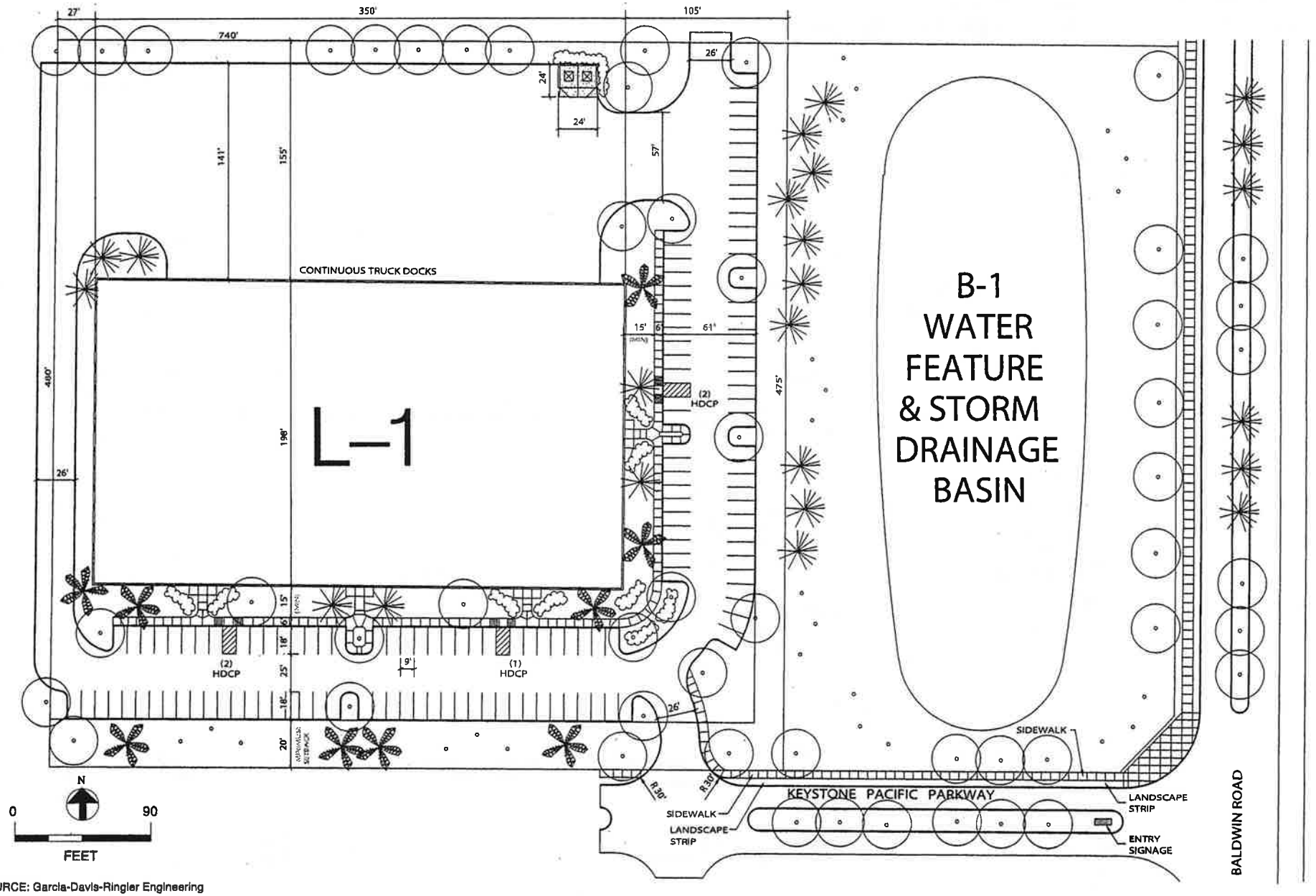


SOURCE: Garcia-Davis-Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

FIGURE II.11: KEYSTONE PACIFIC BUSINESS PARK-FLEX SPACE CONCEPTUAL SITE PLAN

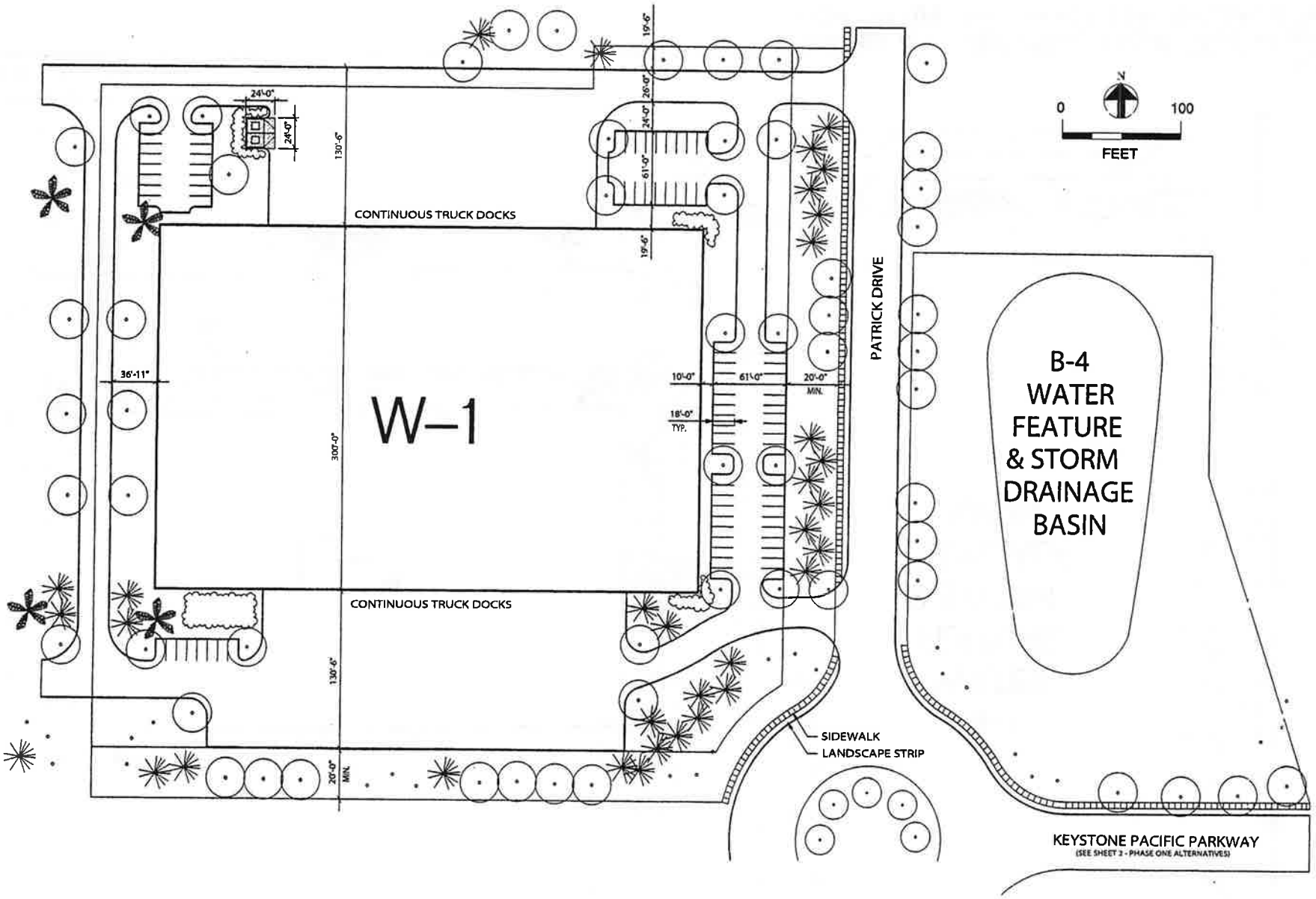


SOURCE: Garcia-Davis-Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

FIGURE II.12: KEYSTONE PACIFIC BUSINESS PARK-LIGHT INDUSTRIAL SPACE CONCEPTUAL SITE PLAN



SOURCE: Garcia-Davis-Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

FIGURE II.13: KEYSTONE PACIFIC BUSINESS PARK-WAREHOUSE CONCEPTUAL SITE PLAN

Under the development plan, the Keystone Corporation may construct additional flex buildings in the light industrial or distribution/warehouse areas, and light industrial buildings in the distribution/warehouse areas, as approved by the County/City.

Allowable Uses and Tenant Types

Proposed uses and anticipated tenant types for the Keystone Pacific Business Park are shown in Appendix B. Most proposed uses would be the same as those listed as principal permitted uses or conditionally approved uses in the Business Park Plan (see Table II.3). A few proposed uses would not be the same as those included in the Business Park Plan; an exception is available in the Plan that permits consideration of other uses as part of the approval process.

Building Design

Specific building design would vary by tenant, but would be in accordance with the design guidelines established in the West Patterson Business Park Master Development Plan. In addition to setting forth design principles, including building material types and colors, site planning and access, streetscape design and improvement, landscaping, screening, and signage requirements, the guidelines establish the design review process. Conceptual design ideas for buildings in the Keystone Pacific Business Park are shown in Section III.O, Visual Resources. Further design development would occur once individual development applications are submitted to the City and County.

Building heights could range from one to three stories, up to the 45-foot height limit under the proposed zoning, and further subject to the Airport Land Use Plan height controls, if applicable. It is assumed, however, that buildings would generally not exceed one story.

INFRASTRUCTURE FACILITIES

The Keystone Pacific Business Park would include new roadways and improvements to existing roads. Storm drainage, water supply, and wastewater facilities would be constructed in City streets to connect to new on-site pipelines.

Access and Circulation

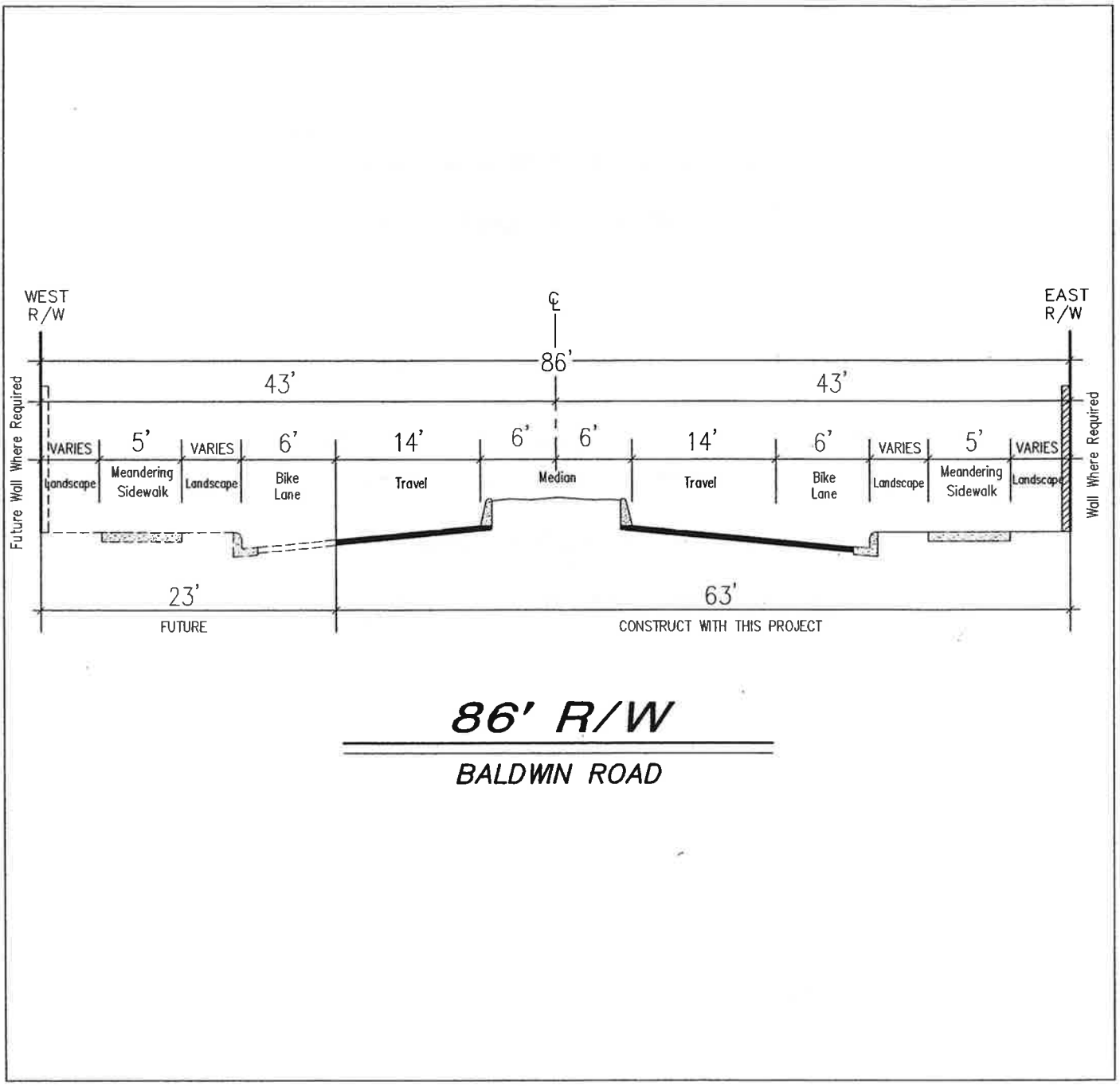
Regional access to the Keystone Pacific Business Park would be provided via I-5 and the I-5/Sperry Avenue interchange. Direct access to the Keystone Pacific site would be from Baldwin Road. Sperry Avenue and Baldwin Road, the major arterials serving the West Patterson Business Park Master Development Plan area and the Keystone Pacific Business Park, would be improved. The Sperry Avenue improvements are discussed above under "West Patterson Business Park Master Development Plan, Infrastructure Facilities."

Baldwin Road would be improved from Sperry Avenue to the north property line of the Keystone Pacific Business Park to an ultimate width of 86 feet (see Figure II.14: Keystone Pacific Business Park - Proposed Improvements to Baldwin Road). The improved roadway would include two 14-foot-wide travel lanes, two 6-foot-wide bike lanes, and a 12-foot-wide landscaped median with breaks for left turns and emergency vehicle access. A meandering, landscaped sidewalk and curbs, gutter, and drainage swales would also be constructed. Improvements to Baldwin Road would be completed by December 2003.

Development of the Keystone Pacific Business Park would also require the construction of several collector roadways internal to the Business Park site. Keystone Pacific Parkway would be constructed as a 65-foot collector with two 15-foot travel lanes and a 15-foot landscaped median, and would include a landscaped sidewalk, curb, gutter, and drainage. Keystone Boulevard would be developed as a 65-foot, two-lane roadway with a landscaped median at its intersection with Baldwin Road and would taper to a 60-foot two-lane roadway with a turn lane in the interior of the Business Park. This roadway would include a landscaped sidewalk. Patrick Drive would be developed as a 60-foot, two-lane roadway with a median turn lane and a landscaped sidewalk. As proposed, the Keystone Pacific Business Park would also include a traffic roundabout at the intersection of Keystone Pacific Parkway and Patrick Drive (see Figure II.15: Keystone Pacific Business Park- Keystone Parkway and Traffic Roundabout).

Storm Drainage

The stormwater collection system for the Keystone Pacific Business Park would be designed pursuant to the City's *Master Storm Drainage Plan City of Patterson Western*

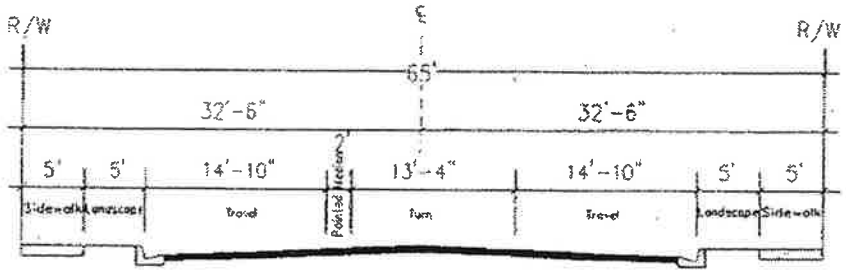


SOURCE: Garcia Davis Ringler Engineering

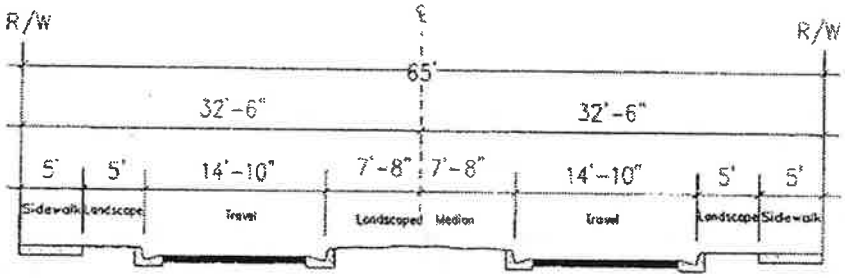
TURNSTONE CONSULTING

PATTERSON

FIGURE II.14: KEYSTONE PACIFIC BUSINESS PARK-PROPOSED IMPROVEMENTS TO BALDWIN ROAD

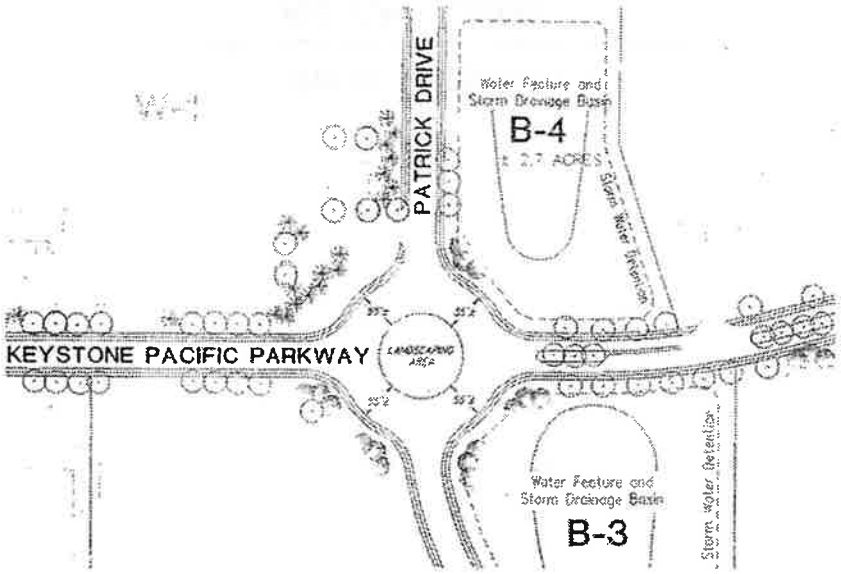


65' R/W with Turn Lane



65' R/W with Median

KEYSTONE PACIFIC PARKWAY



TRAFFIC ROUNDABOUT

NOTE:

DIMENSIONS ARE APPROXIMATE AND WILL BE DETERMINED WITH FINAL DESIGN.

SOURCE: Garcia Davis Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

FIGURE II.15: KEYSTONE PACIFIC BUSINESS PARK-KEYSTONE PACIFIC PARKWAY AND TRAFFIC ROUNDABOUT

Expansion Area (July 2001). Construction would include seven stormwater detention basins, ranging from two and one-half to five acres, sufficient to provide storage volume in excess of anticipated flow. These detention basins would be designed and maintained as wet ponds to provide on-site water features. Three of the detention basins would be located along Baldwin Road, while four would be located near the intersection of Keystone Pacific Parkway and Patrick Drive, as shown in Figure II.11. Interconnecting pipes would drain easterly to an existing 30-inch line within the Baldwin Road right-of-way, and would continue into a 36-inch line that, in turn, drains to existing twin 72-inch lines in Salado Creek.

Water Supply

The City would supply the Keystone Pacific Business Park with water meeting applicable drinking water quality standards, as discussed in Section III.I, Water Supply. Consistent with the City's Year 2001 Water Master Plan, the City proposes to construct a 24-inch water transmission line south of the City to convey groundwater from wells located east of the City to a 2,000,000-gallon storage tank to be located at Sperry Avenue adjacent to the Delta Mendota Canal. From the storage tank, water would be pumped via a booster pump station into a network of 12-inch and 14-inch distribution pipelines that would enter the Keystone Pacific Business Park from the south and east, respectively. If the City were to elect to implement the surface water supply variant (see Section III.I, Water Supply), a water treatment plant would be constructed near the source of supply to the west of the City (the California Aqueduct or the Delta Mendota Canal) and a 30-inch pipeline would connect the plant to the 2,000,000-gallon storage tank.

Wastewater

A full description of the proposed expansion of the City's wastewater treatment facility and conveyance infrastructure is provided in Section III.J, Wastewater. To accommodate wastewater generated by the Keystone Pacific Business Park, the City is proposing to construct 12-inch and 21-inch sewer lines across the northern portion of the Creekside Meadows property to connect with the existing 21-inch line in the northwestern portion of Patterson Ranch. Wastewater collection facilities would be constructed in the Keystone Pacific Business Park as buildings were developed.

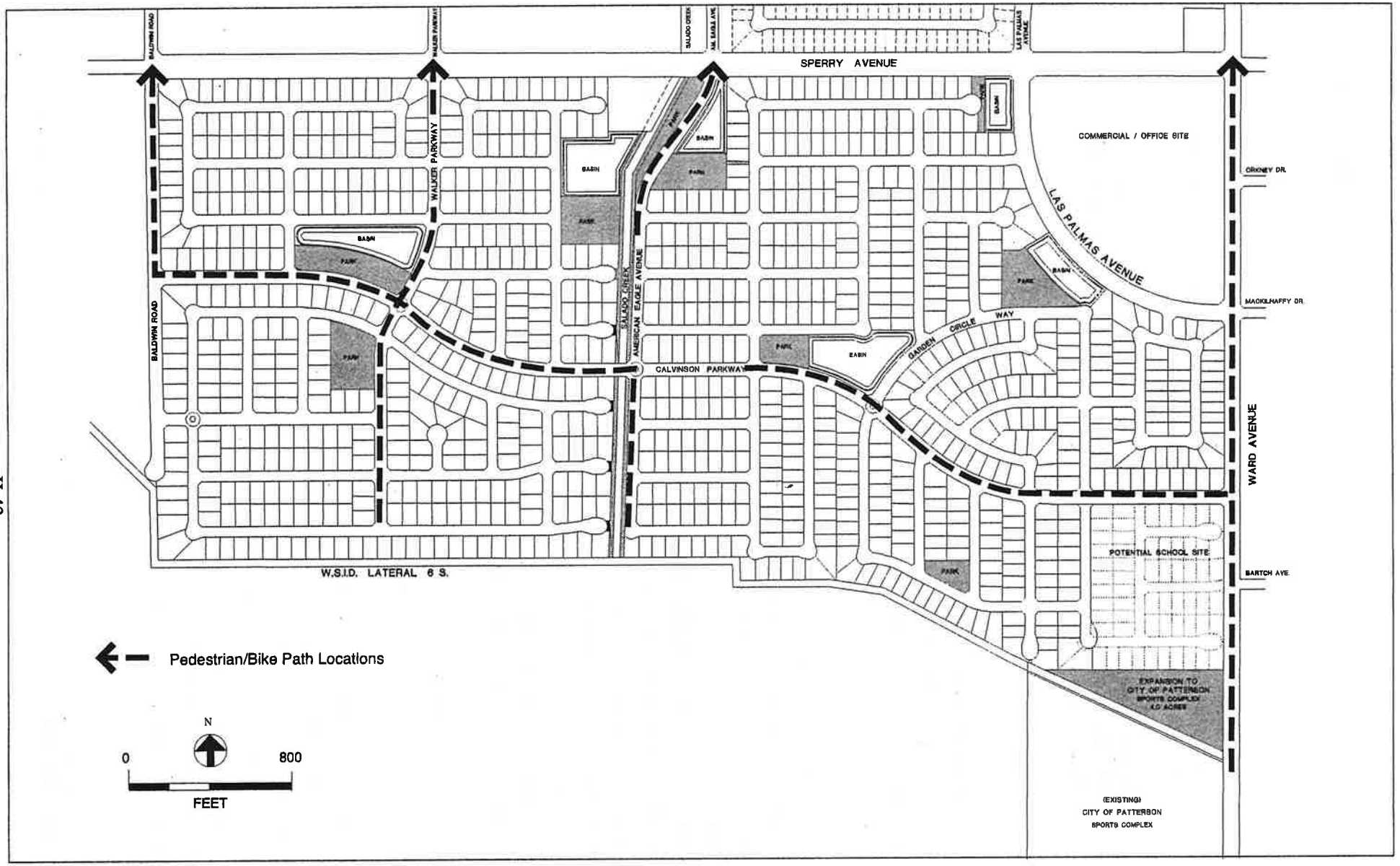
PATTERSON GARDENS PROPOSAL

The Patterson Gardens component of the project involves the development of a master planned community with single-family and senior residential dwellings, commercial-retail and office uses, recreational amenities, and a potential school site (see Figure II.16: Patterson Gardens - Preliminary Project Layout). The 305-acre Patterson Gardens site is located on the south side of Sperry Avenue, between Ward Avenue and Baldwin Road. The site lies outside the jurisdictional boundaries of the City of Patterson, but within the City's sphere of influence. Development of Patterson Gardens requires annexation to the City. The Patterson Gardens proposal includes the following:

- Between approximately 930 and 970 single-family detached dwelling units on approximately 230 gross acres.
- 47 single-family detached dwelling units designated for seniors on 10.0 gross acres.
- Reservation of about 12.4 gross acres for a school site. In the event that the Patterson Unified School District chooses not to acquire the site, 60 additional single-family dwelling units would be constructed.
- Phased development of a 21.4-acre site with approximately 302,500 square feet of commercial retail and office uses. Tenants have not yet been identified, but the uses are expected to include a convenience store/gasoline station, an office complex, and retail uses.[6]
- Setting aside of four acres for the City for the potential expansion of the Patterson Sports Complex.
- Reshaping of the Salado Creek channel for purposes of flood control and stream restoration.
- Potential construction of an approximately 16-acre lake that would serve both as a neighborhood amenity and a storm detention basin.

---

[6] Development of the commercial-retail and office uses is contingent upon the City's approval of a General Plan amendment to change the land use designation on this parcel from *Low Density Residential* to *Commercial Retail.*



SOURCE: Garcia-Davis-Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

FIGURE II.16: PATTERSON GARDENS-PRELIMINARY PROJECT LAYOUT (WITH PEDESTRIAN/BIKE PATH LOCATIONS)

- Development of approximately 10 acres of neighborhood parks, and approximately two acres of parkland and open space within the new Salado Creek right-of-way, including a landscaped pathway.

- Widening of Sperry Avenue, Ward Avenue, and Baldwin Road on the perimeter of Patterson Gardens and construction of Las Palmas Avenue (south of Sperry Avenue) and other internal collector streets.

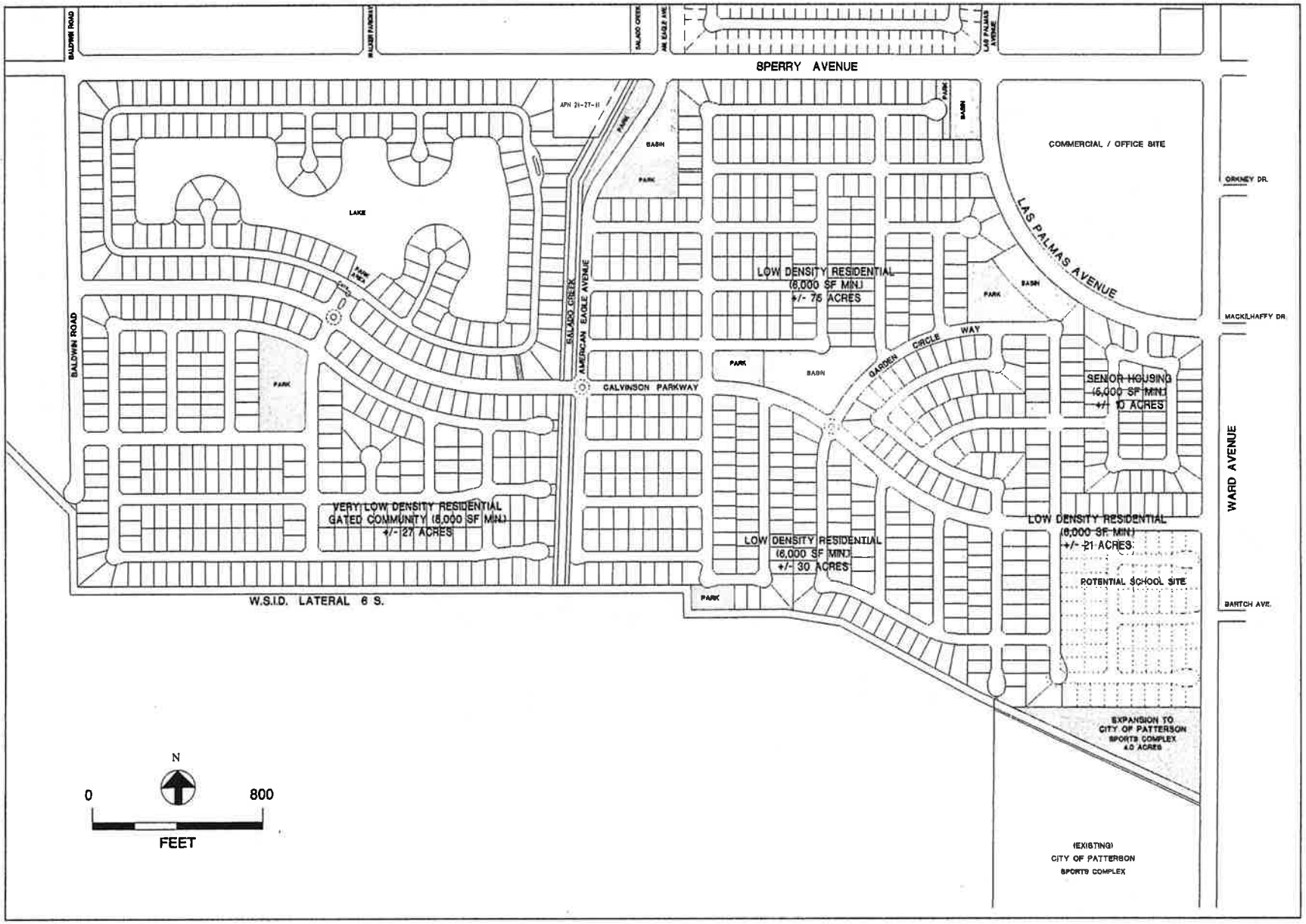
PROPOSED LAND USE PLAN

Residential units would be developed with a density of 3.8 to 4.7 units per acre. The senior housing neighborhood would be located on Ward Avenue, directly south of the proposed commercial/retail site, and would be developed with approximately 4.7 units per acre.

The Keystone Corporation is considering an alternative site plan for the residential neighborhood in the northwest quadrant of the master planned community, west of Salado Creek, that calls for the development of an approximately 16-acre lake/detention basin (see Figure II.17: Patterson Gardens - Preliminary Project Layout (with Lake)). In addition to serving as a neighborhood recreational amenity for boating and other uses, the lake/detention basin would detain stormwater flows. If the Keystone Corporation intends to pursue this alternative, Area E would be redesigned to include fewer homes developed around the lake. If this option is chosen, more homes would be developed in Area F, so that the total number of homes will be in the range described below. Additionally, the residential development potential of the Patterson Garden site would change depending on whether the Patterson School District acquires the 12-acre school site:

- Proposed project: approximately 987 units
- Proposed project with no school: approximately 1,047 units

Because tenants for the commercial-retail component of the Patterson Gardens proposal have not yet been identified, the design of these uses is conceptual to allow flexibility to accommodate future tenants' needs. The preliminary schematic plan calls for the retail uses to front Sperry Avenue and Ward Avenue, as shown in Figure II.18: Patterson Gardens - Commercial and Office Space. The 21,000 square feet of office use would likely front Las Palmas Avenue. The potential school site would be located on Ward Avenue, directly south of the senior complex and north of the City's Sports Complex.

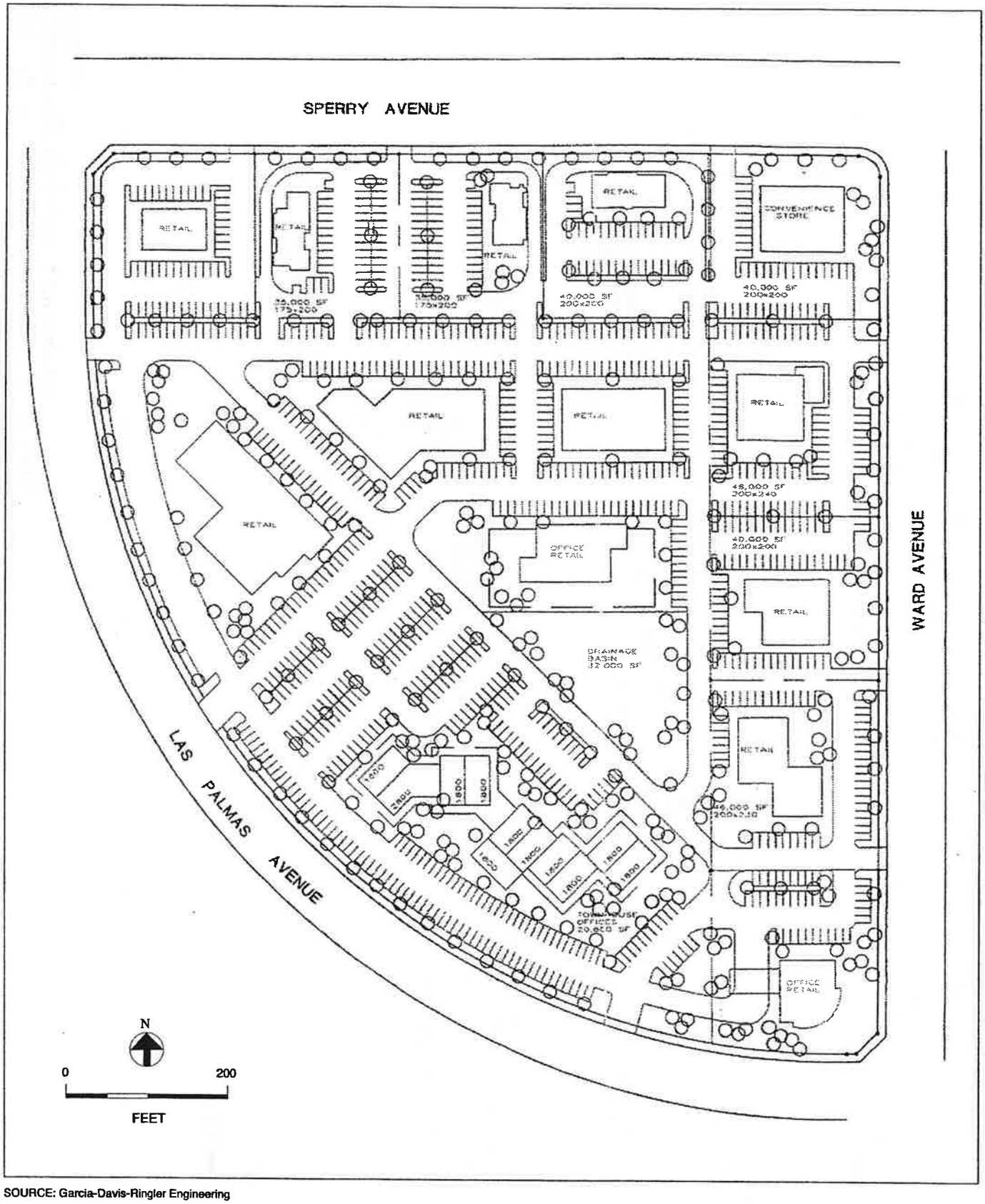


SOURCE: Garcia-Davis-Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

FIGURE II.17: PATTERSON GARDENS-PRELIMINARY PROJECT LAYOUT (WITH LAKE)



SOURCE: Garcia-Davis-Ringler Engineering

TURNSTONE CONSULTING

PATTERSON

FIGURE II.18: PATTERSON GARDENS-COMMERCIAL AND OFFICE SPACE

The locations of the Patterson Gardens nine proposed parks and six proposed drainage basins are shown in Figure II.16.

Design

The *Patterson Gardens Final Development Plan* contains design objectives for building architecture, landscaping, and streetscapes for the master planned community. Because individual builders have not yet been identified, the design of the residential and retail-commercial component is conceptual to allow flexibility to accommodate future builders' needs. The City of Patterson Planning Commission would ensure that each phase of the Patterson Gardens master planned community would be consistent with the conceptual design guidelines established in the *Patterson Gardens Final Development Plan*.

As discussed in Section III.O, Visual Resources, the residential uses would include a variety of designs. All development in the master planned community would contain different roof styles, projections, and other architectural features to create a varied street scene. Materials, colors, and styles would be used to create continuity within the community. Architectural screens, fences, and accessory structures would be compatible with the materials, color, and texture of the main building. Where residential back yards are adjacent to roadways, block or wood and plaster walls would be included in the neighborhood design. Walls would be six feet in height and would be consistent with the design of the existing walls on Sperry Avenue and Ward Avenue, adjacent to the Heartland Ranch development. A Master Streetscape Plan would be prepared for each phase of the project area at the time of development.

INFRASTRUCTURE FACILITIES

The Patterson Gardens proposal includes new roads within the site as well as improvements to adjacent roadways. Stormwater, water supply, and wastewater collection facilities would be constructed on site, and new conveyance facilities would be constructed to connect with existing wastewater and stormwater pipelines.

Access and Circulation

The Patterson Gardens site is located east of I-5 and would be served through the Sperry Avenue interchange. Direct access to the master planned community would be from

Sperry Avenue, Ward Avenue, and Baldwin Road, and by roadway extensions through the Patterson Gardens site. The circulation system would be designed to provide a linkage of walkways, bike paths, and roadways from downtown Patterson to the residential neighborhoods, commercial shopping and businesses, the Patterson Sports Complex, and the proposed school site.

As discussed above, Sperry Avenue would be widened to four lanes, between the I-5 interchange and Baldwin Road.

Ward Avenue, between Sperry Avenue and the site of the proposed Las Palmas Avenue extension/Mackilhaffy Drive, would be widened to four traffic lanes and then reduced to a two-lane section as Ward Avenue continues south.

Baldwin Road is currently an unimproved roadway along the west side of the Patterson Gardens site. It would ultimately be improved to an 86-foot width with two traffic lanes.

Las Palmas Avenue, north of Sperry Avenue, is an existing roadway that extends diagonally from downtown Patterson and in a circular arc from Ward Avenue to Sperry Avenue. This roadway would be continued in a circular arc south from Sperry Avenue to Ward Avenue and improved to provide an 80-foot right-of-way. The improved road would contain two lanes, a center turn lane, on-street parking, and a pedestrian sidewalk.

Development of Patterson Gardens would also require the construction of several collector roadways internal to the residential and commercial development. Calvinson Parkway would be developed as a 65-foot-wide residential collector with two traffic lanes, on-street parking, and a combination sidewalk/bicycle path. This roadway would provide an east-west connection from Ward Avenue westerly to Baldwin Road. American Eagle Avenue Parkway would be developed as a 55-foot-wide residential collector with two traffic lanes, a striped bicycle lane within the street right-of-way, on-street parking, and a pedestrian sidewalk on one side of the street. This road would provide a north-south connection from Sperry Avenue to Calvinson Parkway. Traffic roundabouts are proposed at the following three intersections along Calvinson Parkway: Walker Parkway (if constructed), American Eagle Avenue, and Garden Circle Way.

The remaining residential streets would be developed as 50-foot-wide roads with two 16-foot-wide traffic lanes (wide enough to accommodate on-street parking) and a pedestrian sidewalk.

Storm Drainage

The Patterson Gardens project site includes seven drainage areas. The two drainage areas in the northeast quadrant of the Patterson Gardens project site would be metered through five detention basins into an existing 24-inch pipe at Ward Avenue and Sperry Avenue. This 24-inch pipeline is connected into the pipeline system that ultimately drains into the twin 72-inch pipelines (Salado Creek channel) at the north end of the Heartland Ranch development. The remaining five drainage areas would be metered through detention basins into the Salado Creek channel that bisects the Patterson Gardens site. All improvements to the stormwater collection system would be designed pursuant to the *City's Master Storm Drainage Plan City of Patterson Western Expansion Area* (July 2001). The improvements to Salado Creek are subject to regulation by the Army Corps of Engineers under Section 404 of the federal Clean Water Act and by the California Department of Fish and Game under Section 1600 *et seq.* of the California Fish and Game Code.

The existing Salado Creek channel would be reshaped to increase its conveyance capacity from an estimated 300 cubic feet per second (cfs) to 500 cfs, in conformance with completed downstream improvements. The channel width between the tops of banks would be increased from approximately 22 feet to approximately 35 feet. The improved channel would be seeded and/or planted with wet meadow species. An oak savanna buffer would extend 20 feet on the west side of the channel, while the buffer on the east side (adjacent to American Eagle Avenue) would include 10.5 feet of oak savanna, a 5-foot pedestrian path, and a 4.5-foot landscaped strip.

Water Supply

The City would supply Patterson Gardens with water meeting applicable drinking water quality standards, as discussed in Section III.I, Water Supply. Consistent with the City's Year 2001 Water Master Plan, the City proposes to construct a 24-inch water transmission line south of the City to convey groundwater from wells located east of the City to a 2,000,000-gallon storage tank to be located at Sperry Avenue adjacent to the

Delta Mendota Canal. From the storage tank, water would be pumped via a booster pump station into a network of 12-inch distribution pipelines that would enter Patterson Gardens from the west. If the City were to elect to implement the surface water supply variant (see Section III.I, Water Supply), a water treatment plant would be constructed near the source of supply to the west of the City (the California Aqueduct or the Delta Mendota Canal) and a 30-inch pipeline would connect the plant to the 2,000,000-gallon storage tank.

Wastewater

A full description of the proposed expansion of the City's wastewater treatment facility and conveyance infrastructure is provided in Section III.J, Wastewater. To accommodate wastewater generated by Patterson Gardens, a new sewer collection pipeline would be constructed from the intersection of Sperry Avenue and American Eagle Drive, running east under Sperry Avenue and north under Ward Avenue to the existing 27-inch line in M Street.

PHASING

The residential portion of the Patterson Gardens proposal would be developed in phases to facilitate provision of infrastructure and project financing and to meet market needs. Construction is scheduled to begin in 2004 with the anticipated development of approximately 200 residential units. Each year thereafter, it is anticipated that approximately 200 units would be developed until buildout. Construction of the office and commercial-retail component of Patterson Gardens is expected to commence in 2006. The Keystone Corporation proposal contemplates the construction of approximately 50,000 square feet of office, commercial-retail space each year until buildout. At buildout, the commercial-retail component of Patterson Gardens is expected to employ approximately 700 individuals.

D. USES OF THIS EIR

This EIR will serve as a Program EIR pursuant to section 15168 of the CEQA Guidelines for approval and implementation of the Business Park Plan, and as a Project EIR pursuant to Section 15161 of the CEQA Guidelines for approval and implementation of the

Keystone Pacific Business Park proposal and for the Patterson Gardens proposal. In addition, this EIR serves as a Project EIR for the following: 1) the expansion of the City's wastewater treatment plant and collection system; 2) the expansion of the City's domestic water system to provide sufficient capacity to accommodate the Keystone Pacific Business Park proposal, the Patterson Gardens proposal, and already approved residential development in the City; 3) construction of the stormwater and drainage improvements necessary to serve the Keystone Pacific Business Park and Patterson Gardens; and 4) improvements to roadway arterials, including bridge improvements, and construction of a new system of collector roadways to support the Keystone Pacific Business Park and Patterson Gardens.

In reviewing specific development projects contemplated within the West Patterson Business Park Master Development Plan, both the City of Patterson and Stanislaus County will exercise development review authority. The City will act as lead agency for CEQA purposes and will have an advisory role for development review. Stanislaus County will have responsibility for numerous approvals relating to the Business Park Plan and would retain final authority over the issuance of building permits. The City of Patterson will be responsible for the approvals necessary for the Patterson Gardens development.

E. APPROVALS REQUIRED

WEST PATTERSON BUSINESS PARK MASTER DEVELOPMENT PLAN AND KEYSTONE PACIFIC BUSINESS PARK

The following approvals are required for the West Patterson Business Park Master Development Plan and Keystone Pacific Business Park.

CITY OF PATTERSON

- City Environmental Impact Report/CEQA Review. Certification of an EIR must occur prior to the City's approval of any of the project applications listed below. This EIR is being prepared to fulfill this requirement.

- City approval of the West Patterson Business Park Master Development Plan. (Approval of this Plan would include an amendment to the City zoning ordinance to establish two new zoning districts: *the West Patterson Industrial Business Park District* and *the West Patterson Light Industrial District*.)

- Amendment of the City's General Plan as follows: 1) establish *Light Industrial* as the land use designation for the northern Cozzens and Keystone properties; (2) change the land use designations for the Rea and Falzone properties from their current designation of *Medical/Professional Office* to *Light Industrial*; (3) change the land use designation for the southern 30 acres of the F. Hansen West property from its current designation of *Highway Service Commercial* to *Light Industrial*; and 4) change the land use designation for the State of California parcel from *Light Industrial* to *Public/Quasi-Public*.

- City approval of prezoning for West Patterson Business Park Master Development Plan area.

- Out of Boundary Service Extension pursuant to Government Code Section 56133.

- City application to the Stanislaus County Local Agency Formation Commission (LAFCo) for a Sphere of Influence Amendment to include the northern Cozzens and Keystone properties.

- Amendment of the City of Patterson/Stanislaus County Development Cooperation Agreement.

- City Approval of a Development Agreement between Keystone Pacific Corporation and the City of Patterson.

- Approval of a Master Services Element.

STANISLAUS COUNTY

- County Environmental Impact Report/CEQA Review. Certification of an EIR must occur prior to the County's approval of any of the project applications listed below. This EIR is being prepared to fulfill this requirement.

- County approval of the West Patterson Business Park Master Development Plan. (Approval of this Plan would include an amendment to the County zoning ordinance to establish two new zoning districts: *the West Patterson Industrial Business Park District* and *the West Patterson Light Industrial District*.)

- Amendment of the Stanislaus County General Plan to change the land use designation for the northern Cozzens and Keystone properties from their existing *Agriculture* designation to *Planned Industrial.*
- County Rezoning of the Keystone property from *General Agriculture* to *West Patterson Light Industrial.*
- County approval of a vesting parcel map for the Keystone Pacific Business Park.

- Amendment of the City of Patterson/Stanislaus County Development Cooperation Agreement.
- Development Agreement between the County and the Keystone Pacific Business Park, LLC.
- County would issue Building permits, Use permits and staff approvals for buildings.
- County approval of Mello-Roos Districts or similar infrastructure mechanisms.

LOCAL AGENCY FORMATION COMMISSION

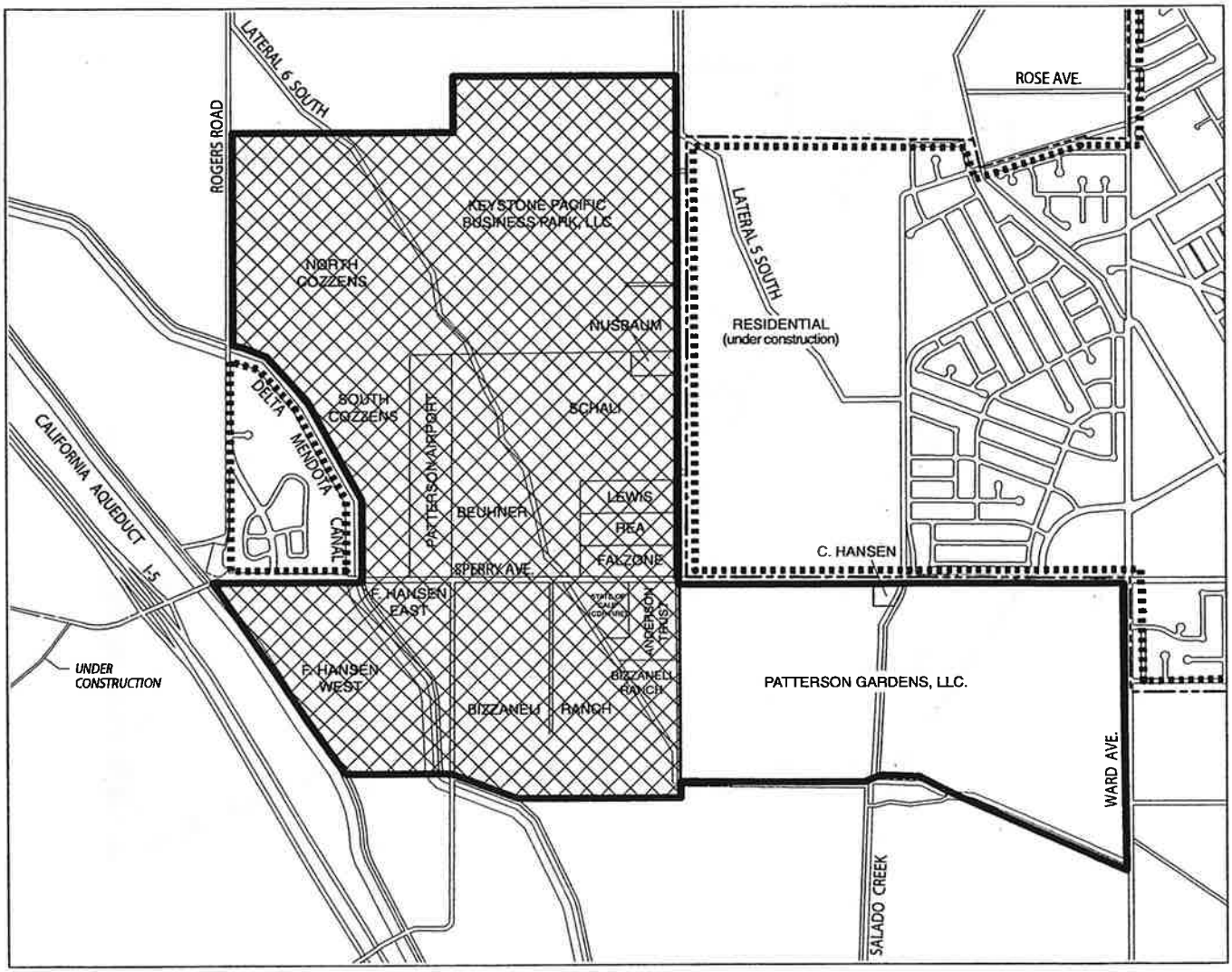
- Sphere of influence amendment to include the northern Cozzens and Keystone properties within the City's sphere of influence.
- City-County Public Services Agreement and Out-of-Boundary Services Extension pursuant to Government Code Section 56133 (see Figure II.19: Proposed Out-of-Boundary Services Extension).
- Reorganization to remove properties from the West Stanislaus Fire Protection District and the West Stanislaus Irrigation District and add them to City services (see Figure II.20: Area Proposed for Removal from the West Stanislaus Irrigation District).
- LAFCo adopts Service Review and Master Service Element for City's Sphere of Influence.

PATTERSON GARDENS

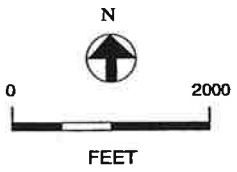
CITY OF PATTERSON

The following approvals are requested from the City of Patterson for Patterson Gardens.

- General plan amendment on the 21.4-acre portion of the site from *Low Density Residential* to *General Commercial*, and to modify the *Bicycle Transportation Master Plan* to remove bicycle route from Sperry Avenue west of Ward Avenue.
- Prezoning to *Planned Development Overlay*.
- Approval of the Patterson Gardens Preliminary and Final Development Plan.
- Approval of a tentative vesting subdivision "A" map (large lots, for later subdivision into neighborhoods).
- Approval of tentative vesting subdivision "B" map(s) (neighborhoods).



SOURCE: City of Patterson

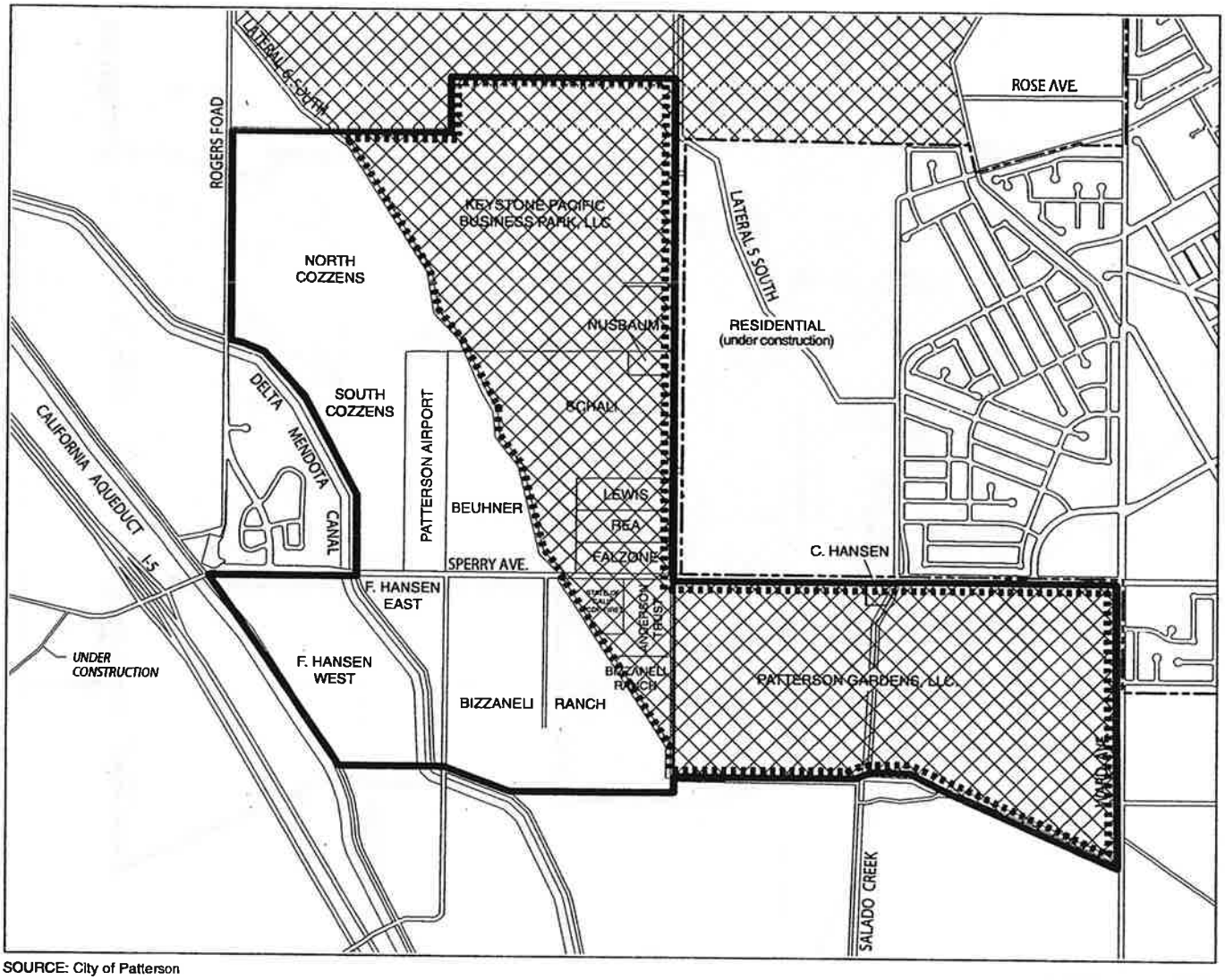


- Existing Patterson Service Area
- Proposed Extended Service Area
- City Limits
- Project Area Boundary

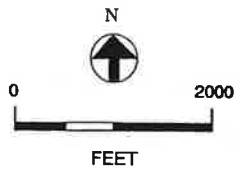
TURNSTONE CONSULTING

PATTERSON

FIGURE II.19: LOCATION OF PROPOSED OUT-OF-BOUNDARY SERVICES EXTENSION



SOURCE: City of Patterson



Existing W.S.I.D.

Area to be Removed from W.S.I.D.

City Limits

Project Area Boundary

TURNSTONE CONSULTING

PATTERSON

FIGURE II.20: AREA PROPOSED FOR REMOVAL FROM THE WEST STANISLAUS IRRIGATION DISTRICT

- City application to LAFCo for annexation.
- Approval of Development Agreement between the City and Patterson Gardens, LLC.
- City approval of building permits and use permits.
- Approval of annexation to Mello-Roos District

LOCAL AGENCY FORMATION COMMISSION

- Annexation of Patterson Gardens site to the City.
- Reorganization to remove property from fire and irrigation districts and add to City service areas.

OTHER AGENCIES

Agencies other than the City and the County have authority over changes to Salado Creek in the Patterson Gardens project.

- U.S. Army Corps of Engineers (Section 404 permit).
- Regional Water Quality Control Board (Section 401 certification).
- California Department of Fish & Game (Section 1603 Streambed Alteration Agreement).

References

All referenced documents are available for review, by appointment, at the City of Patterson offices (33 S. Del Puerto Avenue, Patterson, CA), except those marked with an asterisk (*), which are available for review, by appointment, at the Stanislaus County Planning Department (1010 10th Street, Suite 3400, Modesto, CA), and except for those identified with an internet website address.

City of Patterson, 1992. *City of Patterson General Plan.*

City of Patterson, 2001. *Master Storm Drainage Plan City of Patterson Western Expansion Area* (prepared for the City of Patterson by Stoddard and Associates).

City of Patterson, 2001. *Western Expansion Area Sanitary Sewer Collection System* (prepared for the City of Patterson by Stoddard and Associates).

EDAW, 1999. *I-5 Corridor Industrial/Business Park Feasibility Study* (prepared for Stanislaus County), March 12.

Meyers Group, 2001. *Market Analysis and Absorption Projection for Mello-Roos Financing District* (prepared for City of Patterson, Stanislaus County) February.

III. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

A. LAND USE, ZONING AND GENERAL PLAN LAND USE DESIGNATIONS

INTRODUCTION

This section describes the existing land uses in the project vicinity, reviews the land use regulatory setting of the West Patterson project area, and evaluates the general land use compatibility issues of the West Patterson projects with respect to surrounding existing land uses.

SETTING

EXISTING LAND USES

REGIONAL AND LOCAL SETTING

The West Patterson project area is immediately south and west of the City of Patterson in the western San Joaquin Valley in Stanislaus County (see Figure II.1 and Figure II.2). The region's fertile soils and nearly year-round growing season support a diverse assortment of crops sold in markets around the world. The San Joaquin River lies three miles to the east and Interstate 5 runs immediately to the west of the West Patterson project area. The Diablo Mountain range is west of I-5.

The City of Patterson occupies roughly one and one-half square miles. With a current population of about 13,030 (DOF, 2002), Patterson is a rural small town. The town center has a distinctive historic character (discussed later in Section III.O, Visual Resources). Access to the center of the City and to the West Patterson project area is from I-5. The City is bisected diagonally by State Route 33 (which becomes Second Street within the City limits) and the Southern Pacific Railroad track that runs alongside.

Industrial uses are located east of the train tracks. Further east are residential uses and agricultural uses beyond the eastern city limits.

The City's wastewater treatment plant is located about 3 miles east of the City, near the San Joaquin River. Surrounding sites, identified as potential sites for percolation ponds, are in agricultural use.

The Diablo Grande development is proposed for the Diablo foothills about 6 miles west of Interstate 5. Plans for this 30,000-acre site include about 2,100 residential units, golf courses, hotel accommodations, a conference center and winery.

Although the Patterson area began as, and continues to be, an agricultural service center supporting the surrounding farming operations, the City has experienced considerable residential growth in recent years and is evolving into a more suburban community. While agriculture and food-processing industries are important sectors of Stanislaus County's economy, growing commercial, industrial and service sectors provide a diversified base for the area's labor force. These trends are discussed later in Section III.N, Population, Housing, and Employment.

EXISTING LAND USES IN THE PROJECT VICINITY

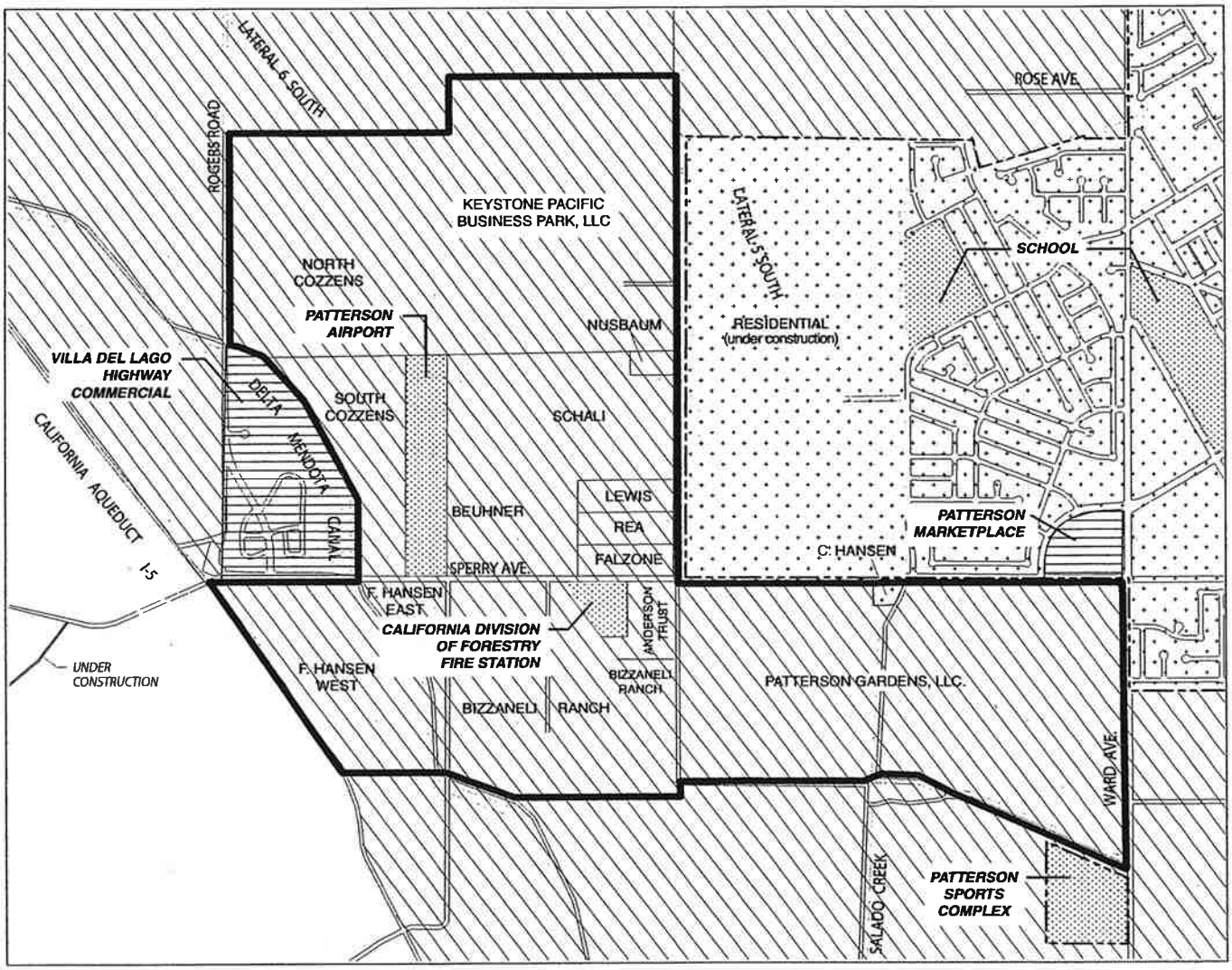
Figure III.A.1: Existing Land Uses in the Project Vicinity, shows the location of land uses adjacent to the West Patterson project area and existing land uses within the project area.

Agricultural

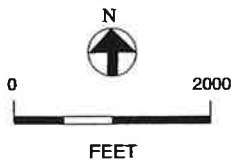
Land uses adjacent to the West Patterson project area are primarily agricultural to the north, south and west. These agricultural lands include fruit and nut orchards, hay and alfalfa fields, and various row crops.

Residential

Immediately east across Baldwin Road and north of Sperry Avenue from the West Patterson project area is a square mile of land containing recently approved residential



SOURCE: Turnstone Consulting



- City Limits
- Project Area Boundary
- Commercial
- Public Use (as labeled)
- Residential
- Agriculture
- Vacant/Undeveloped

FIGURE III.A.1: EXISTING LAND USES IN THE PROJECT VICINITY

development, known collectively as the Creekside development. The Heartland Ranch development, about 1,093 units, occupies most of the eastern half of the Creekside development. A majority of its homes are constructed or nearing completion and its streets and other infrastructure are in place. The western half of the Creekside development area is currently vacant, although grading activity has begun for construction of recently approved residential developments, the Walker Ranch (approximately 812 units) and Creekside Meadow (approximately 512 units). Additional residential uses are east of the project area across Ward Avenue.

Recreational

Adjacent to the southeast corner of the West Patterson project area, across Lateral 6 South, on the west side of Ward Avenue, is the Patterson Sports Complex. The Complex is a 25-acre community sports park that includes a combination soccer/football field, a children's play area, and two softball diamonds.

Commercial

Immediately west of the project site at the I-5 Interchange is the Villa Del Lago highway-oriented commercial development which occupies about 50 acres. This cluster of commercial buildings contains fast food restaurants, a service station, motel, and a convenience store. Its street system is laid out, defining the location of future buildings.

At the eastern end of the West Patterson project area, across Sperry Avenue from the Patterson Gardens site, is the Patterson Marketplace, a commercial complex containing a supermarket, a fast food restaurant, and other retail uses.

EXISTING LAND USES WITHIN THE PROJECT AREA

The West Patterson project area is an "L"-shaped area totaling about 1,127 acres immediately to the west and south of the City of Patterson. The area is comprised of 17 separate parcels of various sizes and configurations and under various ownership (see Figure II.3).

The potential percolation pond sites are located to the north and west of the City's Wastewater Treatment Plant, west of the San Joaquin River. These sites are comprised of

nine separate parcels, or portions thereof, of various sizes and configurations and under various ownership, totaling approximately 207 acres (see Figure III.C.3).

Agriculture

The West Patterson project area and the potential sites for the percolation ponds at the Patterson Wastewater Treatment Plant are primarily comprised of irrigated agricultural land in various stages of cultivation including row crops, orchards, hay and alfalfa fields. The United States Department of Agriculture, Natural Resources Conservation Service, has classified nearly all of the land between Interstate 5 and the San Joaquin River in Stanislaus County, including the project area, as prime farmland (USDA, 2001). Prime farmland is defined as "land that has the best combination of physical and chemical characteristics for producing ...agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion..." (7 U.S.C. Sec. 4201 (c)(1)(A)).

Residences

There are seven residences scattered throughout the West Patterson project area consisting of residences and buildings associated with the agricultural use of the properties: a complex formerly occupied by the Turlock Fruit company on the Keystone Pacific Business Park site (now vacated); a ranch complex at the southern edge of the Patterson Gardens site (now vacated); a ranch complex at the center of the Bizanelli property; three residences along Baldwin Road north of Sperry Avenue; and a residence on the south side of Sperry Avenue at Salado Creek. There are approximately three residences on the potential percolation pond sites.

Patterson Airport

The Patterson Airport is a privately-owned general aviation airport located on the north side of Sperry Avenue, occupying a 30-acre strip of land running north-south, near the center of the Business Park area. The airport includes a 2,500-foot by 75-foot runway. Hangars are located toward the southern end of the site just west of the runway. With no control tower, the airport is an uncontrolled airway.

The Patterson Flying Service, a crop-dusting operation, operates five airplanes out of the Patterson Airport. Nine private, single-engine and twin engine planes are also based at this airport. Crop-dusting flights tend to be short in distance (less than 20 miles from the airport) and low, with planes repeatedly returning to the airport to reload with chemicals (chemicals are not stored at the site). The number and timing of flights vary widely by season and year. In the heavy season, between January and March and between June and October, the Airport may operate 7 days week and may typically have 30 or 40 takeoffs and landings. Flights may begin as early as 4:00 a.m. and end as late as dusk. Takeoffs are generally south to north, with a majority making a right turn over the Keystone Pacific Business Park site. Landings are typically north to south. The nearest commercial passenger air service is available at Modesto City-County Airport, 16 miles northeast of Patterson.

Canals

The Business Park Plan area is adjacent to, and crossed by, a number of water conveyances that run northeast-to-southwest and roughly parallel to each other. The California Aqueduct, part of the State Water Project, forms the diagonal southwestern boundary of that area. The Delta Mendota canal, operated by the U.S. Department of the Interior, Bureau of Reclamation, runs roughly parallel to the California Aqueduct. It forms the western boundary of the plan area at its midsection and traverses that area's southwestern quadrant. Farther east is Lateral 6 South, operated by the West Stanislaus Irrigation District, conveying irrigation water to the farming operations in the West Patterson project area. After traversing the Business Park Plan area, Lateral 6 South turns eastward, adjacent to the southern boundary of the Patterson Gardens site, and ends just west of Ward Avenue.

Salado Creek

The approximately 22-foot-wide Salado Creek traverses the Patterson Gardens site from south to north near the site's midsection. The creek appears to have been channelized between 1906 and 1912. Its original course meandered south-east of the project area and shifted through the years during flood periods (Map of the County of Stanislaus, 1895).

State of California Property

The State of California owns an eight-acre parcel on the south side of Sperry Avenue near the eastern boundary of the Business Park Plan area. It is occupied by a California Department of Forestry and Fire Protection fire station and a California Department of Transportation (Caltrans) work yard.

LAND USE REGULATORY FRAMEWORK

The West Patterson project area lies outside of and contiguous to boundaries of the City of Patterson in unincorporated Stanislaus County. However, with the exception of the northernmost parcels of the Business Park Plan area (the Keystone Pacific Business Park property and the northern Cozzens property) the West Patterson project area is within the City's sphere of influence.

Until annexed by the City, the Stanislaus County General Plan and Zoning Ordinance regulate land uses in Patterson's unincorporated sphere of influence. The Stanislaus County Zoning Ordinance, Section 21.08.090, requires that discretionary County approvals of projects within a City's sphere of influence (except agricultural uses and churches) also receive City approval and comply with any agreements that may be in place between the City and County. Development proposals within Patterson's sphere of influence prior to annexation would be jointly reviewed by the County and City to ensure consistency between County land use decisions and the City's plans for the area. The Villa Del Lago development represents such a cooperative review effort between the County and City.

EXISTING COUNTY GENERAL PLAN LAND USE DESIGNATIONS

The County's General Plan is a comprehensive long-term plan for the physical development of Stanislaus County, consisting of a statement of goals, policies and implementation measures. The General Plan identifies the proposed location, character and extent of land uses within the County through General Plan land use designations (Stanislaus County General Plan, Chapter I, Designations). Figure II.5 shows existing Stanislaus County General Plan land use designations for the West Patterson project area.

Agriculture

The northenmost portion of the West Patterson Business Park Master Development Plan area (thc Kcystone Pacific Business Park site and the northern Cozzens property), the Patterson Gardens site, the C. Hansen property and the potential percolation pond sites are designated "Agriculture" under the General Plan. This establishes agriculture as the primary use for land so designated. The Agriculture designation recognizes the value and importance of agriculture by acting to preclude incompatible urban development within agricultural areas. It is intended for areas of land which are presently or potentially desirable for agricultural usage by virtue of their location, topography, parcel size, soil classification, water availability and adjacent usage which provide a favorable agricultural environment. The Agriculture designation also allows dwelling units, limited agriculturally-related commercial services, and agriculturally-related light industrial uses provided they do not conflict with the primary use. This designation is consistent with an A2 (General Agriculture) zoning district.

Planned Industrial

The remainder of the Business Park Plan area is designated "Planned Industrial" under the Stanislaus County General Plan. The Planned Industrial designation allows more control of development than an Industrial designation to ensure that impacts on adjoining properties are reduced. It is used largely in areas without public sewer and/or water service but only if it is practical, both physically and financially, to provide sewage disposal and water service to a proposed development. Building intensity is determined by the County on an individual basis, depending upon the nature and location of the proposed planned development. However, no buildings may cumulatively occupy more than 70 percent of the area of any parcel. Only one residential unit per parcel is allowed if it is secondary to the industrial use of the property. The A-2 (General Agriculture) and PI (Planned Industrial) zoning districts are consistent with the Planned Industrial designation.

EXISTING COUNTY ZONING

The County's zoning ordinance (Stanislaus County Code, Title 21) implements the County's General Plan by establishing and defining zoning districts and the specific regulations and standards applicable to each zoning district including those governing

uses of land, density, dimensions of structures and sites. County zoning district maps establish and indicate the location and boundaries of the zoning districts and are incorporated as part of the County zoning ordinance by reference.

General Agriculture

All of the West Patterson project area parcels and potential percolation pond sites are currently zoned A-2 (General Agriculture) under the County zoning ordinance. They will retain their existing A-2 zoning until the County zoning district maps are amended to rezone the parcels, or subdivided parcels, under specific development proposals, or until annexation by the City (at which point, County zoning would cease to apply).

Section 21.12.20 defines "agriculture" as "the tilling of the soil, raising of crops, horticulture, viticulture, small livestock farming, dairying, or animal husbandry, including all uses customarily incidental thereto." In addition to agriculture, the General Agriculture zoning permits the following uses: one single-family dwelling, a mobile home, accessory buildings and uses that are incidental to the agricultural use of the property, produce stands, lagoons for the storage of animal wastes, Christmas tree sales lots, fireworks stands, produce stands, and family daycare. Other uses, less related or compatible with agriculture, are divided into three tiers described below.

Tier One uses are closely related to agriculture, and may be allowed if the County Planning Commission finds that the use would not conflict with the agricultural use of other property in the vicinity, including: dehydrators; wholesale nurseries; landscape contractors; sale of firewood; agricultural service airports; permanent and temporary housing for agricultural workers; and produce markets.

Tier Two uses are agriculture-related commercial and industrial uses that may be allowed when the Planning Commission finds that the proposed use would not be detrimental to or conflict with agricultural use of other property in the vicinity; would not create a concentration of commercial and industrial uses in the vicinity; and is necessary and desirable for such establishment to be located within the agricultural area as opposed to areas zoned for commercial or industrial usage. Examples of Tier Two uses include: agricultural service establishments primarily engaging in the provision of agricultural services to immediately surrounding farmers, including contract harvesting; agricultural

processing plants and facilities; retail sales and tasting rooms in conjunction with an agricultural processing plant; and commercial or municipal composting.

Tier Three uses are not directly related to agriculture but may be necessary to serve the A-2 District or may be difficult to locate in an urban area. Some of these uses can be people-intensive and, as a result, have the potential to adversely impact agriculture. Tier Three uses may be allowed when the Planning Commission finds that the proposed use would not be substantially detrimental to, or conflict with agricultural use of other property; and the parcel on which such use is requested is not located in one of the County's most productive agricultural areas; or the character of the use that is requested is such that the land may reasonably be returned to agricultural use in the future. Tier Three uses may include: public stables; kennels; recreational guest camps; cemeteries; schools; churches; rifle ranges; public buildings, parks or other public facilities; public utilities and communication towers; sanitary landfills; day care centers; golf courses and driving ranges, athletic fields and facilities; and some types of commercial quarrying and mining.

Special Zoning Provisions for Williamson Act Properties

In addition to General Agriculture zoning, the Stanislaus County Zoning Ordinance (Section 21.20.25) includes special provisions related to uses on County lands subject to the California Land Conservation Act of 1965 (Williamson Act, Government Code, Section 51220). The Williamson Act encourages the conservation of agricultural lands by providing a tax incentive to land owners to restrict land uses to agriculture and compatible uses. It is a voluntary program administered through local governments, which are responsible for contracting with landowners. Properties subject to Williamson Act contracts must remain in agricultural use for the duration of the contract, a minimum of 10 years. The contracts are self-renewing unless the property owner has filed a Notice of Non-renewal. Filing of a Notice of Non-renewal initiates a nine-year period after which the contract is terminated.

There are currently ten properties in the project area that are subject to active Williamson Act contracts, totaling about 315 acres (see Figure III.C.3). Of these, a Notice of Non-renewal has been filed for all but 44 acres. Eight of the nine properties identified as potential percolation pond sites are subject to Williamson Act contracts, totaling about 140 acres out of the 207 acres under review.

For Williamson Act properties, uses such as utilities, farm labor camps and farm employee housing are deemed compatible with the agricultural use of the property while uses such as churches and schools are deemed incompatible. The County evaluates other uses requiring a use permit on a case-by-case basis under the following principles of compatibility: 1) The use will not significantly compromise the long-term productive agricultural capacity of the subject contracted parcel or parcels or on other contracted lands in the A-2 zoning district; 2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in the A-2 zoning district; and 3) The use will not result in the significant removal of adjacent contracted land from agricultural and open-space use.

COUNTY AIRPORT LAND USE PLAN

State law has created county Airport Land Use Commissions (ALUC) as advisory bodies authorized to study and make recommendations to local jurisdictions on the compatibility of land uses surrounding airports to provide for orderly growth of public airports and surrounding areas. In Stanislaus County, the County Planning Commission has been appointed to act as the Stanislaus County Airport Land Use Commission.

Land Use Restrictions

The ALUC has adopted a land use plan that divides airport planning areas into four distinct concentric zones. For each zone, the plan lists compatible, prohibited and conditionally approvable land uses. Compatibility of uses is based on safety considerations and on the sensitivity of land use types to noise and hazards. The Patterson Airport property is in Zone 1, where many uses are prohibited. Zone 2 is not applicable to Patterson Airport. Much of the Business Park Plan area in Zone 3. Within Zone 3, theaters, fairgrounds, shopping centers, banks, gas stations and residences are prohibited. Such uses as office, research laboratories and manufacturing are conditional in Zone 3. The rest of the project site is encompassed by Zone 4 which extends beyond Zone 3 up to two miles from the airport runway. Zone 4 permits most uses except schools, which are conditionally approvable (see Figure II.5). Airport land use plan restrictions are applicable in addition to other land use restrictions.

Height Restrictions

The ALUC plan relies on Federal Aviation Regulations to establish height standards for obstacles on the ground to ensure adequate aircraft clearance (CFR Title 14, Part 77). Airport height limits are codified in Title 17 of the Stanislaus County Code (Section 17.12). Generally, that section limits the height of ground obstructions within the approach surfaces (extending from the ends of the airport runway) to a height of one foot for every 20 feet in horizontal distance from the end of the runway. Thus, a 20-foot-tall obstruction must be located at least 400 feet from the ends of the Patterson Airport runway, and a 45-foot-tall obstruction (the proposed height limit under the Business Park Plan) must located at least 900 feet from the ends of the runway.

EXISTING CITY OF PATTERSON GENERAL PLAN LAND USE DESIGNATIONS

The City of Patterson's General Plan provides for those areas outside of its city limits but within its sphere of influence, including most of the West Patterson project area (see Figure II.4). City General Plan land use designations do not apply to the northern portion of the Business Park Plan area because that portion is currently outside of the City's sphere of influence.[1] The West Patterson project area has the following City General Plan designations.

Low Density Residential

The Patterson Gardens site is designated LR (Low Density Residential) under the City of Patterson General Plan. This General Plan designation provides for single-family detached and attached homes, secondary residential units, public and quasi-public uses, and similar and compatible uses. Residential density may range from 1.1 to 5.0 units per acre.

Public/Quasi-Public

The Patterson Airport is designated PQP (Public, Quasi-Public) under the City of Patterson General Plan. This designation is applied to publicly-owned facilities, schools,

[1] Note that City zoning districts are not currently applicable in the West Patterson project area since the project area is outside of Patterson's city limits.

churches, and other public/quasi public uses within the City and its sphere of influence. The City's General Plan limits the Floor Area Ratio (FAR) on land designated Public/Quasi Public to .50 or less.

Medical Professional Office

The Rea and Falzone properties, at the northwest corner of Sperry Avenue and Baldwin Road, are designated MPO (Medical Professional Office District). This designation provides for medical, professional and administrative offices, hospitals, medical and dental clinics, laboratories, public and quasi-public uses, and similar and compatible uses. The MPO designation limits FAR to 4.0 or less.

Highway Service Commercial

The F. Hansen West property, located south of Sperry Avenue between the California Aqueduct and the Delta-Mendota Canal is designated HSC (Highway Service Commercial) under the City of Patterson General Plan (as is the Villa Del Lago site, located west of the West Patterson project area). This designation provides for restaurants, service stations, hotels, motels, and retail and amusement uses, oriented principally to highway and through traffic. The HSC designation limits FAR to 4.0 or less.

Light Industrial

The remainder of the Business Park Plan area within the City's sphere of influence is designated LI (Light Industrial District) under the City of Patterson General Plan. This designation provides for industrial parks, warehouses, light manufacturing, public and quasi-public uses, and similar and compatible uses. The Light Industrial General Plan Designation limits FAR to .40 or less.

IMPACTS AND MITIGATION

APPROACH

SIGNIFICANCE CRITERIA

The West Patterson projects would have a significant environmental impact if they would allow development that would be incompatible with existing or planned surrounding land uses.

METHODOLOGY AND ASSUMPTIONS

This section discusses the broad compatibility issues of the land uses proposed under the West Patterson projects in relation to surrounding land uses. Potential land use conflicts resulting from development of the West Patterson projects (like noise, traffic and visual impacts) are evaluated in detail in the other sections of this document.

This analysis assumes full buildout of the West Patterson projects. Under this assumption, Patterson Gardens is developed to its planned residential and commercial capacity consistent with the Patterson Gardens Development Plan.

The Business Park plan area would be developed with the permitted and conditional uses specified in the proposed West Patterson Industrial Business Park and West Patterson Light Industrial zoning. The County and City would each amend the texts of their zoning ordinances to provide for the two new zoning classifications: West Patterson Light Industrial (allowing light industrial and manufacturing, warehousing, offices and assembly uses), and West Patterson Industrial Business Park (allowing manufacturing and assembly processes, research and development, and corporate offices).

Parcels would retain their current County General Agriculture zoning until the County amends its zoning map to rezone a parcel or subdivided parcel. Rezoning would take place in relation to a specific development proposal. Proposed City zoning districts would not apply to any parcel until annexation of the parcel and amendment of the City's zoning map to establish the proposed zoning district on the parcel. Annexation and zoning map amendment would take place in relation to a specific development proposal.

If a parcel is eventually annexed by the City, County zoning and land use designations would no longer apply.

This analysis uses the Keystone Pacific proposal as the model for the type and character of development for the entire Business Park Plan area, since the Keystone Pacific proposal is the only development proposal currently submitted for consideration under the proposed Business Park Plan.

PROJECT IMPACTS AND MITIGATION

Impact A.1. Development of the business park and residential uses of the West Patterson projects may create potential land use compatibility conflicts with surrounding, ongoing agricultural operations. (Less than Significant)

The West Patterson projects would place residences and businesses in close proximity to ongoing agricultural operations. Aspects of agricultural operations (like dust, noise, odors, chemicals, aircraft and other machinery, hours of operation) may be perceived as a nuisance to Patterson Gardens residents and to property owners and users of the Business Park. Such conditions may give rise to complaints and increased public support for conversion of surrounding agricultural lands.

Both Stanislaus County and the City of Patterson have implemented "Right to Farm" ordinances. These Right to Farm ordinances establish a policy that agricultural operations, conducted according to accepted customs and standards, are not nuisances for the purposes of local enforcement of regulations. Under these ordinances, purchasers of property in the City or County must sign a disclosure statement notifying the purchaser of the potential inconvenience and discomfort associated with agricultural operations (specifically including aircraft) and of the County's and City's policies supporting the right to farm. These ordinances advise purchasers of property of the inherent potential problems associated with agricultural operations to prepare purchasers to accept these conditions.

Under the County and City's Right to Farm policies, impacts from customary agricultural operations on adjacent land are considered normal and acceptable conditions of rural living. By extension of this policy, potential land use compatibility conflicts arising from

the placement of residential land uses in proximity to ongoing agricultural operations are less-than-significant impacts of the West Patterson projects.

Mitigation Measure. No mitigation necessary.

Impact A.2. Development under the West Patterson Business Park Master Development Plan may create the potential for conflict between the proposed commercial and light industrial uses of the Plan and adjacent residential uses across Baldwin Road. (Less than Significant)

Development under the West Patterson Business Park Master Development Plan would place commercial, light industrial and warehouse uses in proximity to the site of future residential development east of Baldwin Road. This could result in land use compatibility conflicts (including noise, traffic, odors, and visual impacts) between the proposed business park/light industrial uses and adjacent residential uses.

The proposed City and County zoning would locate those light industrial uses generally characterized by more intensive truck traffic, hours of operation, noise and odors (like bakeries, bottling plants, warehouses, food packaging) at the interior of the Business Park Plan area, away from the interface with residential development east of Baldwin Road.

The Business Park Plan and the proposed zoning includes specific guidelines and requirements for buffering and screening the transition between the Business Park Plan area and future residential uses, including required setbacks, berms, low walls and shade trees and other plant material (see Appendix A). The Plan's design guidelines (governing siting, articulation, colors, materials and signage) promote a sense of human scale and visual interest in new construction. The Keystone Pacific Business Park proposal calls for the construction of landscaped median strips for Baldwin Road. Warehouse and light industrial buildings would be separated from Baldwin Road by landscaped buffer areas at least 250 feet wide mediating the transition between industrial and residential uses. These buffer areas would contain wet ponds that would serve as storm drainage basins as well as visual amenities. Beyond these buffers, landscaped parking lots would provide additional distance between light industrial/warehouse uses and residences east of Baldwin Road. Flex uses would be separated from Baldwin Road by a 20-foot landscaped setback and a landscaped parking area.

These components of the Business Park Plan, included in the West Patterson Business Park Master Development Plan design guidelines and the Keystone Pacific development proposal, would reduce potential land use conflicts with residential development to a less-than-significant level.

Mitigation Measure. No mitigation necessary.

Impact A.3. Development of the business park and residential uses of the West Patterson projects may create potential land use compatibility conflicts with existing Patterson Airport operations. (Less than Significant)

The Patterson Airport lies near the center of the Business Park Plan area. Implementation of the Plan would place persons and buildings in proximity to Patterson Airport, which could give rise to land use compatiblity conflicts (like safety concerns and noise problems).

To minimize potential compatibility conflicts, the Patterson Airport Land Use Plan has established concentric zones surrounding the Patterson Airport and particular types of land uses that would be compatible, incompatible and conditionally approvable for each zone (see Figure II.5 for the location of zones). Compatibility of land uses within the Airport Land Use Plan area is based on proximity to the Airport runway and on the sensitivity of land use types to hazards and noise.

Zone 3 encompasses a large portion of the Business Park Plan area. The business park and light industrial uses envisioned for the Business Park Plan would not conflict with Zone 3 restrictions of the Airport Land Use Plan. Noise and hazard-sensitive land uses (like residences, theaters, schools and hospitals) would not be permitted under the Business Park Plan. Other less sensitive uses (like offices, research laboratories and restaurants) would be conditionally approvable under the Business Park Plan consistent with the Airport Land Use Plan. Zone 4 of the Airport Land Use Plan encompasses the Patterson Gardens site. Most uses, including residences, are considered compatible within Zone 4.

Height restrictions imposed by the Airport Land Use Plan would continue to govern in instances where they would be more restrictive than the 45-foot general height limit

proposed under the Business Park Plan (particularly within areas extending north and south from the ends of the runway).

The types and intensity of uses envisioned by the West Patterson projects would generally not conflict with the requirements of the Airport Land Use Plan. In any event, Airport Land Use Plan restrictions would continue to govern proposed projects within the project area to ensure that potential land use compatibility conflicts that may arise are minimized to a less-than-significant level.

Mitigation Measure. No mitigation necessary.

Impact A.4. The expansion of the City's wastewater treatment plant may create potential land use compatibility conflicts with existing nearby rural residences. (Less than Significant)

The expansion of the City's wastewater treatment plant would increase the volume of wastewater that would be treated at the facility. Expansion would also require the creation of additional percolation ponds for the disposal of sewage effluent. Alternative locations for new percolation ponds have been identified north and east of the existing facility on land presently in agricultural use. Residences in the vicinity of the proposed potential percolation pond sites are located along Walnut, Eucalyptus, Olive, and Lemon Avenues near Elm Avenue.

The proposed potential percolation ponds would be an industrial-type land use located in closer proximity to a greater number of residences than those of the existing facility. The potential land use compatibility conflicts arising from the proposed placement of new industrial-type land uses near residences would be less than significant, because the ponds would not increase the intensity of activity or the numbers of persons and vehicles on the sites, beyond those already occurring from agricultural uses. Once constructed, the percolation ponds would create less dust and noise than agricultural use. The ponds could create odors different from those generated by agricultural uses. This specific physical impact from the proposed change in land use is discussed in Section III.F, Air Quality.

Mitigation Measure. No mitigation necessary.

References

All referenced documents are available for review, by appointment, at City of Patterson offices (33 S. Del Puerto Avenue, Patterson, CA), except those marked with an asterisk (*), which are available for review, by appointment, at the Stanislaus County Planning Department (1010 10th Street, Suite 3400, Modesto, CA), and except for those identified with an internet website address.

City of Patterson, 1992. *Patterson General Plan.*

City of Patterson, *Municipal Code*, Chapter 6.48, Right to Farm.

Code of Federal Regulations, Title 14, Part 77 - Objects Affecting Navigable Airspace.

(DOF) California Department of Finance Website, accessed July 2002, "Official State Estimates as of January 1, 2002, for City/County Population and Housing Estimates," http://www.dof.ca.gov.

*Stanislaus County, 1895, *Map of the County of Stanislaus*, Compiled from U.S. and County Surveys and Public Records.

*Stanislaus County, *Airport Land Use Plan.*

*Stanislaus County, Stanislaus County Code, Title 9 - Health and Safety, Chapter 9.32.050 Right to Farm.

*Stanislaus County, *Stanislaus County Code*, Title 17 - Airport Regulations.

*Stanislaus County, *Stanislaus County Code*, Title 21- Zoning.

United States Code, Title 7. Chapter 73 - Agriculture.

(USDA) United States Department of Agriculture, Natural Resources Conservation Service website, accessed July 2002, "Soil Survey of Stanislaus County - Western Part, 2001," www.ca..nrcs.usda.gov.

B. COMPARISON WITH EXISTING PLANS AND POLICIES

CITY OF PATTERSON GENERAL PLAN

Several major goals, policies and programs in the City of Patterson *1992 General Plan*, as updated in 1993, are relevant to the West Patterson projects. Set forth below are the most relevant goals, policies and programs (summarized in italics) and a discussion of the projects' compatibility.

LAND USE

Land Use Policy I.A.1. The City shall seek to preserve Patterson's traditional small-town qualities and agricultural heritage, while increasing its residential and employment base.

The West Patterson Business Park Master Development Plan (Business Park Plan), and the Keystone Pacific Business Park in particular, would result in a substantial increase in the region's employment base. Upon buildout, the Business Park Plan and the Keystone Pacific Business Park would add more than 16,000 employees to the City of Patterson and the western Stanislaus County region. The office/retail component of the Patterson Gardens proposal would add another 700 employees upon buildout.

The cities located in western Stanislaus County have emerged as housing centers for commuters to the San Francisco Bay Area, but the development of business uses and job centers has lagged. Patterson's unemployment rate is generally higher than that of Stanislaus County. Increasing business and industrial development in the west County would contribute to generating jobs for the community and would greatly improve the balance between jobs and housing. Thus, the West Patterson projects would advance the region's long-term goals of increasing employment, consistent with recommendations from the *I-5 Corridor Industrial/Business Park Feasibility Study* (EDAW, 1999). Development of Patterson Gardens would also add approximately 1,000 residential units, including much-needed senior housing.

As discussed in Section III.C, Agricultural Resources, implementation of the Business Park Plan and the Patterson Gardens proposal would result in the permanent conversion of approximately 1,125 acres of prime agricultural land to urban uses. The vast majority of agricultural land in the western Stanislaus region is considered Prime Farmland and thus very suitable for agricultural use. If Patterson or any other city in the region were to expand, the unfortunate result would be the loss of prime agricultural lands. Concentrating light industrial and business park uses for the region in this location, as contemplated in the City's General Plan, may prevent the sprawl of industrial development.

City Design, Structure, and Aesthetics Policy VIII.V.3. The City shall encourage the concentration and intensification of urban uses, including residential uses, in the downtown and its western extension as a means of increasing pedestrian activity and providing support for commercial and civic activities in the downtown.

Land Use Policy I.A.2. Growth in Patterson shall be planned and guided consistent with the following population limits and land use principles:

- *Population limit of 21,000 residents by the end of the twentieth year.*
- *Concentrate community commercial, high-density residential, and public facilities uses in the downtown area and its western extension.*
- *Emphasize a mixture of residential types and densities.*

The estimated population of the City as of January, 2002 was 13,030 (California Dept of Finance, 2002). Recently approved residential projects (e.g., Walker Ranch I and II, Creekside Meadows and Heartland Ranch) could result in an additional 6,000 residents over the next five to ten years, which would raise the City's population to about 18,000 residents. It is expected that Patterson Gardens would add approximately 3,000 additional residents to the City, which would result in approximately 21,000 residents by the end of the General Plans twentieth year (2012). The City's population is expected to reach 30,000 by 2020.

The West Patterson projects would continue the City's planned expansion west of the existing downtown and would maintain the geographic and economic center of Patterson. Development at this location, between the existing downtown and I-5, represents a logical progression of development for the City. As discussed above, the City has expanded its residential community west of the downtown area. The Patterson Gardens

site provides low-density residential development, including senior housing, consistent with the General Plan's existing *Low-Density Residential* designation for the site.

Land Use Policy I.A.4. The City shall link the rate of growth in Patterson to the provision of adequate services and infrastructure, including schools.

Land Use Policy I.B.5. The City shall ensure that new residential development pay its share in financing public facilities and services.

As discussed in Chapter II, Project Description, various infrastructure improvements, including an expansion of the City's wastewater treatment plant and collection facilities, and its domestic water system, new roadways, and new or upgraded drainage facilities would be developed as part of the West Patterson projects. In addition, the City has prepared and adopted a Water Supply Assessment which concludes that the City's groundwater supply is sufficient to serve the proposed projects. The City and County have formed a community facilities financing district (Mello-Roos District) as a mechanism to fund infrastructure improvements necessary to support development within the City. If Patterson Gardens is approved and annexed to the City, it will be included within the existing Mello-Roos District. A separate Mello-Roos District would be established to fund infrastructure improvements necessary to support development of the City's sphere of influence in West Patterson, including the Keystone Pacific Business Park. In addition to the Mello-Roos financing provision, the City, together with the County, collects development impact fees to defray the cost of other public facilities, such as police and fire protection facilities, school facilities and parks, that are not covered by the Mello-Roos District.

Land Use Policy I.A.6. The City shall ensure its designation of land uses and approval of development projects do not hinder efforts to maintain a positive fiscal balance for the City.

Land Use Policy I.C.3. The City shall promote the establishment, maintenance, and expansion of businesses in Patterson that generate high retail sales taxes as important contributors to the local economy.

Land Use Policy I.C.6. The City shall encourage efforts to attract major commercial and office tenants to Patterson.

Development of the West Patterson projects would result in additional property taxes in the County and the City. Businesses engaging in point-of-sale activities, such as the retail component of Patterson Gardens, would increase the City's sales tax base, as would

business park employees who would likely patronize Patterson stores. This would be help to reverse an existing loss of over $10 million per year in commercial / retail revenues that accrue to other communities when Patterson residents shop elsewhere (leakage) (State Board of Equalization, 2002, and Crawford, Multari and Clark, September 2002).

In addition, the West Patterson projects would promote an economic development strategy for the West Patterson area aimed at generating new jobs that would be higher paying than current employment opportunities in the City. As the job market improves, the demand for retail amenities is also likely to grow.

HOUSING

Housing Policy II.A.4. The City shall require developers of new residential projects of five or more units to develop five percent of all project units as moderate-income housing and five percent of all project units as very-low- and low-income housing. As an alternative to developing the units on site, the developer may pay an equivalent in-lieu fee.

Housing Policy II.A.17. The City shall strive to meet, if not exceed, its fair share of the region's housing needs for very-low-, low- and moderate-income housing as determined by the Stanislaus Areas Association of Governments.

Land Use Policy I.B.2. The City shall promote the development of affordable housing to meet the needs of low- and moderate-income household.

The Keystone Corporation is proposing to develop market rate housing which would not meet the affordable housing income limit requirements established by the California Housing and Community Development (Section III.N, Population, Housing and Employment). Therefore, the project applicant would be required to pay an affordable housing in-lieu fee ($734 per unit) consistent with the City's Affordable Housing Fee Program.

TRANSPORTATION

Transportation and Circulation Policy III.A.2. The City shall endeavor to maintain a Level of Service "C" on all streets and intersections within the city.

An analysis of traffic impacts resulting from the West Patterson projects, and proposed mitigation measures, is included in Chapter III.E, Traffic, Circulation and Parking. With

mitigation, the traffic impacts resulting from the implementation of the West Patterson projects could be improved to a Level of Service "C" or better at all intersections in the study area and at the I-5/Sperry Avenue interchange.

Transportation and Circulation Policy III.A.5. The City shall promote development of an expressway to facilitate east-west travel and to divert through-traffic from Sperry Avenue and East Las Palmas Avenue.

This policy refers to a project known as the Southern Bypass, a proposed four-lane roadway intended to accommodate traffic demand resulting from full buildout of the City's 1992 General Plan. The traffic analysis prepared for this EIR evaluated the need for construction of the Southern Bypass. With mitigation, the traffic impacts resulting from the West Patterson projects would be mitigated to a Level of Service "C." The traffic study, therefore, concluded that the Southern Bypass is not necessary at this time.

Transportation and Circulation Policy III.A.11. The City shall ensure, through a combination of traffic impact fees and other funding mechanisms, that new development pay its share of the costs of circulation improvements.

Arterial roadway improvements contemplated as part of the Keystone Pacific Business Park and Patterson Gardens are discussed in Chapter II, Project Description. In addition, the roadway and intersection improvements, proposed as mitigation for the projects' traffic impacts, are identified in detail in Chapter III.E, Traffic, Circulation and Parking. With mitigation, traffic impacts resulting from the West Patterson projects would be reduced to less-than-significant levels.

Transportation and Circulation Policy III.D.1. To the extent feasible, the City shall provide for separation of residential and other noise-sensitive land uses from major roadways to reduce noise and air pollution impacts.

Patterson Gardens would incorporate building setbacks to reduce noise levels associated with roadways and adjoining agricultural and light industrial uses. In addition, where residential back yards are adjacent to roadways, block or wood and plaster walls would be included in the neighborhood design, providing a limited amount of additional noise buffer, similar to other recent residential development along Sperry Avenue.

Transportation and Circulation Policy III.F.2. The City shall require provision of adequate off-street parking in conjunction with all new development. Parking shall be

located convenient to new development and shall be easily accessible from the street system.

The Business Park Plan contains detailed requirements intended to ensure the provision of adequate off-street parking.

TRANSPORTATION AND CITY DESIGN

Transportation and Circulation Policy III.G.1. The City shall create and maintain a safe and convenient system of pedestrian and bicycle pathways that encourages walking or bicycling as an alternative to driving. New development shall be required to pay its share of the costs for development of this pathway system.

Transportation and Circulation Policy III.G.5. The City shall require inclusion of bicycle parking facilities at all new major public facilities and commercial and employment sites.

City Design, Structure, and Aesthetics Policy VIII.A.3. The City shall use the circulation system and the pedestrian and bicycle pathway system as important structural elements to link and define neighborhoods and districts in Patterson.

Bicycle Transportation Master Plan Goal 1.[1] *Develop a City-wide route serving the needs of commuter and recreational cyclists with routes to all major destinations.*

Bicycle Transportation Master Plan Goal 4. Work with employers and developers to establish requirements for facilities which encourage bicycle commuting, including safe bicycle parking facilities, shower and changing facilities and incentives for employees who regularly commute by bicycle.

Bicycle Transportation Master Plan Goal 5. Work with residential developers to encourage bicycle-friendly development.

The Business Park Plan would include bike paths or combination bicycle/pedestrian facilities to conform with minimum state and city standards for such facilities. The Keystone Pacific Business Park would include a bicycle rack in front of each building for bicycle parking. The Patterson Gardens circulation system would be designed to provide a linkage of bike paths or combination bicycle/pedestrian pathways from downtown Patterson to the residential neighborhoods, commercial shopping and businesses, the Patterson Sports Complex and the proposed school site.

---

[1] The City of Patterson Bicycle Transportation Master Plan was adopted by the City on July 3, 2001 and is a component of the Circulation Element of the City's General Plan.

PUBLIC SERVICES

Public Facilities and Services Policy IV.A.1. The City shall continue to use groundwater as a source of domestic water for the city. The City shall also pursue, as expeditiously as possible, acquisition of surface water rights to supplement its water supply in order to accommodate projected water demand and provide for water security.

Public Facilities and Services Policy IV.A.3. The City shall not approve any new development without the demonstrated assurance of an adequate water supply to support such development.

Public Facilities and Services Policy IV.A.8. The City shall, through a combination of water development fees and other funding mechanisms, ensure that new development pay its share of the costs of water system improvements.

The City's water supply and impacts resulting from the West Patterson projects are discussed in detail in Chapter III.I, Water Supply. The City has prepared and adopted a Water Supply Assessment which concludes that the City's groundwater is sufficient to serve the West Patterson projects. The City plans to use untreated groundwater to supply existing and new demand until the quality of that groundwater deteriorates to below applicable drinking water standards, as is anticipated to occur at some point between 2008 and 2012. At that point, the City plans to either begin treatment of groundwater through wellhead desalination or switch to a surface water supply, to be used conjunctively with groundwater through an aquifer storage and recovery system. Although treated groundwater would provide a feasible water supply for the proposed projects and all other existing and planned development, obtaining a surface water supply is the preferred alternative. Accordingly, the City has already begun to pursue surface water entitlements.

The full cost of construction of the water supply conveyance infrastructure necessary to serve the West Patterson projects would be financed through the Mello-Roos District. Given the long planning horizon (2008 and 2012) for a determination as to a specific water supply option, financing for (1) the development of the groundwater wellhead treatment system or (2) a surface water treatment plant, purchase of surface water entitlements, and development of an aquifer storage and recovery system is not yet available. Financing requirements will be part of the basis for the City's selection of its water supply approach. For additional discussion regarding the financing of public facilities and services, see the funding and financing chapters of the Sphere of Influence

Plan/Master Services Element and the LAFCo Service Review (Crawford, Multari and Clark Associates, October, 2002).

Public Facilities and Services Policy IV.B.2. The City shall ensure the provision of adequate sewer service to all new development in the city and support the extension of sewer service to existing developed areas where this service is lacking.

Public Facilities and Services Policy IV.B.4. The City shall, through a combination of sewer development fees and other funding mechanisms, ensure that new development pay its share of the costs of sewer system improvements.

Development of the West Patterson projects would include a 1.0-million-gallon-per-day (mgd) expansion of the City's wastewater treatment plant. In addition, the City's wastewater collection system would be expanded to the West Patterson area of the City. A description of the proposed wastewater treatment system is included in Chapter II, Project Description. The wastewater impacts resulting from the proposed West Patterson projects are analyzed in Chapter III.J, Wastewater.

The full cost of construction of the wastewater collection system necessary to serve the proposed West Patterson projects would be financed through the Mello-Roos District. See the funding and financing chapters of the Sphere of Influence Plan/Master Services Element and the LAFCo Service Review for additional discussion regarding the financing of the wastewater treatment plant expansion and collection system improvements.

Public Facilities and Services Policy IV.C.3. The City shall expand and develop storm drainage facilities to accommodate the needs of existing and planned development.

Public Facilities and Services Policy IV.C.5. The City shall, through a combination of drainage improvement fees and other funding mechanisms, ensure that new development pay its share of the costs of drainage system improvements.

As described in Chapter III.H, Hydrology and Water Quality, detention and conveyance facilities would be constructed sufficient to accommodate any increase in stormwater flows resulting from development of the West Patterson projects.

The full cost of construction of stormwater detention and conveyance infrastructure to serve the proposed project would be financed through the Mello-Roos District. Further improvements to Salado Creek would be funded by the Keystone Corporation, the Patterson Gardens project proponent. For additional discussion regarding the financing

of the stormwater and improvements, see the financing chapter of the Sphere of Influence Plan/Master Services Element and the LAFCo Service Review.

Public Facilities and Services Policy IV.G.6. The City shall approve only those development proposals that have recognized and mitigated their full impact on school facilities, as determined by the City Council. The City shall work with the Patterson Unified School District to adequately finance school facilities in the city.

Public Facilities and Services Policy IV.G.7. The City shall require, to the extent possible, that new school facilities are constructed concurrently with new residential development.

The applicant for the Patterson Gardens proposal and the Patterson Unified School District have applied to participate in the Community Facilities District to ensure the acquisition of a school site and the construction of school facilities so that a school is developed in advance of, or concurrent with, anticipated demand. In addition, the District would apply development impact fees to defray the cost of those school facilities not covered by the Community Facilities District.

RECREATIONAL AND CULTURAL RESOURCES

Recreational and Cultural Resources Policy V.A.3. New development shall be required to assist in meeting the City's standard of five acres of facilities per 1,000 residents. The City shall require all new development to dedicate land, pay in-lieu fees, or a combination of these determined acceptable by the City.

The development of Patterson Gardens would include 15.8 acres of community park facilities, consisting of 9.8 acres of neighborhood parks, 2.0 acres of parklands/trails along Salado Creek, and 4.0 acres reserved for the expansion of the City's Sports Complex. This would meet or exceed the City's requirements. In addition, the Keystone Corporation is currently considering a proposal to develop a 16-acre lake/detention basin that would provide recreational amenities to neighborhood residents. (See also discussion in Section III.M, Community Services.)

Recreational and Cultural Resources Policy V.B.2. The City shall promote the inclusion of private outdoor and indoor recreation facilities in large commercial/industrial projects as a benefit for employees and as a means of reducing demand on public facilities.

No private recreational facilities are planned in the Keystone Pacific Business Park.

NATURAL RESOURCES

Natural Resources Policy VI.A.7. The City shall implement measures to minimize the discharge of sediment into Salado Creek and the San Joaquin River.

As described in Section III.H, Hydrology and Water Quality, specific development projects would be required to prepare and implement stormwater pollution prevention plans (SWPPPs) to reduce potential impacts to surface water bodies. SWPPPs include measures to minimize discharge of sediment and would be prepared in accordance with Regional Water Quality Control Board requirements.

Natural Resources Policy VI.B.8. Where necessary to promote planned city growth, the City shall encourage development of those agricultural lands that are already compromised by adjacent urban development or contain property required for the extension of infrastructure or other public facilities, before considering urban development on agricultural lands that are not subject to such urban pressures.

Natural Resources Goal VI.B. To promote the productivity of agricultural land surrounding Patterson and to prevent the premature conversion of agricultural land to urban areas

Natural Resources Policy VI.B.1. The City shall support the continuation of agricultural uses on lands designated for urban uses until urban development is imminent.

Natural Resources Policy VI.B.2. The City shall encourage the County to retain agricultural uses on lands surrounding the Planning Area and on lands within the Planning Area pending their annexation to the City or development by mutual agreement with the County.

Natural Resources Policy VI.B.5. The City shall allow cancellation of Williamson Act contracts only if the City Council finds that cancellation is consistent with state law.

As discussed above, and in Chapter III.C, Agricultural Resources, implementation of the Business Park Plan and the Patterson Gardens proposal would result in permanent conversion of approximately 1,125 acres of Prime Farmland to urban uses. The City is expanding urban development west of the downtown area and has approved the development of the Walker Ranch I and II, Creekside Meadows and Heartland Ranch residential neighborhoods. Villa del Lago, highway commercial retail, has also been developed at the I-5/Sperry Avenue interchange. Infrastructure (e.g., water and sewer) has been extended through west Patterson to provide service to Villa del Lago. The light industrial and business park uses associated with the Business Park Plan and the

Patterson Gardens residential, commercial-retail and office uses would continue the City's westward expansion toward I-5.

Natural Resources Policy VI.C.2. The City shall support state and federal laws and policies to preserve populations of rare, threatened, and endangered species by ensuring that development does not adversely affect such species or by fully mitigating adverse effects.

Natural Resources Policy VI.C.3. Unless there are significant, overriding considerations, the City shall not approve projects that would cause unmitigatible impacts on rare, threatened, or endangered wildlife or plant species.

Impacts upon biological resources are discussed in detail in Chapter III.D, Biological Resources. The West Patterson project area provides habitat for several special status species including the San Joaquin kit fox, the burrowing owl and the Swainson's hawk. With mitigation, impacts upon these species would be reduced to a less-than-significant level.

Natural Resources Policy VI.D.2. The City shall utilize the CEQA process to identify and avoid or mitigate potentially significant air quality impacts of new development. The CEQA process shall also be utilized to ensure early consultation with the San Joaquin Unified Air Basin Authority concerning air quality issues associated with specific development proposals.

The air quality impacts associated with the West Patterson projects are discussed in detail in Section III.F, Air Quality. The Notice of Preparation (NOP) and Initial Study were provided to the San Joaquin Valley Air Pollution Control District in February 2001. The District responded to the NOP on February 28, 2001. A copy of the EIR will be provided to the District for review and comment during the public review period. The comments on the NOP have been taken into consideration in preparing this Revised Draft EIR.

Natural Resources Policy VI.D.4. Major intersections shall be designed to minimize long vehicle delays which result in carbon monoxide (CO) "hot spots."

The air quality impacts associated with the West Patterson projects are discussed in detail in Section III.F, Air Quality. The specific roadway and intersection improvements necessary to mitigate the increased traffic congestion and potential vehicle delays resulting from the West Patterson projects are also discussed in Section III.E, Traffic, Circulation and Parking. With mitigation, traffic impacts resulting from the development of the West Patterson projects would result in a Level of Service "C" or better on Sperry

Avenue and all study area intersections, thereby minimizing vehicular delays and associated localized carbon monoxide emissions.

HEALTH AND SAFETY

Health and Safety Policy VII.B.2. New residential development, including mobile homes, shall be constructed so that the lowest floor is at least 12 inches above the 100-year flood level.

Health and Safety Policy VII.B.3. Non-residential development shall be anchored and flood-proofed to prevent damage from the 100-year flood or, alternatively, elevated to at least 12 inches above the 100-year flood level.

Health and Safety Policy VII.B.5. Construction of storm drainage improvements shall be required, as appropriate, to prevent flooding during periods of heavy rainfall.

Potential flooding impacts associated with the West Patterson projects are discussed in Chapter III.H, Hydrology and Water Quality. Prior to approval of the project, drainage plans and detention basin design details would be reviewed by the City for compliance with the "no increase in peak flow" requirement and to ensure that drainage plans are consistent with the 2001 Master Storm Drainage Plan, City of Patterson, Western Expansion Area (Stoddard and Associates, July 2001).

Salado Creek falls within the 100-year flood plain (Zone A). The project includes improvements to the Salado Creek Channel for purposes of flood control. Portions of the Patterson Gardens development fall within the 500-year flood plain (Zone B). This EIR identifies, as mitigation, that any new construction in Zone B shall have the lowest floor elevation, including basement, elevated above the highest adjacent grade at least two feet, as measured from the flow line of the gutter (see Section III.H, Hydrology and Water Quality). Upon completion of the structure, the elevation of the lowest floor, including basement, would be certified by a registered professional engineer or surveyor, or verified by a community building inspector. Roads would be designed to accommodate the 500-year flood.

In addition, before each phase of development in Patterson Gardens a drainage system would be designed and installed in compliance with the intent of the recommended drainage plan detailed in the 2001 Master Storm Drainage Plan. The detention basins would be designed so that flow to the Salado Creek channel could be interrupted when insufficient capacity was available in the creek for conveyance of the flows. The

drainage improvements would be designed and constructed so that no increase in the peak flow in Salado Creek would occur during the 100-year flood event as a result of project implementation.

The conceptual drainage plans prepared for the Keystone Pacific Business Park are consistent with the City's 2001 Master Drainage Plan. Specifically, the Master Drainage Plan specifies a minimum of five detention basins in the Keystone Pacific Business Park subarea. The Keystone Pacific Business Park conceptual drainage plan includes seven detention basins, each with conveyance piping of similar size to that specified in the Master Drainage Plan.

CITY DESIGN

City Design, Structure, and Aesthetics Policy VIII.A.6. The City shall create a continuous scenic corridor lined with palm trees extending along East Las Palmas Avenue from near the San Joaquin River west along Las Palmas Avenue through downtown to its planned intersection with Sperry Avenue and then west along Sperry Avenue to Interstate 5.

City Design, Structure, and Aesthetics Policy VIII.D.3. The City shall extend and reinforce major street tree/boulevard plantings to enhance the visual character of special and important streets within Patterson.

The West Patterson projects would include extensive frontage improvements to Sperry Avenue, including an extension of the historic Canary Island palms, located east of the City, through west Patterson to the I-5 interchange. A portion of these improvements has already been initiated by other developments; the new improvements would include landscaping the median and both sides of Sperry Avenue.

STANISLAUS COUNTY GENERAL PLAN

The Stanislaus County General Plan, October 1994, contains numerous policies and implementation measures relevant to the Business Park Plan and the Keystone Pacific Business Park proposal. The most pertinent policies and measures (summarized in italics) are provided below, followed by discussions of compatibility.

LAND USE

Land Use Goal One, Policy One. Land will be designated and zoned for agricultural, residential, commercial, industrial, or historical uses when such designations are consistent with other adopted goals and policies of the general plan.

Land Use Goal One, Policy Two. Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices.

Land Use Goal One, Implementation Measure 1. In reviewing proposals of amendments to land use designations, the County shall evaluate how the proposal would advance the long-term goals of the County.

The Business Park Plan includes redesignation of County lands (the northern Cozzens and Keystone properties) from *Agriculture* to *Planned Industrial* uses under the County General Plan. Development of the light industrial and business park uses contemplated by the West Patterson Business Park Master Development and the Keystone Pacific Business Park would advance the long-term economic and planning goals of the County consistent with recommendations from the *I-5 Corridor Industrial/Business Park Feasibility Study* (EDAW, 1999).

Agricultural Element Policy 2.8. The County recognizes the right of cities and unincorporated communities to grow and prosper and shall not oppose reasonable requests to expand spheres of influence of cities or community services districts and sanitary districts serving unincorporated communities to accommodate growth.

The Business Park Plan calls for expanding the City's sphere of influence to include the northern Cozzens and Keystone properties.

AGRICULTURE

Land Use Goal Three, Policy Sixteen. Agriculture, as the primary industry of the County, shall be promoted and protected.

Land Use Goal Three, Implementation Measure 3. Specific plans shall be encouraged when non-agricultural uses are proposed within areas designated for agriculture.

Conservation/Open Space Goal Three, Policy Ten. Discourage the division of land which forces the premature cessation of agricultural uses.

Agricultural Element Policy 2.3. To reduce development pressures on agricultural lands, higher density development and in-filling shall be encouraged in urban and built-up areas of the County.

Agricultural Element Policy 2.7. Proposed amendments to the General Plan Diagram (map) that would allow the conversion of agricultural land to non-agricultural uses shall be approved only if they are consistent with the County's conversion criteria:

1. *Overall, the proposal is consistent with the goals and policies of the General Plan.*

2. *There is evidence on the record to show a demonstrated need for the proposed project based on population projections, past growth rates and other pertinent data.*

3. *No feasible alternative site exists in areas already designated for the proposed uses.*

4. *Approval of the proposal will not constitute a part of, or encourage, piecemeal conversion of a larger agricultural area to non-agricultural uses, and will not be growth-inducing.*

5. *The proposed project is designed to minimize conflict and will not interfere with agricultural operations on surrounding agricultural lands or adversely affect agricultural water supplies.*

6. *Adequate and necessary public services and facilities are available or will be made available as a result of the development.*

7. *The design of the proposed project has incorporated all reasonable measures, as determined during the CEQA review process, to mitigate impacts to fish and wildlife resources, air quality, water quality and quantity, or other natural resources.*

Agricultural Element Policy 2.11. The County shall discourage the expansion of spheres of influence of cities or community services districts and sanitary districts serving unincorporated communities into its most productive agricultural areas.

Agricultural Element Policy 2.12. When the County determines that the proposed conversion of agricultural land to non-agricultural uses could have a significant effect on the environment, the County shall fully evaluate on a project-specific basis the direct, indirect effects, and cumulative effects and require mitigation of the impacts of farmland conversion.

While the development of the Business Park and the Keystone Pacific Business Park would advance the long-term goals of the County by providing jobs in the region, implementation of these projects would result in the permanent conversion of approximately 1,125 acres of prime agricultural land to urban uses. The County considered alternative sites in the I-5 corridor for the development of these light

industrial and business park uses (EDAW, 1999). The majority of agricultural land in the west Stanislaus County region is considered prime agricultural land, as explained in more detail in Section III.E, Agricultural Resources. Development at any location along the I-5 corridor would result in the loss of productive agricultural lands.

The area between I-5 and the existing Patterson city limits represents a logical area for urban growth. The City is expanding its residential uses west of the downtown area and has approved development of several residential neighborhoods (e.g., Walker Ranch, Creekside Meadows and Heartland). The Business Park Plan and the Keystone Business Park would continue this westward expansion and would locate industrial and commercial uses adjacent to and with direct access to I-5. Industrial and business park development in West Patterson would thus make a sizable contribution to the long-term employment growth needs of the City and Stanislaus County, while growing in a planned manner from downtown Patterson toward I-5. Concentrating light industrial and business park uses for the region in this location, as contemplated in the City's General Plan, may prevent the sprawl of industrial development.

Rather than prepare a Specific Plan as the General Plan measure suggests, the County and the City have prepared a Business Park Master Development Plan which establishes an infrastructure and regulatory framework for development of the site.

PUBLIC SERVICES

Land Use Policy Twenty-Two. Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc.

Land Use Policy Twenty-Two, Implementation Measure 1. The County shall continue to implement its Public Facilities Fees Program, which is intended to help finance public facilities needed to maintain current levels of service.

The City of Patterson would provide public services for the Business Park Plan and the Keystone Pacific Business Park. A detailed discussion of the provision of public services and infrastructure is provided in Chapter II, Project Description. In addition, the Sphere of Influence Plan/Master Services Element and the LAFCo Service Review provide further discussion of the financing of public services and infrastructure.

Conservation/Open Space Policy Five, Implementation Measure 6. Encourage new urban development to be served by community wastewater treatment facilities and water systems rather than by package treatment plants or private septic tanks and wells.

See the discussion of City of Patterson General Plan *Public Services* policies.

TRANSPORTATION AND AIR QUALITY

Land Use Policy Twenty-Three. New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems.

Land use Policy Twenty-Three, Implementation Measure 3. The level of service (LOS) for all roadways and intersections shall be at least a "C" level, unless they are located within the sphere of influence of a city that has adopted a lower level of service.

Traffic impacts associated with the West Patterson projects are discussed in Chapter III.E, Traffic, Circulation and Parking. With mitigation, the traffic impacts resulting from the implementation of the Business Park Plan and the Keystone Pacific Business Park would be reduced to a Level of Service "C" or better at all intersections in the study area and at the I-5/Sperry Avenue interchange.

Roadway and intersection improvements would be publicly financed through the Community Facilities District. In addition, Stanislaus County is contributing toward the projects' roadway improvements.[2] Improvements to the I-5/Sperry Avenue interchange would be funded through a combination of traffic impact fees and County participation.

Conservation/Open Space Policy Twenty. The County shall strive to reduce motor vehicle emissions by reducing vehicle trips, vehicle miles traveled, traffic congestion and increasing average vehicle ridership.

For a discussion of the projects' consistency with air quality measures, see the discussion of City of Patterson General Plan *Natural Resources* policies. Implementation of the Business Park Plan and development of the Keystone Pacific Business Park would result in the addition of jobs in the western Stanislaus region. Buildout of the Business Park Plan could support almost 16,000 jobs, which would substantially improve the region's

[2] On June 11, 2002, the County Board of Supervisors took action to advance $4.5 million in fiscal year 2002/03 to improve Baldwin Road from Sperry Avenue to the Keystone Pacific Business Park.

jobs-to-housing imbalance. Providing employment opportunities in this housing-rich community would contribute to a reduction in vehicle emissions.

CONSERVATION/OPEN SPACE

Conservation/Open Space Policy Three. Protect areas of sensitive wildlife habitat and plant life.

See the discussion of the City of Patterson General Plan *Natural Resources* policies.

Conservation/Open Space Policy Five. Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers.

Conservation/Open Space Policy Five, Implementation Measure 4. Encourage new development to incorporate water conservation measures to minimize adverse impacts on water supplies.

Conservation/Open Space Policy Seven. New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that does not adversely impact Stanislaus County water resources.

See the discussion of City of Patterson General Plan *Public Services* policies.

Conservation/Open Space Policy Sixteen, Implementation Measure 2. Development will not be permitted in floodways unless it meets the requirements of Chapter 16.40 of the County Code and is approved by the State Reclamation Board.

See the discussion of City of Patterson General Plan *Public Services* policies.

SAFETY

Safety Element Policy One, Implementation Measure 4. Development, except that which is consistent with the County General Plan at the time the Patterson Agreement is executed, in the area known as the Sperry Avenue Corridor, shall be required to participate in the solution of the Salado Creek flooding problem.

This policy refers to the construction of an eight-foot pipe that has been installed to accommodate Salado Creek flows. The City is collecting fees levied on new residential development to repay the County for costs associated with this drainage improvement. See also the discussion of the City of Patterson General Plan *Health and Safety* policies.

LOCAL AGENCY FORMATION COMMISSION (LAFCo)

The Stanislaus County Local Agency Formation Commission (LAFCo) Policies and Procedures Manual contain several policies relevant to the West Patterson projects. These are summarized below (in italics) and discussed in relation to the West Patterson projects.

SECTION 4, GENERAL POWERS AND POLICY GUIDELINES

Pursuant to Government Code Section 56375, no city annexation application will be deemed complete unless the pre-zoning process has been completed.

The Patterson Gardens component of the project includes a request to LAFCo for annexation to the City. Accordingly, the City will consider pre-zoning this property to *Planned Development*. The Business Park Plan and the Keystone Pacific Business Park sites are not proposed to be annexed to the City at this time.

Out-of-Agency Service Contracts or Agreements. LAFCo may authorize the City to extend services outside its City limits but within its sphere in anticipation of future annexation. Adopted LAFCo policies favor annexation over an out-of-agency service extension. Government Code Section 56133 requires the City to first request and receive written LAFCo approval prior to providing new or extended services by contract or agreement outside its jurisdictional boundaries. When annexation is feasible, LAFCo will require the filing of an application for annexation as a condition of approving an out-of-agency service agreement. Territory immediately adjacent to the City is considered "feasible" for annexation. Therefore, to be consistent with State law and adopted policies, annexation would be required for the extension of services to territory adjacent to the City limits. For territory to be considered not feasible for annexation, the City must provide sufficient information on the anticipated timeframe of the later annexation to LAFCo before an out-of-agency service area extension will be approved.

Initial development within the Business Park Plan and Keystone Pacific Business Park would occur in the unincorporated County. The City contemplates annexing the properties contained within the Business Park Plan in the next five to ten years. In the interim, the City would provide water, wastewater collection and treatment, storm drainage, fire protection, and other services by contract or agreement.

Prior to LAFCo consideration of the sphere of influence application, the City and County will have approved an amendment to the City of Patterson/Stanislaus County Service Agreement.

SPHERE OF INFLUENCE

Service Review. Government Code Section 56425 requires LAFCo to conduct a service review of the municipal services provided to a sphere of influence before an amendment to a sphere may be approved.

The proposed Business Park Plan would include an expansion of the City's sphere of influence to include the northern Cozzens and Keystone properties. Accordingly, the City has prepared and submitted a Service Review to LAFCo (Crawford Multari and Clark Associates, October 2002). A copy of the Service Review is available for review at the City of Patterson Planning Department. Development within the Plan boundaries would be served by City water, wastewater, and storm drainage facilities.

Sphere of influence boundaries shall not create islands or corridors unless it can be demonstrated that the irregular boundaries represent the most logical and orderly service area of an agency.

The proposed project would not create islands or corridors and would not result in irregular borders. The area proposed for the sphere of influence expansion (i.e., northern Cozzens and Keystone properties) is contiguous to the City's existing sphere of influence and would therefore represent a logical and orderly expansion of the City's service area.

SPHERE OF INFLUENCE PLANS AND MASTER SERVICES ELEMENTS

The Stanislaus County LAFCo requires an amendment to the Sphere Element and the Master Services Element when an agency seeks to include territory outside its sphere to that sphere.

Amendment proposals must be consistent with an updated Sphere of Influence Master Services Element.

An application for amendment to the Sphere of Influence must demonstrate a projected need for service.

The Business Park Plan includes an expansion of the City's sphere of influence to include the northern Cozzens and Keystone properties. A Sphere of Influence Plan/Master Services Element and a LAFCo Service Review have been prepared and submitted to LAFCo (Crawford, Multari and Clark Associates, October 2002). Copies of these documents are available in the City of Patterson Planning Department.

Amendment proposals involving sphere expansion which contain prime agricultural land will not be approved by LAFCO if there is sufficient alternative land available for annexation within the existing Sphere of Influence.

As discussed above, and in Section III.C, Agricultural Resources, the development of the Business Park Plan and the Keystone Pacific Business Park would result in the permanent conversion of approximately 1,125 acres of prime agricultural land to urban uses. In Stanislaus County, nearly all of the land between Interstate 5 and the San Joaquin River is prime farmland. It is thus likely that any development in this area would also convert prime agricultural land to non-agricultural uses. The County considered alternatives sites along the I-5 corridor for the development of these light industrial and business park uses (EDAW, 1999).

The Business Park Plan site is adjacent to the City and designated for urban development by the City's General Plan. The West Patterson projects would continue the City's planned expansion west of the existing downtown and would maintain the geographic and economic center of Patterson. Development at this location, between the existing downtown and I-5, represents a logical progression of development for the City. Concentrating light industrial and business park uses for the region in this location, as contemplated in the City's General Plan, may prevent the sprawl of industrial development.

There is vacant land, located east of downtown and within the City's sphere of influence, currently designated for *Light Industrial* and *Heavy Industrial* uses under the City General Plan. However, this land is not located within the I-5 corridor and would therefore not be consistent with recommendations of the *I-5 Corridor Industrial/Business Park Feasibility Study* (EDAW, 1999). Immediate access to I-5 is important if the City and County expect to attract businesses from outside the region (e.g., the Silicon Valley). In addition, infrastructure already exists in West Patterson. Since no infrastructure exists on the eastern lands, any development would require the extension of extensive urban services.

References

All referenced documents are available for review, by appointment, at City of Patterson offices (33 S. Del Puerto Avenue, Patterson, CA), except those marked with an asterisk (*), which are available for review, by appointment, at the Stanislaus County Planning Department (1010 10th Street, Suite 3400, Modesto, CA), and except for those identified with an internet website address.

EDAW, 1999. *I-5 Corridor Industrial/Business Park Feasability Study. 1999*

California Department of Finance accessed July 2002. Website http://www.dof.ca.gov:8080/html/demograp/e5a.xls

Stanislaus LAFCo, *Policies and Procedures Manual*, 2001.

State Board of Equalization, Crawford, Multari and Clark Associates, September 2002.

Stoddard and Associates, July 2001. *Master Storm Drainage Plan; City of Patterson, Western Expansion Area.*

Crawford, Multari and Clark Associates, October 2002. *Sphere of Influence/Master Services Element and LAFCo Service Review.*

C. AGRICULTURAL RESOURCES

INTRODUCTION

This section describes the existing agricultural resources of the West Patterson project area to establish a baseline against which impacts of the West Patterson projects may be compared, evaluates the impact of the West Patterson projects on agricultural resources, and describes mitigation measures that would lessen the projects' potentially significant impacts.

SETTING

REGIONAL SETTING

The project area is located within California's San Joaquin Valley. Fertile soils, availability of water, and a nearly year-round growing season make this region among the most productive farmland in the nation, supporting a diverse assortment of crops sold in markets around the world. In 1997, Stanislaus County ranked 10th in the nation for net cash return from its agricultural products (USDA, 1997). In 2000, Stanislaus County's gross cash receipts for its agricultural products totaled 1.2 billion dollars ranking 8th among California's 58 counties (Cal Food and Ag., 2001).

The first influx of immigrants to the San Joaquin Valley occurred in the mid-nineteenth century. Grazing operations spread through the San Joaquin Valley in the early phase of agricultural development. Grain was an important crop during the 1860s, resulting in the establishment of many claims and homesteads. Expansion of grain cultivation was aided by an 1870 California law requiring livestock owners to fence or pay damages to farmers for injured crops. Stanislaus County was once known as the state's banner wheat county (City of Patterson, 1992, p. VII-4).

In 1920 the West Stanislaus Irrigation District was organized. This gave West Stanislaus the right to appropriate water from the San Joaquin River. The District also diverts water

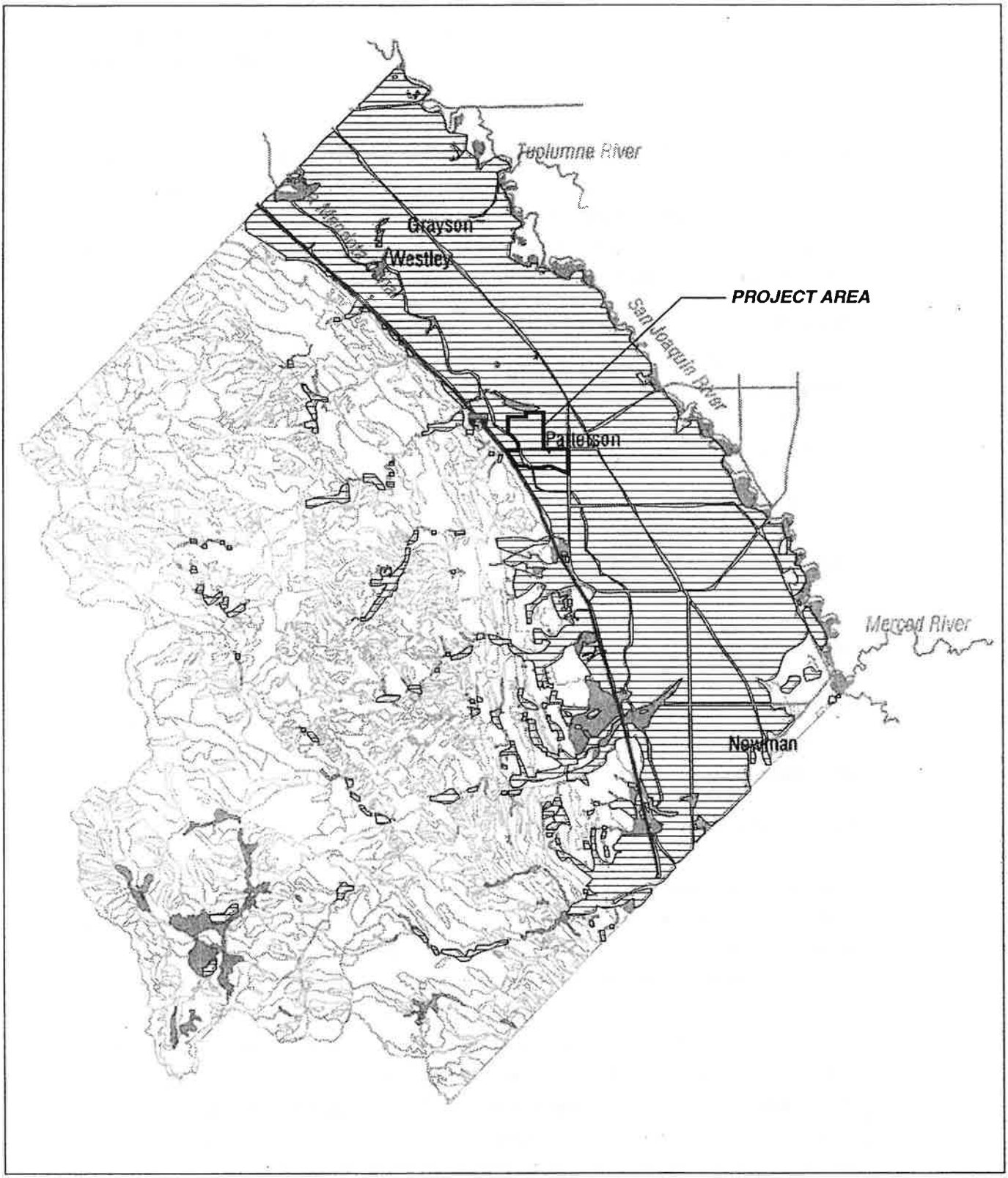
from White Lake Mutual Water Company under an agreement entered into in 1928. In the late 1940s the District looked to the Central Valley Water Project as a supplemental source of water. Access to irrigation water has greatly expanded the variety of crops produced. Field, fruit, nut, and vegetable crops are currently the leading crop commodities in Stanislaus County (USDA, 2001).

In the decades after World War II, rapid urbanization of the Los Angeles and San Francisco Bay regions eliminated several hundred thousand acres of farmland from these rich coastal areas. Farm production was relocated to the Central Valley aided by the Central Valley Project. The conversion of agricultural land in the San Joaquin Valley to urban and industrial uses has increased over time. Among all of the regions of California, the San Joaquin Valley region led the state in conversion of irrigated farmland to urban uses from 1996-1998 (Cal Dept of Conservation, 1998).

PRIME FARMLAND

The United States Department of Agriculture, Natural Resources Conservation Service, has classified nearly all of the land between Interstate 5 and the San Joaquin river in Stanislaus County, including the project area, as prime agricultural land as shown on Figure III.C.1: Prime Farmland in Western Stanislaus County (USDA, 2001). Agricultural land is defined as "land that has the best combination of physical and chemical characteristics for producing ...agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion..." (7 U.S.C. Sec. 4201 (c)(1)(A)). Prime farmland does not include land already in or committed to urban development. In 1998, 166,560 acres in Stanislaus County were classified as prime farmland. The amount of prime agricultural land in California has been declining for decades. Much of the loss is from economic pressures to convert farmland to commercial and residential use (Cal. Farm Bureau Federation, 1996).

The California Department of Conservation monitors the conversion of California agricultural land in two-year increments (Cal. Dept of Conservation, 2001). Over the last decade, Stanislaus County has seen a continuing increase in the commitment of prime farmland to urban development. In 1992-1994, 588 acres of prime farmland were lost to urban development, 695 acres in 1994-1996, and 1,648 acres in 1996-1998. Data on farmland conversion in Stanislaus County from 1998-2000 is not yet published; however, it is anticipated that an increasing pace of urban development on prime farmland will



SOURCE: USDA-Natural Resources Conservation Service (NRCS)

TURNSTONE CONSULTING

PATTERSON

FIGURE III.C.1: PRIME FARMLAND IN WESTERN STANISLAUS COUNTY

continue. In July 2000, the Salida Community Plan redesignated 2,868 acres of prime farmland to urban uses. Countywide losses of prime farmland over the past decade, then, total about 6,000 acres at least. Other significant losses of prime farmland were due to construction of ranchettes (low density rural residences), agricultural processing facilities and reclassification of land due to corrections in soil classification.

Since 1994, City of Patterson approvals of urban development on prime farmland include: the Heartland Ranch residential development, about 264 acres; Walker Ranch residential development, about 122 acres; Creekside Meadows, about 185 acres; and Shire Place, about 6 acres. Thus a total of 577 acres of prime agricultural land have been lost in Patterson in the past decade.

PROJECT AREA

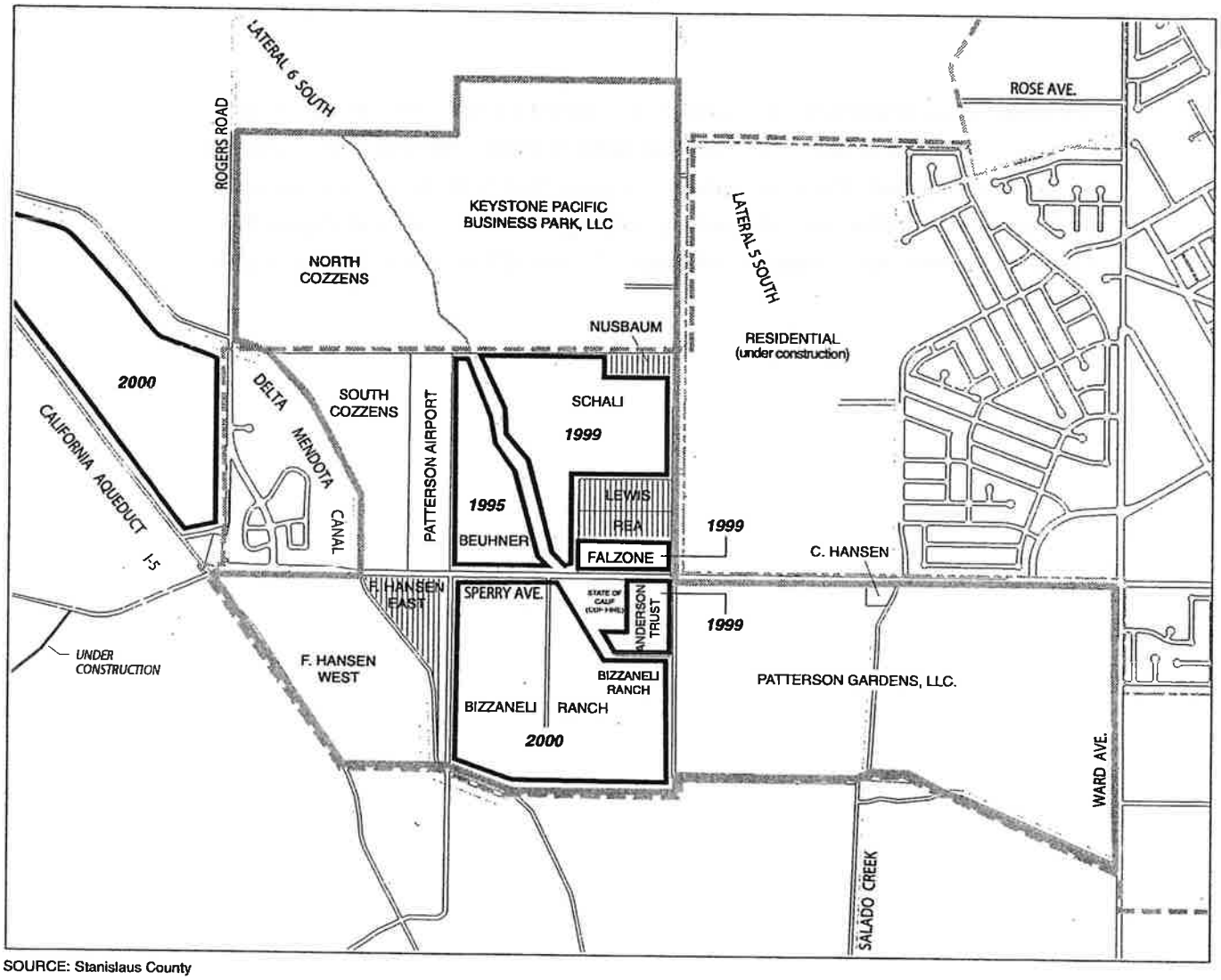
SOILS

All of the land within the West Patterson project area and the potential percolation pond sites east of the City are considered prime farmland. Soils in the project area consist of Capay Clay, Vernalis Loam, Stomar Clay Loam and Zacharias Clay Loam (USDA, 2001). The USDA Natural Resources Conservation Service considers each of these soil types to constitute prime farmland if they occur on level ground and are irrigated, as they are within the project area (USDA, 2001).

WILLIAMSON ACT PROPERTIES

The California Land Conservation Act (Williamson Act) of 1965 (Government Code, Section 51220) encourages the conservation of agricultural lands by providing a property tax incentive to land owners to restrict land uses to agriculture and compatible uses. It is a voluntary program administered through local governments, which are responsible for contracting with landowners. Properties subject to Williamson Act contracts must remain in agricultural use for the duration of the contract, a minimum of 10 years. If land subject to a Williamson Act contract is annexed by the City, the City must succeed to the rights, duties and powers of administering the contract. New legislation, to become effective January 1, 2003, would prohibit a reorganization or change in a sphere of influence that would result in the annexation to a city or special district of land that is subject to a Williamson Act contract, unless the facilities or services provided would benefit uses that are permitted by the contract, and the landowner consents (Assembly Bill 2370, Senate Bill 1515).

The contracts are self-renewing unless the property owner has filed a Notice of Non-renewal. Filing of a Notice of Non-renewal initiates a nine-year period after which the contract is terminated. There are currently ten properties in the project area that are subject to active Williamson Act contracts, totaling about 315 acres (see Figure III.C.2: Active Williamson Act Contracts). Of these, a Notice of Non-renewal has been filed for all but



SOURCE: Stanislaus County

N

0 2000

FEET

City Limits

Project Area Boundary

Patterson Planning Area Boundary

1999 Active Williamson Act Contract and Year Notice of Non-Renewal Filed

Active Williamson Act Contract, No Notice of Non-Renewal Filed

TURNSTONE CONSULTING

PATTERSON

FIGURE III.C.2: ACTIVE WILLIAMSON ACT CONTRACTS

approximately 44 acres. The year of expiration for the properties for which a Notice of Non-renewal has been filed is noted in Figure III.C.2. Additionally, eight of the nine properties (140 out of 207 acres) identified as potential percolation pond sites for the proposed expansion of the City's wastewater treatment plant, are subject to Williamson Act contracts (see Figure III.C.3: Agricultural Land on Potential Percolation Pond Sites).

IMPACTS AND MITIGATION

SIGNIFICANCE CRITERIA

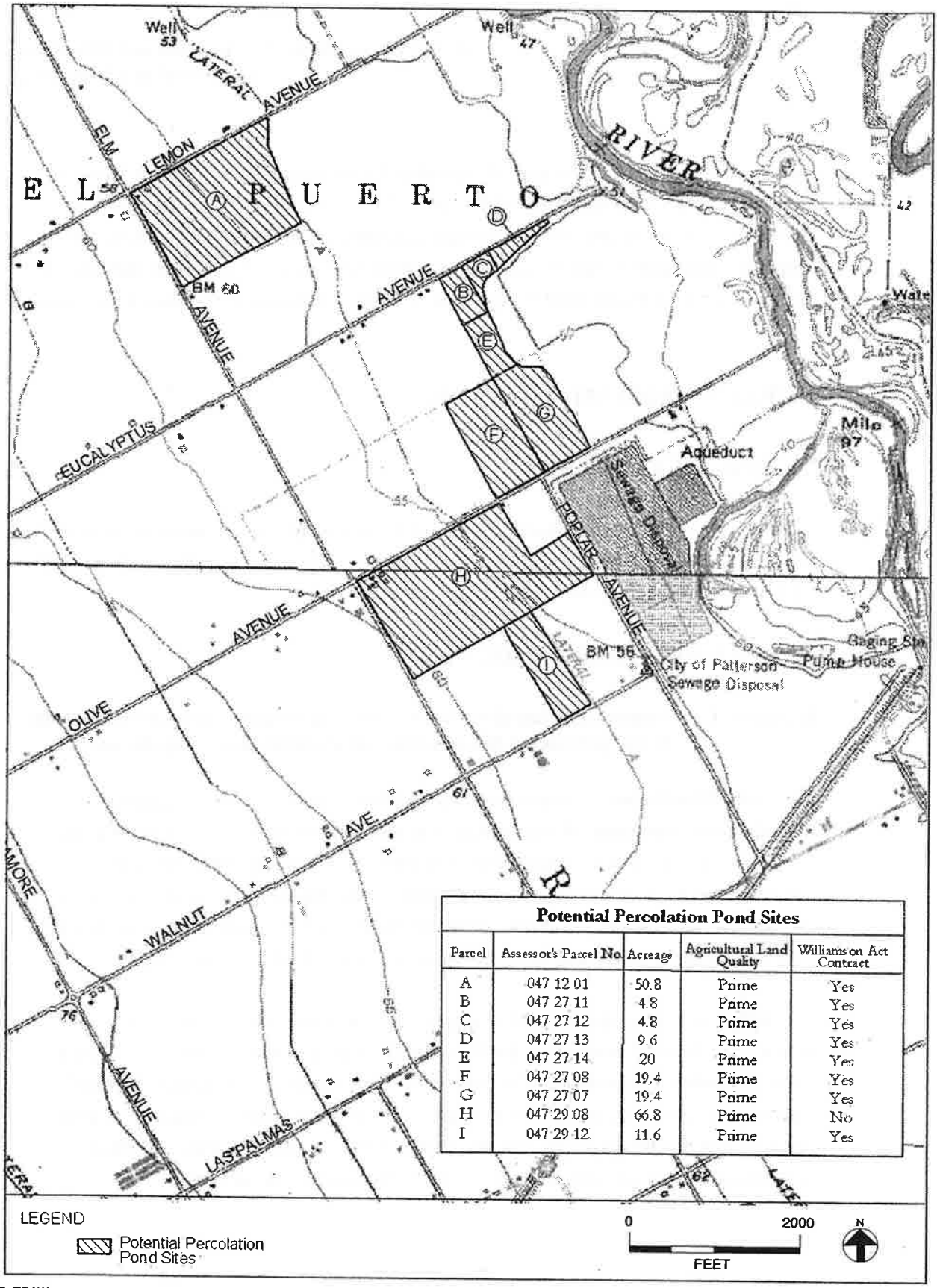
A project would have a potentially significant impact on agricultural resources if it would result in a substantial loss of agricultural resources or affect agricultural operations by the establishment of incompatible adjacent land uses.

PROJECT IMPACTS AND MITIGATION

Impact C.1. Implementation of the West Patterson projects would directly result in the permanent loss of prime agricultural land. (Significant)

The entire West Patterson project area is classified as prime agricultural land by the United States Department of Agriculture. Development of the Business Park Plan and Patterson Gardens to their contemplated capacities would result in the irreversible conversion of 1,125 acres to urban development, resulting in the permanent loss of the land as prime farmland. The direct impact of the loss of prime agricultural land would be a significant, irreversible and unavoidable impact of the West Patterson projects.

The West Patterson projects could be implemented without cancellation of active Williamson Act contracts within the West Patterson project area because of the long time frame for anticipated buildout. The proposed County zoning would remain "General Agriculture," allowing agricultural activities to continue as a conforming use. The two development projects under review, the Keystone Pacific Business Park and Patterson Gardens, are not on property subject to active Williamson Act contracts.



Potential Percolation Pond Sites

Parcel	Assessor's Parcel No.	Acreage	Agricultural Land Quality	Williamson Act Contract
A	047 12 01	50.8	Prime	Yes
B	047 27 11	4.8	Prime	Yes
C	047 27 12	4.8	Prime	Yes
D	047 27 13	9.6	Prime	Yes
E	047 27 14	20	Prime	Yes
F	047 27 08	19.4	Prime	Yes
G	047 27 07	19.4	Prime	Yes
H	047 29 08	66.8	Prime	No
I	047 29 12	11.6	Prime	Yes

SOURCE: EDAW

TURNSTONE CONSULTING

PATTERSON

FIGURE III.C.3: AGRICULTURAL LAND ON POTENTIAL PERCOLATION POND SITES

The West Patterson projects could provide a counter-incentive to the property tax advantages offered by participation, inducing additional owners of Williamson Act property to file a Notice of Non-renewal. Although it cannot be anticipated whether the West Patterson projects would cause owners of Williamson Act property to seek immediate cancellation of an active Williamson Act contracts within the West Patterson project area, the County may approve a request for cancellation only by making specific findings under state law of either consistency with the purposes of the Williamson Act or as a cancellation in the public interest (Cal. Government Code, Section 51282(a)).

A petition for cancellation requires notice to the California Department of Conservation. The Department may submit comments advising the County on the required findings with respect to the proposed cancellation. The County must consider the Department's comments, if submitted, prior to acting on the proposed cancellation (Cal. Government Code, Section 51284.1). It is the Department of Conservation's position that immediate termination of a Williamson Act contract is reserved for "extraordinary," unforeseen situations (see *Sierra Club v. City of Hayward* (1981) 28 Cal.3d 840, 852-855: "Cancellation is inconsistent with the purposes of the [Williamson] Act if the objectives to be served by cancellation should have been predicted and served by nonrenewal at an earlier time, or if such objectives can be served by nonrenewal now").

Expansion of the City's wastewater treatment plant east of the City, in connection with the West Patterson projects, would entail the cancellation of active Williamson Act contracts to construct percolation ponds. Termination of a Williamson Act contract for a public improvement is governed by Government Code Sections 51290-51295. Locating the proposed wastewater treatment plant expansion on land subject to a Williamson Act contract would require the City to make the following findings: "(a) [t]he location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve;" and (b) "that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement" (Government Code Section 51292).

Restoration and/or recovery of prime farmland from urban uses would offset the direct impact of loss of prime farmland from new urban uses but would be impracticable as a mitigation measure. Reducing the amount of prime farmland converted to urban uses is discussed in the Alternatives chapter of this report, rather than proposed here as

mitigation. A program to protect existing prime agricultural land is discussed below as a mitigation measure.

Mitigation Measure C.1.

Development agreements established pursuant to the West Patterson projects shall provide for the following as a condition precedent to the County's or City's issuance of any building permit for the West Patterson projects:

> An applicant seeking a building permit for properties in the West Patterson project area from the City of Patterson or Stanislaus County shall supply documentation, in a form acceptable to the City or County (as applicable) that the applicant has contributed to the California Farmland Conservancy Fund pursuant to Public Resources Code Section 10231.5 for the purposes of funding projects in Stanislaus County under the California Farmland Conservation Program. Such projects may include the purchase of agricultural conservation easements, land improvement and planning grants, technical assistance or other authorized activities under the California Farmland Conservation Program.

The amount of such contribution shall, at minimum, reflect the then-current value of an agricultural conservation easement on comparable prime agricultural land in the West Patterson project vicinity equal in size to the acreage of the development parcels for which permits are sought, a pro-rata share of the acreage converted under the City's wastewater treatment plant expansion, and a 10% increment for program administration under the Farmland Conservation Program.

The per acre valuation of such easement shall be jointly determined by the City of Patterson Planning Director and the Stanislaus County Planning Director, in consultation with the California Department of Conservation. Where current information on such valuation is not available, the City and County may require that applicant(s) for building permit(s) furnish an appraisal of the valuation of an agricultural easement on comparable agricultural land in the West Patterson project vicinity to inform the City and County Planning Directors' determination as to valuation.

Use of funding from the Farmland Conservation Program Fund requires an appropriation by the Legislature. Implementation of this measure would encourage the preservation of prime farmland in Stanislaus County, but would not reduce impacts to a less-than-significant level.

Impact C.2. Development of the business park and residential uses of the West Patterson projects may create potential land use compatibility conflicts, burdening surrounding agricultural operations. (Less than Significant)

The West Patterson projects would place residences and businesses in close proximity to ongoing agricultural operations, potentially burdening local agricultural operations. Aspects of agricultural operations (like dust, noise, odors, chemicals, aircraft and other machinery, hours of operation) may be perceived as a nuisance to Patterson Gardens residents and to property owners and users of the Business Park and may give rise to complaints, and increased public support for conversion of surrounding agricultural lands. Placement of urban land uses at the edge of agricultural land uses may also increase the potential for trespass on agricultural land, and crop pilfering, crop damage and potential personal injury liability associated with trespass.

The southern edge of the Patterson Gardens site would be fenced to buffer the transition between the residences of Patterson Gardens and the agricultural operations to the south, and to contain potential trespassers on agricultural land. Setbacks and landscaping would also buffer the perimeter of the West Patterson Business Park Master Development Plan area.

Lateral 6 South would continue to serve agricultural operations in the project area for as long as these continue and would eventually be eliminated when irrigation water is no longer needed. Since this portion of Lateral 6 South serves only agricultural operations within the West Patterson project area, its eventual elimination would not impact surrounding agricultural operations.

Both Stanislaus County and the City of Patterson have implemented "Right to Farm" ordinances. These Right to Farm ordinances establish a policy that agricultural operations, conducted according to accepted customs and standards, are not nuisances for the purposes of local enforcement of regulations. Under these ordinances, purchasers of property in the City or County must sign a disclosure statement notifying the purchaser of the potential inconvenience and discomfort associated with agricultural operations (specifically including aircraft) and of the County's and City's policies supporting the right to farm. Under the County and City's Right to Farm policies, impacts from customary agricultural operations on adjacent land are considered normal and acceptable conditions of rural living.

These ordinances would reduce complaints by residents by advising purchasers of property of the inherent potential problems associated with agricultural operations, preparing purchasers to accept these conditions. They would also reduce the demand for local enforcement measures against farmers, establishing a presumption that impacts from customary agricultural operations are not nuisances, for the purposes of enforcement of local health and safety codes.

Mitigation Measure. No mitigation necessary.

CUMULATIVE IMPACTS

Impact C.3. Implementation of the West Patterson projects would contribute to the cumulative loss of prime agricultural land in the West Patterson project vicinity. (Significant)

Over the past decade, there has been a loss of about 577 acres of prime farmland to the Creekside residential developments in the West Patterson project vicinity. The West Patterson Projects would contribute an additional 1,125 acres to that cumulative loss resulting in a potential cumulative total of 1,702 acres lost within the project vicinity at

full buildout. Countywide, it would contribute to a preexisting loss of at least about 6,000 acres during the same period.

The cumulative impact of the loss of prime agricultural land in the West Patterson project vicinity would be a significant, irreversible and unavoidable impact of the West Patterson projects.

Mitigation Measure C.3. Same as mitigation measure C.1.

References

All referenced documents are available for review, by appointment, at City of Patterson offices (33 S. Del Puerto Avenue, Patterson, CA), except those marked with an asterisk (*), which are available for review, by appointment, at the Stanislaus County Planning Department (1010 10th Street, Suite 3400, Modesto, CA), and except for those identified with an internet website address.

California Department of Conservation, Division of Land Resource Protection, Website, Accessed July, 2002, "California Farmland Conversion Report," 1998, http://www.consrv.ca.gov.

California Department of Conservation, Division of Land Resource Protection, Website, Accessed July, 2002, "Land Use Conversion Tables, 1992-94, 1994-96, 1996-98," http://www.consrv.ca.gov.

California Department of Food and Agriculture Website, Accessed July 2002, "Resource Directory," 2001, http://www.cdfa.ca.gov.

California Farm Bureau Federation Website, Accessed July 2002, "Central Valley Land Use Report," 1996, http://www.cfbf.com.

City of Patterson. 1992. *Patterson General Plan.*

(USDA) United States Department of Agriculture, Website, Accessed July 2002, "1997. Census of Agriculture." http:/www.nass.usda.gov/census.

(USDA) United States Department of Agriculture, Natural Resources Conservation Service Website, accessed July 2002, "Soil Survey of Stanislaus County - Western Part," 2001, http:/www.ca.nrcs.usda.gov.

D. BIOLOGICAL RESOURCES

INTRODUCTION

This section addresses the environmental setting and impacts related to biological resources, including threatened, endangered and other special status species and habitats. While agricultural and other human related activities have long ago greatly modified the natural communities that historically occurred along the west side of the San Joaquin Valley, this region still supports remnants of these communities and the diverse assemblage of plants and wildlife that they once contained. Because development of the West Patterson projects could affect sensitive biological resources that may currently reside in the region, the impacts are discussed here. A background report prepared by H.T. Harvey and Associates in 2002 is the primary source of the information in this section. A copy of this report can be reviewed at Patterson City Offices at 33 Del Puerto Avenue.

SETTING

REGULATORY FRAMEWORK

FEDERAL THREATENED AND ENDANGERED SPECIES

Federally listed threatened and endangered species and their habitats are protected under provisions of the federal Endangered Species Act (FESA). "Take" under FESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." Harm has been defined by the regulations of the United States Fish and Wildlife Service (USFWS) to include some types of "significant habitat modification or degradation." The U.S. Supreme Court ruled on 29 June 1995 that "harm" may include habitat modification "...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." Activities that may result in "take" of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species in June 2002 (Federal Register: Volume 67, Number 114, 50 CFR Part 17). Candidate species are regarded by USFWS as candidates for addition to

BIOTIC HABITATS

The West Patterson project area is characterized primarily by agricultural habitat types including agricultural/row crops, agricultural/disked, agricultural/fallow, and agricultural/orchard. Developed, rudcral (non-native herbaceous vegetation) and aquatic habitats also occur within the project area.

The wastewater treatment facility study area is also characterized primarily by agricultural lands, including agricultural/row crop, agricultural/fallow, and agricultural/orchard. In addition, the study area contains some developed aquatic and other habitats, including the existing wastewater treatment plant facility and an operating dairy.

Wildlife species associated with both the West Patterson project area and the wastewater treatment facility study area are primarily those common to disturbed agricultural and ruderal habitats that are predominate throughout the region. While their densities and use of particular sites may vary with changing cropping patterns, for the most part, these species have adapted to the routinely disturbed habitats that occur throughout the project and study areas. Species common to these habitats include: western fence lizard (*Scleroperous occidentalis*), gopher snake (*Pituophus melanoleucus*), California ground squirrel (*Citellus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), black-tailed hare (*Lepus californicus*), red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), barn swallow (*Hirundo rustica*), Brewer's blackbird (*Euphagus cyanocephalus*), and house finch (*Carpodacus mexicanus*). Low-growing row crops and fallow fields, which support prey (e.g., small mammals) populations, are important foraging habitat for many raptors.

Other common species more typically associated with the project area's orchards include: northern flicker (*Colaptes auratus*), western Scrub-jay (*Aphelocoma californica*), yellow-billed magpie, American crow (*Corvus brachyrhynchos*), and American robin (*Turdus migratorius*). Species like coyotes (*Canis latrans*) and foxes (*Vulpes* spp.) may use orchards and the edges of annually cropped fields for movement between suitable foraging and denning habitat and as a dispersal corridor.

The limited and primarily human-created aquatic sites in both the West Patterson project area and the wastewater treatment facility study area provide habitat for a variety of wildlife species. Waterbirds such as ruddy ducks (*Oxyura jamaicensis*), American coots

(*Fulica Americana*), mallards (*Anas platyrhynchos*), western sandpipers (*Calidris mauri*), American avocets (*Recurvirostra americana*), black-necked stilts (*Himantopus mexicanus*), least sandpipers (*Calidris minutilla*), and various gulls (*Larus sp.*) are typical representatives of common species that occur here. These areas also provide temporary habitat for waterfowl and other aquatic birds during migration. Barn Swallows *(Hirundo rustica)*, Cliff Swallows *(Petrochelidon pyrrhonota)*, and possibly Yuma bats (*Myotis yumanensis*) are expected to forage on flying insects above open water during summer months. Species such as the mallard, American coot, and killdeer (*Charadrius vociferus*) may nest at the edge of these habitats. Amphibians and reptiles expected to occur here include the bullfrog (*Rana catesbeiana*), western toad (*Bufo boreas*), and western aquatic garter snake (*Thamnophis couchii*). Western pond turtles (*Clemmys marmorata*) occur at the existing wastewater treatment plant site.

Following is a brief description of the biotic habitats for the individual sites within the West Patterson project area and for the wastewater treatment facility site. Table III.D.1 summarizes the various acreages by habitat type for West Patterson project area.

Table III.D.1. Habitat Acreages for the West Patterson Projects

Habitat Type	West Patterson Business Park Master Development Plan			Patterson Gardens	Total
	Business Park Plan Area Excluding Keystone	Keystone Pacific Business Park	Sub-Total		
Agricultural/Row Crop	418	221	639	—	639
Agricultural/Disked	26	—	26	233	259
Agricultural/Fallow	47	—	47	—	47
Agricultural/Orchard	87	—	87	65	152
Aquatic	2	—	2	1	3
Ruderal	3	—	3	—	3
Developed	12	3	15	6	21
Totals	595	224	819	305	1124

Source: H.T. Harvey, 2002

HABITATS IN BUSINESS PARK PLAN AREA (NOT INCLUDING KEYSTONE PACIFIC BUSINESS PARK)

Agricultural/Row Crop

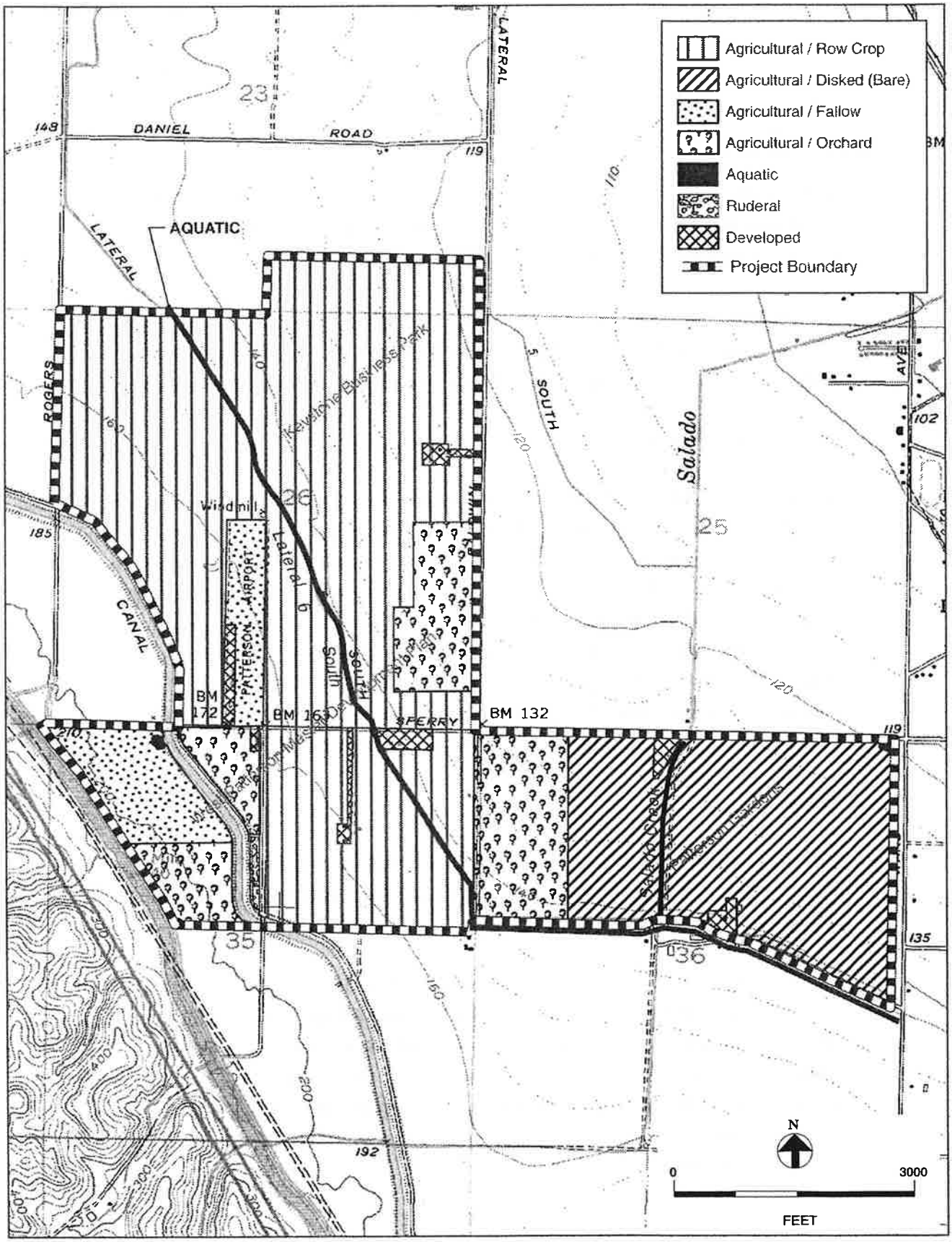
Dry-farmed and irrigated row crops, planted mostly in oat hay, comprise approximately 418 acres of the project site. A large tract of oat hay fields occurs in the portion of the site north of Sperry Avenue, situated between Rogers Road, the Delta Mendota Canal and the Lateral 6 South canal (see Figure III.D.1: Habitat Map). Another field planted in oat hay is located southwest of the intersection of Sperry Avenue and Baldwin Road. It is bordered to the west by the dirt road that extends south from Sperry Avenue near Patterson Airport, and to the south by the project area boundary. A small field, located northwest of the corner of Sperry Avenue and Baldwin Road is planted in strawberry (*Fragaria* sp.).

This habitat type generally provides lower quality wildlife habitat than non-native grasslands, because periodic cultivation removes most, if not all, of the vegetation. Cultivation may briefly aid predators by exposing small mammals and invertebrates, but quickly reduces the value of these areas to local wildlife. Despite the disturbance, the agricultural fields do provide foraging areas and, in some cases, nesting habitat for a number of wildlife species.

Agricultural/Fallow

One field within the Business Park Plan area is fallow (previously farmed but not planted in the current year). This 47-acre field is located south of Sperry Avenue in the southwestern portion of the project site, west of, and adjacent to, the Delta Mendota Canal (see Figure III.D.1). Although the dominant vegetation within this field was oat (the previously seeded crop), many of the species listed in the ruderal habitat section below were commonly observed throughout this large field. Based on vegetation height and species composition, this field appears to have been fallow for one to two years.

The wildlife use of this habitat is very similar to that of agriculture/row crop described above. However, the lack of disturbance in fallow fields increases the likelihood of this habitat being used by nesting birds and burrowing mammals such as Botta's pocket gophers and deer mice (*Peromyscus maniculatus*).



SOURCE: H.T. Harvey Associates

TURNSTONE CONSULTING

PATTERSON

FIGURE III.D.1: HABITAT MAP

Agricultural/Disked

Approximately 19 acres of the 30-acre Patterson Airport property is comprised of a disked agricultural field (see Figure III.D.1). Although formerly planted in alfalfa (*Medicago sativa*) this field is devoid of vegetation.

Wildlife use of barren, disked fields is extremely limited. As vegetation growth occurs in the area, either agricultural/row crops or non-planted species, use of the area will be similar to that described in Agricultural/Row Crop or Agricultural/Fallow above.

Agricultural/Orchard

Apricot and almond orchards occupy approximately 87 acres of the Business Park Plan area. They are located on the west side of Baldwin Road, adjacent to the strawberry field north of Sperry Avenue, and along the Delta Mendota Canal in the southwestern portion of the site (see Figure III.D.1). Although the two orchards along the Delta Mendota Canal support a relatively dense understory of ruderal (non-native herbaceous) vegetation, the orchard located on the west side of Baldwin Road is devoid of any understory vegetation. Orchards provide limited habitat for wildlife species. The absence of an herbaceous understory deprives many species of food and cover, and on-going maintenance operations may discourage many species from using the area.

Aquatic

Aquatic habitat within the Business Park Plan area includes portions of the Delta Mendota Canal, the Lateral 6 South Canal, and one small farm pond (see Figure III.D.1) and occupy approximately two acres.

The Delta Mendota Canal is a trapezoidal shaped, concrete-lined aqueduct used to convey irrigation and drinking water in the San Joaquin Valley. It is located in the southwestern portion of the Plan area, east and parallel to I-5 and the California Aqueduct, and comprises approximately seven acres. Although the canal itself is devoid of vegetation, the levee side slopes and levee road margins are covered in dense ruderal vegetation. The composition of this vegetation is very similar to that observed along, and within, the agricultural fields.

The Lateral 6 South Canal, comprising approximately two acres of the Business Park Plan area, is an artificially-created irrigation ditch, constructed in upland habitat. It is primarily used for conveying irrigation water. It originates at the West Stanislaus Main Canal, flows to the south through the plan area, and continues along the southern boundary of the Patterson Gardens site, where it is then pumped underneath Salado Creek and terminates approximately ¼ mile southeast of the creek. The ditch is approximately 15 feet wide and 6 feet deep, and was conveying water through its entirety during the March surveys. Water within the ditch was generally six to eight inches deep. The majority of the above-ground portion of this ditch is earthen channel, but a small section in the northern portion of the plan area is concrete-lined. The ditch is generally bordered by dirt roads on both sides, although sections of the ditch south of Sperry Avenue were only bound on one side. Sparse vegetation, comprised of ruderal species and some hydrophytes (plants requiring periodically saturated or inundated soils) were observed within the channel.

An approximately 600-square-foot collection pond, two to three feet deep, was observed in the northeast corner of the fallow agricultural field, west and adjacent to the Delta Mendota Canal (see Figure III.D.1). The pond is connected to the canal by means of a flap gate, and is presumably used to discharge surface rainfall and irrigation water into the canal. Currently the adjacent field is fallow, so the origin of the water in the pond cannot be determined. It may result from seepage through the dike or from a leak in the flapgate when the water level in the Delta Mendota Canal is higher. Vegetation observed in the immediate vicinity of the pond includes several large multi-trunk willows (*Salix* sp.), vervain (*Verbena* sp.), stinging nettle (*Urtica dioica*), willow-herb (*Epilobium* sp.), bristly ox-tongue, and flatsedge (*Cyperus* sp.).

This pond was artificially created and the vegetation it supports consists primarily of invasive species that provide generally low habitat value. These aquatic areas provide low quality habitat for a variety of wildlife species including water associated birds and amphibians.

Ruderal

A narrow strip of ruderal habitat, comprising approximately 3 acres, was identified in the southwestern portion of the Business Park Plan area, adjacent to the levee road on the east side of the Delta Mendota Canal (see Figure III.D.1). Ruderal communities are assemblages of plants that thrive in disturbed areas. Weedy, non-native annual forbs and

grasses are typically the first species to colonize these sites following a disturbance. Human caused disturbances common within and around the agricultural fields within the Plan area include disking, weed control, and operation of heavy farm equipment. Several piles of large rocks and concrete slabs were observed within this area. In addition, interspaces of the irrigated row crops and orchards and margins of the agricultural fields were often comprised of ruderal vegetation. Ruderal species observed within these areas include ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), fiddleneck (*Amsinckia menziesii*), cheeseweed (*Malva parviflora*), shepherd's purse (*Capsella bursa-pastoris*), filaree (*Erodium* sp.), and chickweed (*Stellaria media*). Tree tobacco (*Nicotiana glauca*) was also observed in the ruderal area adjacent to the Delta Mendota Canal.

Most of the wildlife species found in ruderal habitats are common widespread species associated with disturbed habitats, although species present in adjacent habitats occasionally forage in ruderal areas as well. Typical species found here were previously described in the introduction to this subsection.

Developed

Approximately 12 acres of the Business Park Plan area are comprised of developed areas. These areas include the Del Puerto Forest Fire Station, the State of California Transportation/Patterson Maintenance Station, the privately operated Patterson General Aviation Airport, and numerous farmhouses and associated outbuildings. Many of the ruderal species previously listed occur around these developments, in addition to a wide variety of native and ornamental trees including coast live oak (*Quercus agrifolia*), Northern California black walnut (*Juglans californica* var. *hindsii*), fan palm (*Washingtonia* sp.), date palm (*Phoenix* sp.), pine (*Pinus* sp.), blue gum (*Eucalyptus globulus*), unknown eucalyptus (*Eucalyptus* sp.), elm (*Ulmus* sp.), and a host of orchard varieties.

Wildlife most often associated with developed and landscaped areas are those that are most tolerant of periodic human disturbances. In addition to common native species described earlier in this section, several introduced species such as European Starlings (*Sturnus vulgaris*), Rock Doves (*Columba livia*), house mice (*Mus musculus*), and Norway rats (*Rattus norvegicus*) occur in the developed areas.

HABITATS IN KEYSTONE PACIFIC BUSINESS PARK

Agricultural/Row Crop

The Keystone Pacific Business Park site is almost entirely planted in row crops (oat hay during the 2001-2002 survey period). Approximately 221 acres of crops extend east to west from Baldwin Road to the Lateral 6 South Canal (see Figure III.D.1). Wildlife on this site are the same as described in the introduction to the biotic habitats subsection and in the Agriculture/Row Crop section of the Business Park Plan area discussion above.

Developed

West of Baldwin Road is a residence, a few outbuildings, and several large elm trees. This is the only development within the Keystone Pacific site. Wildlife associated with this site are the same as described above in the introduction to the biotic habitats subsection and in the discussion of the Business Park Plan area.

HABITATS IN PATTERSON GARDENS

Agricultural/Disked

Approximately 248 acres of the Patterson Gardens site are comprised of disked agricultural fields (see Figure III.D.1). They occur on the west and east sides of Salado Creek and extend to Ward Avenue. The 63-acre field west of the creek was formerly planted in broccoli and the 185-acre field east was planted in tomato. Five large Northern California black walnut trees (*Juglans californica* var. *hindsii*) that were observed on the north side of Lateral 6 South, just east of Salado Creek in the southwestern corner of the disked field, had been cut down at the time of a 3 May 2002 site visit. These were healthy, mature trees with diameters greater than 50 inches and heights exceeding 70 feet.

Wildlife use of barren, disked fields is extremely limited. Wildlife use of this habitat has been previously described in the Agriculture/Disked section of the Business Park Plan area discussion.

Agricultural/Orchard

A walnut orchard comprises approximately 65 acres of the Patterson Gardens site (see Figure III.D.1). It extends south from Sperry Avenue to the dirt road adjacent to Lateral 6 South, and is bound by Baldwin Road to the west and disked agricultural fields to the east. At the time of the surveys, the orchard supported a relatively dense understory of ruderal vegetation.

Wildlife species associated with orchards have been previously described in the introduction to the biotic habitats subsection and in the Agricultural/Orchard section of the Business Park Plan area discussion.

Aquatic

Aquatic habitat within the Patterson Gardens site includes a portion of Salado Creek and one small farm pond (see Figure III.D.1) and occupies approximately one acre.

Salado Creek, a tributary of the San Joaquin River, flows south to north in the central portion of the site. The 404 jurisdictional area of Salado Creek is 0.36 acre. The entire creek from top of bank to top of bank is approximately 1.24 acres. The creek has been significantly altered from its natural form, including channel enlargement and embankment construction. A portion of Salado Creek, from a point east of the Union Pacific Railroad to the San Joaquin River, flows underground in a 96-inch pipeline (Moore Biological Consultants 2001). Dirt roads bound the nearly vertical, 8-foot-high channel banks of the creek throughout its course within the project area. The channel width is approximately 22 feet. The smaller, low-flow channel situated within this broader channel ranges from 6-12 inches deep and is approximately 4 feet wide. At the time of the March surveys, the channel was holding two to four inches of water. Small patches of hydrophytic vegetation (plants requiring periodically inundated or saturated soils) were observed within the low-flow channel and toe slope of the larger channel. Hydrophytic species observed include broad-leaved cattail (*Typha latifolia*), Fremont cottonwood (*Populus fremontii*) saplings, flatsedge, curly dock (*Rumex crispus*), and cocklebur (*Xanthium strumarium*). The steep banks of the larger channel were comprised of soft chess brome, Bermuda grass (*Cynodon dactylon*), mugwort (*Artemisia douglasiana*), and tree tobacco (*Nicotiana glauca*).

A small (400 ft^2) collection pond was observed in the northeast corner of the disked agricultural field that lies southwest of the intersection of Sperry Avenue and Ward Avenue. The pond was constructed in an upland setting as a settling basin for irrigation and stormwater runoff. The pond and its margins are mostly devoid of vegetation, except in the eastern portion, in which willow seedlings and saplings, bristly ox-tongue, and small patches of cattail (*Typha* sp.) were observed.

Wildlife species associated with this habitat are the same as previously described in the introduction to the biotic habitats subsection and in the Aquatic section of the Business Park Plan area discussion.

Developed

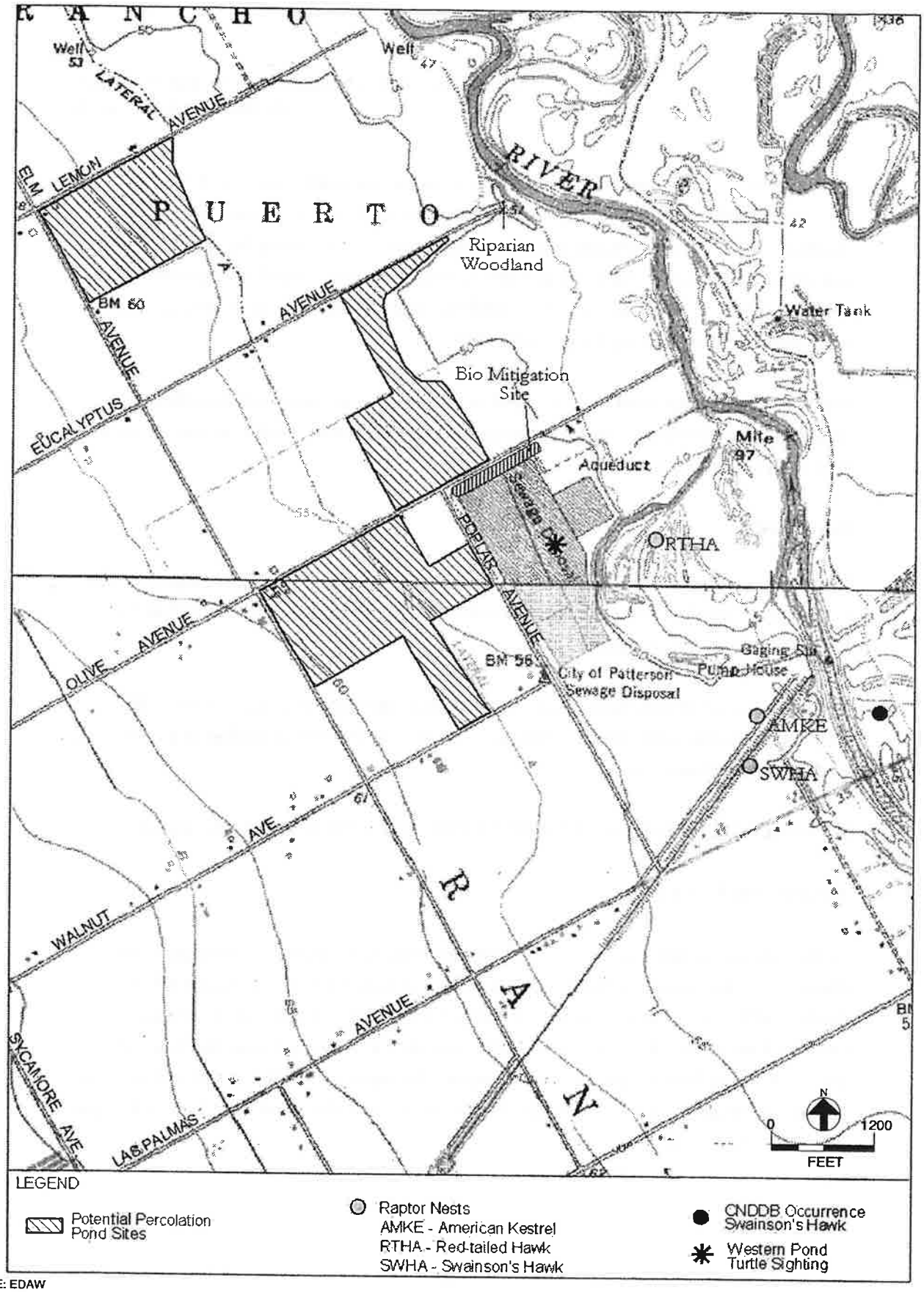
Two farm residences, including several outbuildings, scattered old farm equipment, and landscape vegetation, comprise approximately six acres of developed area within the Patterson Garden project area.

Wildlife associated with these developed habitats is the same as characterized in the introduction to the biotic habitats subsection and in the Developed section of the Business Park Plan area discussion.

HABITATS IN WASTEWATER TREATMENT FACILITY STUDY AREA

Agricultural/Row Crop

At the time of the field survey, the agricultural lands in the study area were primarily planted with row crops, including alfalfa, corn, and winter wheat (see Figure III.D.2: Biological Resources at Wastewater Treatment Plant Site). As previously identified, cultivated areas have less value to wildlife compared to grassland areas that have not been cultivated, but they do provide nesting and foraging habitat for a variety of wildlife species. Low-growing row crops that support prey populations, are important as foraging habitat for many raptors.



SOURCE: EDAW

TURNSTONE CONSULTING

PATTERSON

FIGURE III.D.2: BIOLOGICAL RESOURCES AT WASTEWATER TREATMENT PLANT SITE

Agricultural/Fallow

A portion of the study area contains agricultural fields that have been left uncultivated for at least the previous growing season. Wildlife associated with these fallow habitats has been previously described in the introduction to the Biotic Habitats subsection and in the Agriculture/Fallow section of the Business Park Plan area discussion.

Agricultural/Orchard

The study area contains several orchards, primarily planted in apricots. As previously identified, these habitats are usually intensively maintained and generally of low value to most native wildlife species. Wildlife associated with orchard habitats has been described in the introduction to the biotic habitats section and in the Agricultural/Orchard section of the Business Park Plan area discussion.

Riparian

An area of riparian floodplain separates the existing wastewater treatment plant and the San Joaquin River (see Figure III.D.2). The floodplain contains common grassland plants and riparian woodland species. During the site visit, the floodplain area was being used for cattle grazing.

Grassland plants often include species such as wild oat *(Avena fatua)*, foxtail fescue (*Vulpia myuros*), soft chess (*Bromus diandrus*), ripgut grass (*Bromus hordeaceus*), and tarweed *(Holocarpha virgata)*. Wildlife species commonly observed in annual grassland include black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilius beecheyi*), western meadowlark (*Sturnella neglecta*), and gopher snake (*Pituophis melanoleucus*). Grasslands also provide important foraging habitat for many species of raptors in the study area.

Riparian woodland lines the San Joaquin River and is adjacent to the wastewater treatment plant (see Figure III.D.2). The riparian woodland is dominated by valley oak (*Quercus lobata*) but many other riparian tree species are also associated with this habitat type, such as cottonwood (*Populus fremontii*) and willow (*Salix spp.*). The multi-layered canopy of trees, shrubs, and herbaceous species found in valley oak riparian woodland habitat provides important habitat for an abundance of wildlife. Much of valley oak woodland in riparian areas has been removed from the Central Valley (Sawyer and

Keeler-Wolf 1997). Valley oak riparian woodland is recognized by CDFG as a rare natural plant community (CNDDB 1999).

Ruderal/Wetland

At the north end of the existing wastewater treatment plant is a mitigation site (see Figure III.D.2) that was created in 1999 to mitigate for impacts to wetlands on Salado Creek resulting from development of a residential subdivision and downstream piping of the creek to improve flood conveyance (Lopez, pers. comm., 2002). It is irrigated and is required to remain wet at all times. Although the mitigation site is reportedly intended to serve as wetland habitat, it does not currently appear to serve as important habitat for any wildlife species. It consists of a roped-off area that is irrigated through a series of shallow pools in which herbicides use is prohibited. Non-native weedy vegetation was observed growing in the area and western toad (*Bufo boreas*) tadpoles were observed in one of the shallow pools. Because this area is identified as a mitigation site, it is considered a sensitive resource.

Developed

A dairy and the existing wastewater treatment plant facilities comprise the developed portions of the study area (see Figure III.D.2). The existing wastewater treatment plant facilities, including treatment systems and percolation ponds, are in the eastern portion of the study area. The eastern boundary of the study area is the levee road that separates the wastewater treatment plant from the San Joaquin River floodplain.

A planted row of palm and eucalyptus trees extends along the southern edge of the study area. These trees provide cover and foraging habitat for a number of birds and rodents and are also used as nesting sites for raptors or other birds. A pair of American kestrels (*Falco sparverius*) were observed repeatedly flying to and from a tree in this area and are likely nesting there.

IDENTIFICATION OF REGULATED HABITATS

UNITED STATES ARMY CORPS OF ENGINEERS (USACE) JURISDICTION

Field surveys for jurisdictional waters on the Patterson Gardens site were conducted in accordance with USACE regulations and guidelines in May 2001, by Zentner and

Zentner. Field surveys for jurisdictional waters within the Business Park Plan area were conducted by H.T. Harvey & Associates in March, April, and May, 2002. Field surveys for jurisdictional waters within the wastewater treatment and percolation ponds sites were conducted by EDAW in June 2002. The extent and distribution of jurisdictional waters were identified using methodologies approved by the USACE. Field studies were conducted at a level of effort sufficient for review by the USACE.

CALIFORNIA DEPARTMENT OF FISH AND GAME JURISDICTION

Field surveys were also conducted within the West Patterson project area and wastewater treatment facility study area for streams and other waterways potentially under the regulatory jurisdiction of the CDFG [Division 2, Chapter 6, Section 1600-1607 of the Fish and Game Code of California]. The CDFG definition of stream includes "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (those shown on U.S. Geological Service maps), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (California Department of Fish and Game 1994a). Such areas within the project area were determined using methodology described in *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607* (CDFG 1994a).

West Patterson Business Park Master Development Plan Area (not including Keystone Pacific Business Park)

Results (USACE): The Business Park Plan site does not contain jurisdictional waters (USACE 2002). The two aquatic habitats evaluated for Section 404 purposes, the Lateral 6 South irrigation canal that traverses the project site, and the farm pond immediately west of the Delta Mendota Canal (DMC) in its southern portion, are both agricultural features excavated on dry land. The water in the lateral originates from either the Main Canal (which contains water from both the San Joaquin River and the DMC), or directly from the DMC. Neither the Main Canal nor the DMC is a jurisdictional water. The lateral terminates off-site on private property approximately 1/4 mile southeast of Salado Creek, and there is no hydrologic connection to any "water of the U.S." The farm pond, while exhibiting wetland characteristics, is not connected to any jurisdictional water.

Results (CDFG): Given the current use and maintenance of Lateral 6 South, and its lack of vegetative cover, it is unlikely that the CDFG will assert jurisdiction over this waterway.

Keystone Pacific Business Park

Results (USACE and CDFG): There are no aquatic habitats on the Keystone Pacific site. Accordingly, it does not support Waters of the U.S., nor any state waterways.

Patterson Gardens

Results (USACE): The USACE has verified 0.36 acres of jurisdictional waters on Salado Creek (USACE 2001; rev. 2002).

Results (CDFG): The bed and banks of Salado Creek are potentially subject to the regulatory jurisdiction of the CDFG.

Wastewater Treatment Facility Study Area

Results (USACE): The concrete-lined westside Lateral B irrigation canal and Patterson main water channel occur at the western and southern edges of the study area, respectively. These features are unlikely to be considered jurisdictional Waters of the U.S. because they were created in uplands and are not expected to meet the regulatory definitions of navigable or other waters, and do not meet the criteria for wetlands as established in the U.S. Army Corps of Engineers Wetland Delineation Manual (1987).

Results (CDFG): Given the current use and maintenance of the existing canals, and their lack of vegetative cover, it is unlikely that the CDFG will assert jurisdiction over these waterways.

Ordinance-Size Trees

Neither Stanislaus County nor the City of Patterson currently have regulations for the protection of any heritage or ordinance-sized trees.

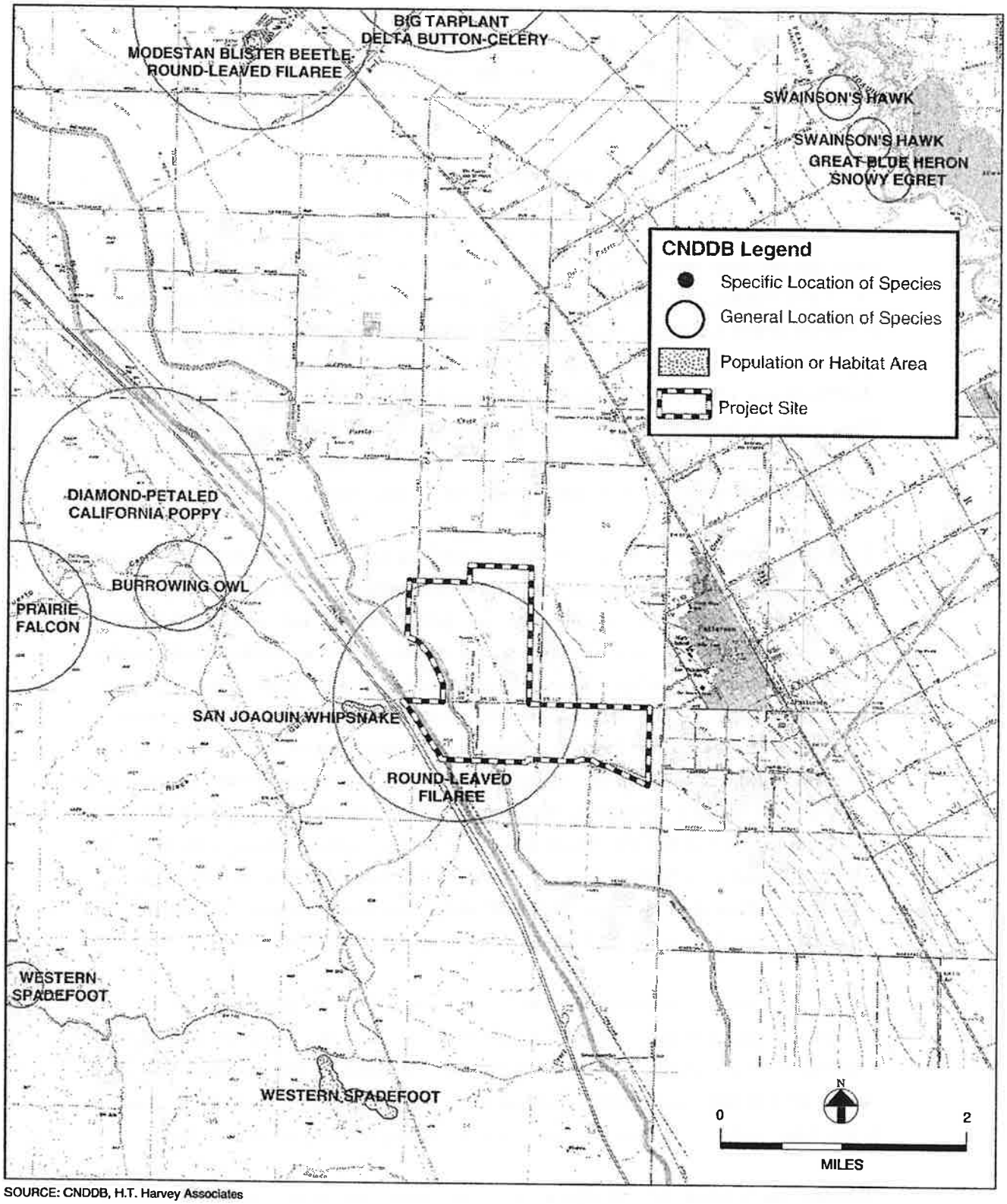
SPECIAL-STATUS PLANT AND WILDLIFE SPECIES

Prior to site surveys, a data base search was conducted for threatened, endangered, or other special-status species that may occur in the area. The sources consulted included the CDFG Natural Diversity Data Base (see Figure III.D.3: CNDDB Map), Rarefind 2 (CNDDB 2001), California Wildlife Habitat Relationships species notes (CDFG 1988, 1990a, 1990b), and species specific information available through the U.S. Fish and Wildlife Service (USFWS), CDFG, and technical publications. The California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001), and *The Jepson Manual* (Hickman 1993) provided information regarding the distribution and habitats of vascular plants in the project vicinity.

The California Natural Diversity Database (CNDDB) is a continually refined and updated computerized inventory of location and condition information on California's rarest plants, animals, and natural communities. The polygons, dots and circles on the CNDDB map (see Figure III.D.3) represent documented occurrences of individual species in the CNDDB inventory. A polygon delineates an area where a population of the species is known to occur, or, in some cases denotes where habitat for that species is known to occur. Whether the species location is characterized as a point or a circle indicates different confidence levels in the original data reported, or different levels of precision in describing the location of the data. In general, the points on the CNDDB map represent a high confidence level that the species was found at that precise location on the map. The circles represent a confidence level indicating that the actual location of the record lies somewhere within their boundary. Smaller circles therefore represent a slightly higher confidence level than larger circles regarding the specific location of the species.

Using California Natural Diversity Data Base reports (CNDDB 2001), a search of published accounts of the location of special-status species was conducted for the Patterson United States Geological Service (USGS) quadrangle map in which the project site occurs and eight surrounding quadrangles including, Copper Mountain, Newman, Brush Lake, Westley, Orestimba Peak, Crow's Landing, Solyo, and Wilcox Ridge.

Reconnaissance-level field surveys, covering the entire project area, were conducted in September 2001 for habitats capable of supporting special-status plants on site. Reconnaissance-level surveys were also conducted in fall 2001 and spring 2002 for special status wildlife species. More focused surveys for special status wildlife species



SOURCE: CNDDB, H.T. Harvey Associates

FIGURE III.D.3: CALIFORNIA NATURAL DIVERSITY DATABASE MAP

were conducted in the spring of 2002. Special-status wildlife species known or potentially occurring in the West Patterson project area are discussed below and identified in Appendix D.

SPECIAL-STATUS PLANT SPECIES

West Patterson Project Area

The process of identifying special-status plant species involved two steps. First, the California Natural Diversity Database (CNDDB 2001) was reviewed for special-status plants in the USGS Patterson quadrangle in which the project site occurs, and all of the eight quadrangles surrounding the project site (search area). Second, the California Native Plant Society Inventory was used to produce a similar list for Stanislaus County.

The habitat requirements of each special-status species were the principal criteria used for inclusion in the list of species potentially occurring species on site.

Many of the special-status plant species that occur within the search area in Stanislaus County are found in habitat types not present on the project site. These habitats include: broadleaf upland forest, coastal scrub, chaparral, lower montane coniferous forest, upper montane coniferous forest, pinyon and juniper woodland, vernal pools, and serpentine soils. In addition, the CNDDB Rarefind Database (2001) identified sensitive habitats that are not present on site including coastal valley and freshwater marsh, great valley oak riparian forest, and sycamore alluvial woodland. Attempts were made to consult with local botanists familiar with this part of Stanislaus County, but the local CNPS Chapter no longer exists.

A total of 58 special-status plant species occur in the search area according to the CNPS inventory and the CNDDB Rarefind Database. Of these 58 species, 31 occur in habitats not found at the project site. The remaining 27 species occur in valley and foothill grassland habitat, which most resembles the agricultural fields and ruderal habitat on the project site. As described below, all of these 27 species, although found in grassland habitat types, were rejected as potentially occurring within the project area due to a lack of suitable habitat. The 27 species that were considered but rejected are listed in Appendix D. These plants were rejected because the project area does not contain the microhabitat requirements to support these species. Such requirements include serpentine or alkaline soils, appropriate elevations, and less-degraded ecological

condition based on factors such as presence of associate species and degree of disturbance.

The database reported an occurrence of two of these 27 species within the vicinity of the project area. The first is a 1940 (historical) occurrence of round-leaved filaree (*Erodium macrophyllum*) reported within the project site or in its immediate vicinity (exact location is unknown, see Figure III.D.3). This plant occurs in cismontane woodlands, and valley and foothill grasslands in clay soils. Round-leaved filaree was rejected as a potentially occurring species on the project site for the following reasons: 1) extremely marginal habitat exists for this species on site; 2) the project site is highly disturbed from agricultural activities; and 3) the only known CNDDB report in the project vicinity dates back 62 years and its exact location is unknown. The specific parcel within the project area where the occurrence of the plant was evaluated is currently ruderal (see Figure III.D.1). However, based on first-hand observation over the course of several years, this same parcel has been involved in various forms of intensive agriculture. The use of herbicides, disking, and planting this site to row crops and agronomic species over the last 60+ years since the occurrence of the filaree was last noted on or near the site, significantly reduces its potential for occurrence. Therefore, round-leaved filaree is presumed absent from the project site.

The second species reported by the database search is the diamond-petaled California poppy (*Eschscholzia rhombipetala*). The database reports occurrence of this species approximately two miles northwest of the project site, near the mouth of Del Puerto Canyon (see Figure III.D.3). Although this plant occurs in valley and foothill grasslands and fallow fields, similar in some characteristics to habitats on site, it requires alkaline soils as its growth substrate. In addition, the CNDDB occurrence is an historical record dating back to 1940. Subsequent surveys conducted in the late 1970s and 1980 did not detect this plant. Therefore, based on the lack of suitable habitat (alkaline soils) on site and the fact that this plant was not detected in surveys conducted in recent years, diamond-petaled California poppy is considered absent from the project site.

In summary, all of the 58 special-status plants identified as occurring within Stanislaus County were considered but rejected. No additional surveys are warranted for any of these plants on the West Patterson project site.

Wastewater Treatment Facility Study Area

Based on a review of the CNDDB, five special-status plants are recorded as historically occurring in the Brush Lake and Crow's Landing quadrangles where the study area is located. Four of the special-status species, heartscale *(Atriplex cordulata)*, brittlescale (*Atriplex depressa*), vernal pool smallscale (*Atriplex persistens*), and alkali milk-vetch (*Astragalus tener tener*) are classified as extinct in Stanislaus County by the California Native Plant Society (CNPS 2001). The only other special-status plant, delta button-celery (*Eryngium racemosum*), was recorded in 1965 in riparian scrub near the San Joaquin River, approximately three miles south of the study area. Due to the lack of suitable natural habitat within the study area, it is considered unlikely for delta button-celery to occur.

SPECIAL-STATUS ANIMAL SPECIES

West Patterson Project Area

The special-status animal species that occur in the vicinity of the project area in habitats similar to those found on-site, as well as the legal status and likelihood of on-site occurrence of these species, are identified in Appendix D. Species of particular interest are addressed below.

Some special-status wildlife species may occur on the project area only as uncommon to rare visitors, migrants, or transients, but are not expected to breed there. These species include the San Joaquin whipsnake (*Masticophis flagellum ruddocki*), American Peregrine Falcon (*Falco peregrinus anatum*), Prairie Falcon (*Falco mexicanus*), Greater Sandhill Crane (*Grus canadensis tabida*), Long-billed Curlew (*Numenius americanus*), Black Tern (*Chlidonias niger*), White-faced Ibis (*Plegadis chihi*), Mountain Plover (*Charadrius montanus*), Ferruginous Hawk (*Buteo regalis*), Cooper's Hawk (*Accipiter cooperi*), Sharp-shinned Hawk (*Accipiter striatus*), Merlin (*Falco columbarius*), Short-eared Owl (*Asio flammeus*), Golden Eagle (*Aquila chrysaetos*), and Yellow Warbler (*Dendroica petechia brewsteri*).

Special-status species that may breed within the project area include the California Horned Lark (*Eremophila alpestris actia*), Loggerhead Shrike (*Lanius ludovicianus*), White-tailed Kite (*Elanus leucurus*), and burrowing owl.

San Joaquin Kit Fox (*Vulpes macrotis mutica*). Federal Status: Endangered; State Status: Threatened. The kit fox is the smallest canid species in North America and the San Joaquin kit fox is the largest subspecies. The San Joaquin kit fox was listed as endangered by the USFWS (USFWS 1967) and by the State of California in 1971. Loss of habitat from urban, agricultural, and industrial development are the principal factors in the decline of the San Joaquin kit since at least the 1950s (Morrell 1975).

Grinnell *et al.* (1937) believed that by 1930 the range of the San Joaquin kit fox had been reduced by half. They described the range prior to 1930 as including most of the San Joaquin Valley from southern Kern County north to Tracy in San Joaquin County on the west side of the Valley and up to La Grange in Stanislaus County on the east side. Subpopulations of the San Joaquin kit fox appear to be increasingly isolated from one another due to developments within its range including: cities, aqueducts, irrigation canals, surface mining, road networks, petroleum fields, other industrial projects, and wind farms (USFWS 1998). This isolation of subpopulations can lead to increased rates of extinction (Gilpin and Soule 1986) due to the effects of inbreeding, genetic drift, (Dennis 1989, Fowler and Baker 1991), intra- and interspecific competition, and catastrophic occurrences in the local environment.

The San Joaquin kit fox is primarily nocturnal and typically occurs in annual grassland or mixed shrub/grassland habitats throughout low, rolling hills and in the valleys. The diet of kit foxes varies geographically, seasonally, and annually, but throughout most of its range the diet consists primarily of kangaroo rats (*Dipodomys* spp.), pocket mice (*Perognathus* spp.), white-footed mice (*Peromyscus* spp.), San Joaquin antelope squirrels (*Ammospermophilus nelsoni*), California ground squirrels, rabbits (*Sylvilagus* spp.), black-tailed hares (*Lepus californicus*), ground nesting birds, and insects, (Morrell 1972, Orloff and Spiegel 1986, Scrivner *et al.* 1987, Cypher and Spencer 1998).

Kit foxes have been observed to disperse across disturbed habitats such as agricultural fields, oil fields, rangelands, highways, and aqueducts (Scrivner *et al.* 1987; see USFWS 1998). Maintaining movement corridors to connect subpopulations remains an important goal of recovery efforts for this species.

The kit fox requires underground dens for temperature regulation, shelter, reproduction, and predator avoidance (Golightly and Ohmart 1984). Kit foxes commonly modify and use dens constructed by other animals and human-made structures (USFWS 1998). Dens are usually located on loose-textured soils on slopes less than 40 degrees (O'Farrell *et al.*

1980), but the characteristic of San Joaquin kit fox dens varies across the fox's geographic range in regard to the number of openings, shape, and the slope of the ground on which they occur (USFWS 1998). Natal or maternal dens tend to be found on slopes of less than six degrees (O'Farrell and McCue 1981). Kit foxes change dens often using numerous dens each year.

A qualified kit fox biologist conducted diurnal surveys for evidence of San Joaquin kit fox presence within the Keystone Business Park and Patterson Gardens sites over several visits during October and November 2001 and March 2002. Over 575 burrows were investigated for evidence of kit fox. Several "atypical den" possibilities including irrigation pipes, culverts, and diggings beneath old outbuildings were also investigated. Six burrows meeting the USFWS criteria of a potential den were located, however, all appeared to be currently occupied by California ground squirrels. No evidence indicating any natal or pupping dens within the project area was found. Coyote and red fox were the predominant canid species detected during the surveys. Domestic dog tracks and scat were also prevalent, but were all located relatively close to residences.

Qualified biologists also conducted protocol-level surveys for kit fox over the entire West Patterson project area from May to early June 2002. Surveys followed the current protocols for kit foxes in the northern portion of their range and included spotlight surveys and the establishment of photo and track-plate stations. No specific evidence of kit fox was found during these surveys.

Interspecific competition occurs between non-native red foxes, coyotes, domestic dogs, and kit foxes through both interference and exploitative competition (Ralls and White 1995). Coyotes are highly adaptable to disturbed environments and may out-compete kit foxes for available resources as well as kill them opportunistically (White and Garrott 1997, Cypher and Spencer 1998). Predation by large carnivores can account for the majority of the annual adult mortality rate observed among San Joaquin kit foxes in some areas (Berry et al. 1987). Non-native red fox may be a greater threat to kit fox than coyote in some areas, as they are known to directly prey upon kit foxes and displace kit foxes upon invasion of their habitat (Ralls and White 1995).

The Recovery Plan for Upland Species of the San Joaquin Valley (USFWS 1998) calls for the protection of 80 percent of existing potential kit fox habitat along Valley edges in the northern segments of their geographic range and existing connections between habitat in those areas and habitat farther south. The Recovery Plan shows the areas along the

valley's edges within which a contiguous band of natural lands and wildlife-compatible farmlands should be maintained as linkages for kit fox and other listed and sensitive species. In the Patterson area, these lands all lie in the foothill area west of Interstate 5.

Linear features of the project area (roads and canals) are potential travel corridors for kit foxes during dispersal or exploratory forays. However, the area is not likely to be an important corridor linking larger areas of kit fox habitat, as no large tracts of suitable habitat are accessible via the project site. If a kit fox were to travel from higher quality habitat west of Interstate 5 through the Plan area, they would encounter residential or retail developments to the north and east. Furthermore, potential foraging and denning habitat within the project area is of low value for kit foxes and is expected to be used infrequently, if at all.

With few exceptions, the entire West Patterson project area has been extensively farmed for row crops and orchards. However, a small amount of low-quality, low-value kit fox habitat was identified. A number of active rodent burrows were found along the banks of Salado Creek, the California Aqueduct (not included within the project area), Delta Mendota Canal, and Lateral 6 South Canal. The banks of these waterways offer low quality foraging and denning habitat for kit fox. Row crops provide virtually no denning or foraging habitat as continuous tilling prevents prey species from becoming readily established. In the orchards, understory is generally sparse due to regular disking but orchards can support ruderal vegetation during limited portions of the year. Throughout the project area, evidence of rodent control was found in the orchards and recent ground squirrel activity appeared to be lower than the number of burrows available. In addition, few denning opportunities exist within the orchards. Land uses adjacent to the project area are predominantly agricultural, but also include residential subdivisions and retail shopping centers.

Protocol-level surveys identified no kit foxes within the project area. In the rare occurrences during which kit foxes may pass through, they are most likely to occur within the Business Park Plan area, utilizing potential movement corridors along the California Aqueduct and the Delta Mendota Canal, or the area between these canals.

Swainson's Hawk (*Buteo swainsoni*). Federal Status: None; State Status: Threatened. The Swainson's hawk is a large soaring bird of open habitats. It has a wingspan of approximately four feet. The coloration is highly variable from light to rufous to entirely dark birds. Swainson's hawks are most easily distinguished from other

members of its genus, such as the familiar Red-tailed Hawk (*B. jamaicensis*), by their more slender body and narrow, pointed, and slightly upturned wings.

Swainson's hawks were once one of the most common birds of prey in the grasslands of California. Its populations have declined at least 90 percent since 1900, and are still believed to be declining (Bloom and Van De Water 1994). They once nested in the majority of the lowland areas in the state. Currently, the nesting range is primarily restricted to portions of the Sacramento and San Joaquin valleys, and northeast California (Bloom 1980). It was listed as threatened by the State of California in 1983.

Swainson's hawks require large amounts of foraging habitat, preferably grassland or pasture habitats. Their preferred prey items are voles (*Microtus* sp), gophers, birds, and insects such as grasshoppers (Estep 1989). They have adapted to the use of some croplands, particularly alfalfa, but also hay, grain, tomatoes, beets and other row crops (Estep 1989). Crops such as cotton, corn, rice, orchards, and vineyards are not suitable since they either lack suitable prey or the prey is unavailable to the Swainson's hawks due to the crop structures.

In the Central Valley, Swainson's hawks are generally tied to riparian habitat for nesting sites (Bloom 1980). A few pairs nesting in Tulare and Kings County utilize eucalyptus trees and nest outside riparian areas (CNDDB 2001). Three nests have been reported less than four miles east of the project site (CNDDB 2001), one as recently as 1999, and suitable nest trees occur within the general project area. Adult Swainson's hawks were observed foraging over the Business Park Plan area and Patterson Gardens site on several occasions in 2002. An immature Swainson's hawk was also observed over the Patterson Gardens site. Crawford Multari & Clark (2001) also reported observing a pair of Swainson's hawks foraging in the project area. However, the only large stick nest observed during the nesting raptor survey was occupied by a nesting Red-tailed Hawk. Swainson's hawks show strong nest site affinity (i.e. pairs return to the same territory year after year). Although the project area provides foraging habitat, the likelihood of Swainson's hawks nesting on the site in the near future is considered low.

Suitable nest trees also occur within Keystone Pacific Business Park site. However, Swainson's hawks were not observed in this area during any of the 2002 surveys nor were any large stick nests observed during the nesting raptor survey. Therefore, although suitable habitat does occur, the likelihood of Swainson's hawks nesting on the site in the near future is considered low.

Burrowing Owl (*Athene cunicularia*). Federal listing status: None; State listing status: Species of Special Concern. The burrowing owl is a small, terrestrial owl that favors flat, open grassland or gentle slopes and sparse shrubland ecosystems. These owls prefer annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrels (*Spermophilus beecheyi*). Owls use the abandoned burrows of ground squirrels for shelter and nesting. Ground squirrels provide nesting and refuge burrows, and maintain short vegetation height, which provides visual protection from avian predators and foraging habitat. In the absence of ground squirrel populations, habitats soon become unsuitable for occupancy by owls. Burrowing owls are semi-colonial nesters, and group size is one of the most significant factors contributing to site constancy by breeding burrowing owls. The nesting season, as recognized by the California Department of Fish and Game, runs from February 1 through August 31.

Although no owls, or secondary evidence of their presence (*e.g.,* feathers, castings, prey remains) were observed in the West Patterson project area during the reconnaissance survey, a burrowing owl was observed within 1500 ft. of the project boundary. In addition, the project area was found to be consistent with potential burrowing owl habitat (level ground with short vegetation and ground squirrel burrows). Thus, a series of surveys conducted according to protocols established by the California Department of Fish and Game was required to confirm with acceptable certainty whether owls occupied the site. These surveys were conducted throughout May and June 2002. No burrowing owls or evidence of their presence was observed during protocol level surveys. Thus, the project area appears to be currently unoccupied by burrowing owls, but it is considered potential habitat for this species.

California Red-legged Frog (*Rana aurora draytonii*). Federal Status: Threatened; State Status: Species of Special Concern. The California red-legged frog is a member of the family Ranidae within the order Anura, and is one of two subspecies of the red-legged frog (*Rana aurora*) (USFWS 2000a). Factors related to declines in populations of red-legged frogs include the degradation or loss of habitat attributed to agricultural practices, introduced plants and animals, livestock grazing, mining, water diversions and impoundments, water quality, recreation activities, timber harvesting, and urbanization (USFWS 2000a). In the Central Valley of California alone, more than 90 percent of the historic wetlands have been lost or altered because of agricultural and urban development (Dahl 1990).

California red-legged frogs have been observed in a number of aquatic and terrestrial habitats throughout their historic range. Larvae, juveniles, and adult frogs occur in natural lagoons, dune ponds, pools in or next to streams, streams, marshlands, sag ponds, and springs, as well as human-created stock ponds, secondary and tertiary sewage treatment ponds, wells, canals, golf course ponds, irrigation ponds, sand and gravel pits containing water, and large reservoirs (Storer 1925, Jennings 1988). The key to the presence of California red-legged frogs in these habitats is the presence of perennial, or near perennial, water and the general lack of introduced aquatic predators such as crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*), bullfrogs, green sunfish, bluegill (*L. macrochirus*) and centrarchid fishes such as largemouth bass (*Micropterus salmoides*).

The CNDDB (2002) lists one record for the California red-legged frog in the general project vicinity, approximately 4.5 miles southwest of Newman. However, due to the generally poor quality of the terrestrial habitat, which is heavily disturbed from agricultural activities throughout the project site, and aquatic habitat, the California red-legged frog is unlikely to occur in the West Patterson project area.

One of two ponds (see Figure III.D.1) in the project area is located to the immediate west of the levee road for the Delta Mendota Canal, about 500 feet south of Sperry Avenue within the Business Park Plan area. Superficially this pond appears to provide potentially suitable aquatic habitat for the red-legged frog. This pond appears to be used as a source of irrigation water for an adjacent agricultural field, which is now fallow. A flap gate likely controls the flow of water from the Delta Mendota Canal into the pond. The water in this pond is relatively clear, emergent vegetation is present, and there are several medium- to small-sized willow trees growing around the margins of the pond. The aquatic habitat is the only habitat potentially suitable for the California red-legged frog within the boundaries of the project area. However, it is unlikely to support red-legged frogs due to the generally poor quality of the habitat in the area. No suitable California red-legged frog habitat occurs within the Keystone Pacific site.

The other pond in the project area is located at the southwest corner of Sperry Avenue and Ward Avenue within the Patterson Gardens site (see Figure III.D.1). The pond is obviously of poor habitat quality. The bottom is composed of mud, the water is heavily silted, and no emergent vegetation is present. This pond also collects drainwater from an adjacent agricultural field and is likely to contain agricultural chemicals such as

fertilizers, pesticides, etc. Within the boundaries of the Patterson Gardens site, Salado Creek also provides poor habitat for the California red-legged frog. Due to the generally poor quality of the habitat in the area, the California red-legged frog is considered unlikely to occur within the Patterson Gardens site.

California Tiger Salamander (*Ambystoma californiense*). Federal Status: Candidate; State Status: Species of Special Concern. The California tiger salamander, once thought a subspecies of the tiger salamander (*Ambystoma tigrinum*), is medium size among California salamanders with a total length up to 8.5 inches (20.7 cm). The species has disappeared from a significant portion of its range due to habitat loss attributed to agricultural practices and urbanization, and the introduction of non-native aquatic predators (*e.g.*, bluegill [*Lepomis macrochirus*], largemouth bass [*Micropterus salmoides*], mosquitofish [*Gambusia affinis*], and bullfrogs). The California tiger salamander's current range includes the Great Central Valley of California and adjacent foothill districts as well as the coastal grasslands from the vicinity of San Francisco Bay south at least to Santa Barbara County (Storer 1925, Morey 1988).

The California tiger salamander's preferred breeding habitat is pond environments persisting a minimum of three to four months annually. Examples of such environments include vernal and ephemeral pools, and human-made ponds surrounded by uplands that contain small mammal burrows. The species will use permanent ponds provided that aquatic vertebrate predators are not present (Stebbins 1954). These ponds provide breeding and larval habitat while burrows excavated by small mammals such as California ground squirrels and Botta's pocket gophers support juvenile and adult salamanders in upland habitats.

The CNDDB (2002) lists one 1992 record for the California tiger salamander eight miles west-northwest of Modesto. The terrestrial habitat throughout the proposed project site is heavily disturbed from agricultural activities, though small mammal burrows are present in scattered locations throughout the site. Because the terrestrial habitat throughout the project area is generally poor in quality, the California tiger salamander is unlikely to occur in the West Patterson project area.

The pond in the Business Park Plan area, superficially appears to provide potentially suitable aquatic breeding habitat for the California tiger salamander. The aquatic habitat at this pond is the only habitat potentially suitable for the California tiger salamander within the boundaries of the Plan area. However, since the terrestrial habitat throughout the Plan

area is generally poor in quality, the California tiger salamander is unlikely to occur here. No suitable California tiger salamander habitat occurs within the Keystone Pacific Business Park site.

The pond on the Patterson Gardens site provides poor habitat quality. Thus, California tiger salamanders are not expected to occur within the site.

Giant Garter Snake (*Thamnophis gigas*). Federal Status: Threatened; State Status: Threatened. The giant garter snake is the largest member of the genus *Thamnophis*, growing to lengths of 4.5 feet or greater. The habitat components most important to the survival of giant garter snakes are: 1) water, including permanent water that persists through the summer months; 2) emergent aquatic vegetation and steep, vegetated banks for cover; and 3) an abundant food supply. Other important components are adjacent upland areas with small mammal burrows or other suitable winter retreats and habitat diversity, including water.

Land development, especially the diking, channeling, and draining of wetlands has fragmented or eliminated much of the original habitat (Hansen and Brode 1980). Due to this loss of the snake's historical habitat, the giant garter snake's typical habitat today is valley floor canals and permanent and seasonal tule-cattail marshes. Giant garter snakes are also found in flooded rice fields, streams, and sloughs, especially ones with muddy bottoms (Stebbins 1985). Giant garter snakes could also utilize rock piles, small mammal burrows, and other suitable sites adjacent to the water conveyance systems as hibernacula.

The CNDDB (2002) lists no record for the giant garter snake from the quadrangle that comprises the project area and no record from any of the adjacent quadrangles. Suitable habitat is absent from the West Patterson project area and the giant garter snake is not expected to occur in the project area.

American Peregrine Falcon (*Falco peregrinus anatum*). Federal Status: Delisted; State Status: Endangered. The peregrine falcon occurs throughout much of the world, and is known as one of the fastest flying birds of prey. These falcons nest on ledges and caves on steep cliffs. In California, they are known to nest along the entire coastline, the northern Coast and Cascade Ranges and the Sierra Nevada. During winter and periods of migrations they can be found throughout the state. Peregrines are most likely to be

encountered in coastal or inland marsh habitats where large numbers of waterfowl and shorebirds concentrate.

The American Peregrine Falcon was listed as endangered by the USFWS in 1970 and by the State of California in 1971. Intensive efforts to protect peregrine falcons were initiated by biologists from the Santa Cruz Predatory Bird Research Group in 1975. These efforts led to the rearing of over 120 pairs of peregrine falcons by 1992 (Gertsh et al. 1994). The USFWS removed the American Peregrine Falcon from the endangered species list in 1999, though the State of California has not. Appropriate breeding habitat for the peregrine falcon, especially the steep cliffs they require, is absent from the general project area. Migrants and wintering birds occasionally passing through are likely the extent of peregrine falcon use of the project area.

Greater Sandhill Crane (*Grus canadensis tabida*). Federal Status: None; State Status: Threatened. The greater sandhill crane is the largest of the six subspecies of Sandhill Cranes. They nest in northeastern California in wet meadows in Siskyou, Modoc, Lassen, Shasta, Plumas, and Sierra counties (CDFG 2000). Greater sandhill cranes winter mainly in the Central Valley. The State of California listed the greater sandhill crane as threatened in 1983.

Illegal hunting decimated greater sandhill populations around 1900. Subsequent protection from hunting has allowed the California populations to recover and attain modest levels. The protection of nesting habitat is a management concern for the greater sandhill crane. Human encroachment and collisions with power lines are also among the current threats to species' recovery. Wintering cranes congregate in marshes and seasonal wetlands and often forage in nearby agricultural fields, especially recently harvested corn and other grains. The project area does not comprise suitable breeding habitat for this species, however, it may occur in the area as an occasional transient or winter migrant.

Mountain Plover (*Charadrius montanus*). Federal Status: Proposed Threatened; State Status: Species of Special Concern. This member of the shorebird family is found in dry upland habitats. The mountain plover nests in high elevation grasslands primarily in Montana, Wyoming, Colorado, and northeastern New Mexico. During the winter, this plover uses open habitats such as sparse and/or short grasslands and recently plowed or sprouting agricultural fields in California's Central Valley, the Imperial Valley, southern Arizona, and Northern Mexico. The West Patterson project area does

not comprise suitable breeding habitat for this species; however, it may occur in the area as an occasional transient or winter migrant.

Western Spadefoot (*Scaphiopus hammondii*). Federal Status: Species of Concern; State Status: Species of Special Concern. The western spadefoot is a toad that inhabits grassland habitats of central California and the southern California coast. It requires temporary pools of water, lacking predators such as fish, bullfrogs, or crayfish, for egg laying (Jennings and Hayes 1994a). A keratinous "spade" is present on each hind foot that aids in burrowing. Much of their life cycle is spent burrowed underground.

The CNDDB (2002) lists three 1994 records for the western spadefoot from Salado Creek and several adjacent stockponds. The sites where the records occurred were, respectively, 6, 7, and 1.5 miles southwest of Patterson, in the hills west of Interstate 5. The terrestrial habitat throughout the proposed project site is heavily disturbed from agricultural activities. Because the terrestrial habitat throughout the project area is poor in quality, the western spadefoot is unlikely to occur.

The pond in the Business Park Plan area superficially appears to provide potentially suitable habitat for the western spadefoot within the project area. However, no western spadefoot toads or tadpoles were observed during visits to this pond in the spring of 2002. The surrounding terrestrial habitat is generally poor in quality, and the spadefoot is unlikely to occur at this site. No suitable western spadefoot habitat occurs within the Keystone Pacific Business Park site.

The pond in the Patterson Gardens site provides poor quality habitat and the western spadefoot is not expected to occur within the site.

Western Pond Turtle (*Clemmys marmorata* ssp.). Federal Status: Species of Concern; State Status: Species of Special Concern. The western pond turtle is a medium-sized brown or olive-colored aquatic turtle, and is found west of the Sacramento-San Joaquin Delta, and south to northern Baja, except in desert areas. The pond turtle is normally found in and along riparian areas, although females have been reported up to a mile away from water in search of an appropriate nest site. The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are

commonly seen basking in the sun at appropriate sites, although they are extremely wary animals and often dive into the water at any perception of danger.

The CNDDB (2002) lists two records for the western pond turtle. The records, from 1988 and 1998, are from two separate streams in the hills southwest of Patterson. The terrestrial habitat throughout the project area is heavily disturbed from agricultural activities. The western pond turtle is unlikely to occur in the project area.

The pond in the Business Park Plan area provides potentially suitable aquatic breeding habitat for the western pond turtle. However, the pond is relatively small and isolated from other suitable aquatic habitat. The surrounding terrestrial habitat is of poor quality. No pond turtles were observed during visits to in spring of 2002, and it is unlikely that this species occurs on the site. Even if the species was currently present, the overall habitat is almost certainly too poor in quality to sustain a population over time.

San Joaquin Whipsnake (*Masticophis flagellum ruddocki*). Federal Status: None; State Status: Species of Special Concern. The San Joaquin whipsnake is a subspecies of the coachwhip, which is a snake related to racers. They occur on the west side of the San Joaquin Valley and on the valley floor in Kern County in sparse grasslands and saltbush scrub communities with little or no trees (Jennings and Hayes 1994a). They require the presence of mammal burrows for refuge, temperature regulation, and possibly egg-laying. The San Joaquin whipsnake is a diurnal hunter of mammals, birds and their eggs, lizards, and carrion in a variety of dry habitats in west central California. The conversion of the majority of the Central Valley to cultivated agriculture has removed much of the historic habitat of the San Joaquin whipsnake.

The CNDDB (2002) lists one 1999 record for the San Joaquin whipsnake from Del Puerto Canyon Road, about ¼ mile west of Interstate 5. Suitable habitat is present in relatively close proximity to the project area; however, suitable habitat is absent from the project area itself, and the San Joaquin whipsnake is expected to occur there at most as an occasional transient.

Double-crested Cormorant (Phalacrocorax auritus). Federal Status: None; State Status: Species of Special Concern (rookeries). Double-crested cormorants are year-long residents along the entire coast of California and on inland lakes, in fresh, salt, and estuarine waters. Breeding occurs at undisturbed sites beside water, on islands, or on the mainland.

The project area does not comprise suitable breeding habitat for this species. However, the species likely forages on and adjacent to the Business Park Plan area within the California Aqueduct and Delta Mendota Canal. Several birds were observed near the aqueduct during reconnaissance surveys in 2002.

The Patterson Gardens and Keystone Pacific Business Park sites do not comprise suitable breeding or foraging habitat for this species.

Long-billed Curlew (*Numenius americanus*). Federal Status: None; State Status: Species of Special Concern. Long-billed curlews are a winter visitor to central California. They forage in marshes, grasslands, and agricultural areas. Concern for this species pertains primarily to their breeding habitat, which is in the northeastern portion of the state. This species may occur in the West Patterson project area as a winter forager.

California Gull (*Larus californicus*). Federal status: None; State Status: Species of Special Concern. The California gull is common in most of lowland and coastal California except during the breeding season. Within the San Joaquin Valley, California gulls are fairly common. During the winter they frequent landfill dumps, fields, and pastures and forage on garbage, carrion, earthworms, adult insects, and larvae (CDFG 1999). Concern for this species pertains primarily with their breeding habitat. Undisturbed islands, required for nesting, are absent from the project site. Thus, California gulls are not expected to breed within the West Patterson project area. However, the fields provide suitable foraging habitat for this species.

Golden Eagle (*Aquila chrysaetos*). Federal Status: None; State Status: Species of Special Concern, Fully Protected. The golden eagle is an uncommon permanent resident and migrant in California. Golden eagles forage upon a variety of prey, but show a preference for rabbits and rodents. The home range of a breeding pair of eagles may include a number of alternate nests, usually located on cliffs, in large trees, or on high-tension towers. Only one of these sites is used each year for breeding. Golden eagles, their nests, and eggs are fully protected in the state of California by the CDFG. In addition, golden eagles and their nests are federally protected under the Bald Eagle Protection Act and the Migratory Bird Treaty Act. The West Patterson project area does not comprise suitable breeding habitat for this species, however they may occasionally forage on the site during the winter.

Northern Harrier (*Circus cyaneus*). Federal Status: None; State Status: Species of Special Concern. The northern harrier is commonly found in open grasslands, agricultural areas, and marshes. Nests are built on the ground in areas where long grasses or marsh plants provide cover and protection. Harriers hunt for a variety of prey, including rodents, birds, frogs, reptiles, and insects by flying low and slow in a traversing manner utilizing both sight and sound to detect prey items. Northern harriers are common in the Central Valley, especially during winter. Extensive areas of tall grass or tules that would provide nesting habitat for this species are absent from the general project area, however the area does provide suitable foraging habitat and northern harriers were observed on and near the site during reconnaissance surveys.

The Business Park Plan area, including the Keystone Pacific Business Park site, provides suitable foraging habitat for northern harriers and marginally suitable breeding habitat. Harriers were observed on and near these areas during reconnaissance surveys in 2002.

The Patterson Gardens site provides suitable foraging habitat but no suitable breeding habitat for northern harriers.

Ferruginous Hawk (*Buteo regalis*). Federal Status: None; State Status: Species of Special Concern. Ferruginous hawks winter in open habitats throughout central and southern California and prefer the non-native grassland habitats that ring the valley floor. Ferruginous hawks forage over open, treeless areas for small mammals, birds, reptiles, and amphibians. The West Patterson project area is outside the known breeding range for this species, however they may occur as occasional foragers in the project area during winter and/or migration.

Prairie Falcon (*Falco mexicanus*). Federal Status: None; State Status: Species of Special Concern. This large falcon is found in grasslands, deserts, and other open habitats in southwestern North America. This species preys upon small mammals, small birds, and reptiles and catches prey both in the air and in open areas on the ground.

Sheltered cliffs required for nesting are absent from the West Patterson project area, however the project area does comprise suitable foraging habitat and a nesting pair of prairie falcons has been recorded approximately four miles west of the site (CNDDB 2001).

Sharp-shinned Hawk (*Accipiter striatus*). Federal Status: None; State Status: Species of Special Concern. The sharp-shinned hawk is commonly found in dense woodland or riparian habitats bordering open areas. They typically pursue small birds in semi-open country, at the edges of open woodlands, in clearings, along hedgerows, shorelines, or along passerine migration corridors. Nest sites are usually within 90 meters of a water source and located in dense stands of even-aged trees on north facing slopes. The West Patterson project area does not comprise suitable breeding habitat for this species. However, suitable foraging habitat is present and the species may occur on site as a transient or winter migrant.

Cooper's Hawk (*Accipiter cooperii*). Federal Status: None; State Status: Species of Special Concern. The Cooper's hawk is a larger accipiter than the sharp-shinned hawk and preys upon medium-sized birds (e.g., jays, doves, and quail) and occasionally small mammals and reptiles. The Cooper's hawk prefers landscapes where wooded areas occur in patches and groves that facilitate the ambush hunting tactics employed by this species. Breeding pairs in California prefer nest sites within dense stands of live oak woodland or riparian areas and prey heavily on young birds during the nesting season. The West Patterson project area does not comprise suitable breeding habitat for this species. However, suitable foraging habitat is present and the species may occur in the project area as a transient or winter migrant.

Loggerhead Shrike (*Lanius ludovicianus*). Federal Status: None; State Status: Species of Special Concern. This predatory songbird inhabits much of the lower 48 states. Loggerhead shrikes prefer open habitats interspersed with shrubs, trees, poles, fences or other perches from which they can hunt. Loggerhead shrike populations have declined significantly over the last 20 years. Even with this trend, Loggerhead shrikes are still considered a fairly common species in California. Loggerhead shrikes are primarily monogamous and are very territorial throughout the year. Nests are built in densely-vegetated shrubs or trees, often containing thorns, which offer protection from predators and upon which prey items are impaled. They breed between early February and late March with the peak of breeding between mid-March and late-June.

This species was observed in several locations in the Business Park Plan area during project surveys in 2002 and food-begging young were observed. In addition, an active nest was found within 250 ft. of the project boundary. Shrikes are expected to both forage and nest in the Plan area. However, the Keystone Pacific Business Park site does not contain suitable breeding habitat for loggerhead shrikes.

Loggerhead Shrikes are expected to forage within the Patterson Gardens site. The site also provides nesting habitat (e.g., orchard and shrubbery around houses and buildings) for this species.

Short-eared Owl (*Asio flammeus*). Federal Status: None; State Status: Species of Special Concern. Short-eared owls occur in open habitats such as grasslands, wet meadows, and marshes. They require tules or other tall grasses for nesting or daytime refuge. This species once bred in much of the San Joaquin Valley (Grinnell and Miller 1944), however, they are now most likely to be encountered as a winter visitor. This species is not expected to breed within the Project area, however they may occur as a transient or winter migrant.

California Horned Lark (*Eremophila alpestris actia*). Federal Status: None; State Status: Species of Special Concern. Horned larks occur over nearly all of North America in bare ground habitats with short grass, scattered bushes, or no vegetation. In winter, they often form large flocks that sometimes contain several subspecies. Grinnell and Miller (1944) list 13 subspecies of horned lark in California. One of these subspecies, the California horned lark, is currently a Species of Special Concern in California. This subspecies is a widespread breeder along the coast and in the Central Valley of California.

Suitable breeding and foraging habitat for California horned larks is present in the West Patterson project area in the form of disked fields, low growth stages of fallow fields and/or row crops, and barren areas along the Delta Mendota Canal, Salado Creek, and Lateral 6 South. California horned larks were observed in a disked field within the Business Park Plan area during surveys in 2002.

Tri-colored Blackbird (*Agelaius tricolor*). Federal Status: None; State Status: Species of Special Concern. Tri-colored blackbirds are found almost exclusively in the Central Valley, and central and southern coastal areas of California. In 1992, surveys by the California Department of Fish and Game determined that the population of this species was much larger than previously believed. Thus, the concern for the species lessened considerably.

The tri-colored blackbird is highly colonial in its nesting habits and forms dense breeding colonies of up to tens of thousands of pairs. This species typically nests primarily in tall,

dense, stands of cattails or tules, but also nests in blackberry, wild rose bushes and tall herbs. Nesting colonies are typically located near standing or flowing freshwater. Tri-colored blackbirds form large, often multi-species, flocks during the non-breeding period and range more widely than during the reproductive season. They forage on the ground in croplands, grasslands, along the edges of ponds, and on flooded land.

The West Patterson project area contains suitable foraging habitat for tri-colored blackbirds; however, emergent and/or riparian vegetation necessary for breeding is absent. The CNNDB (2001) contains several occurrences of this species within the greater project area; however to protect this species, the location information is suppressed.

Yellow Warbler (*Dendroica petechia*); Federal status: None; State Status: Species of Special Concern. Yellow warblers prefer to breed in deciduous, riparian habitat. Yellow warblers migrate to Mexico and South America in the fall and return to California to breed in April. Some birds spend winter in southern California lowlands. Yellow warblers may occur in the West Patterson project area as migrants.

White-tailed Kite (*Elanus leucurus*). Federal Status: None; State Status: Fully Protected Species. This species prefers habitats with low ground cover and variable tree growth. Kite nests are built near the tops of oaks, willows, or other dense broad-leafed deciduous tress in partially cleared or cultivated fields, grassy foothills, marsh, riparian, woodland, and savannah. Kites prey primarily on small rodents (especially the California vole), but also feed on birds, insects, reptiles, and amphibians. Once considered in danger, the white-tailed kite is now fairly common. The West Patterson project area contains suitable breeding and foraging habitat for this species and they were observed foraging over the Business Park Plan Area and the Keystone Pacific Business Plan area during surveys in 2002.

Pallid Bat (*Antrozous pallidus*). Federal Status: None; State Status: Species of Special Concern. This medium-sized bat occurs throughout much of California. The pallid bat is usually found in open lowlands were it preys upon flightless insects. It prefers roosting in caves and mine tunnels, but buildings and trees may also be used. Pallid bats are pale to light brown in color and are one of the State's largest bats, weighing about 24 grams. Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in hollow trees. Colonies can range from a few individuals to over a hundred and are non-migratory (Barbour and Davis 1969).

Some female/young colonies (typically the coastal subspecies) use their day roost for their nursery as well as hibernacula, while other colonies (typically those in the desert) migrate locally on a seasonal basis (Johnston 1997). Although crevices are important for day roosts, night roosts often include open buildings, porches, garages, highway bridges, and mines.

Pallid bats may travel up to several miles for water or foraging sites if roosting sites are limited. This bat prefers foraging on terrestrial arthropods in dry open grasslands that are near water and rocky outcroppings, or old structures. They may also occur in oak woodlands and at the edge of redwood forests along the coast. Pallid bats are sensitive to human disturbances at roost sites. The West Patterson project area does not contain suitable roost sites, however, foraging habitat is present.

Western Mastiff Bat (*Eumops perotis*). Federal Status: Species of Concern; State Status: Species of Special Concern. The western mastiff bat is an uncommon resident of the southeastern San Joaquin Valley. It occurs in many open to semi-open habitats where it catches and feeds on insects in flight. This species roosts in crevices in rock outcrops and buildings (CDFG 1999). Suitable roost sites are absent from the West Patterson project area, however, western mastiff bats may forage over the site.

Wastewater Treatment Facility Study Area

There are six special-status wildlife species that may potentially occur in the vicinity of the study area for the wastewater treatment plant expansion project, based on review of the CNDDB (2002) and field reconnaissance surveys. State and/or federally listed species include: San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), and valley elderberry longhorn beetle *(Desmocerus californicus dimorphus*). Other special-status species include California Species of Special Concern: western burrowing owl (*Athene cunicularia hypugea*), tricolored blackbird (*Agelaius tricolor*), and western pond turtle.

San Joaquin Kit Fox: The status and biology of the San Joaquin kit fox have been described above. Stanislaus County is thought to be used by San Joaquin kit fox primarily as a movement corridor, connecting suitable habitat and known populations to the north (e.g., Tracy Triangle sub-population) and south (e.g., Santa Nella sub-population and Ciervo/Panoche core population) (USFWS 1998). San Joaquin kit fox are not expected to occur in the study area because the existing wastewater treatment facility

and surrounding agricultural lands do not represent suitable habitat and the study area is outside of the presumed movement corridor in the region.

Swainson's Hawk: The biology and status of the Swainson's hawk have been discussed above. Swainson's hawks are summer residents in Stanislaus County and are known to nest in several locations in the riparian corridor along the San Joaquin River in the vicinity of the project site (CNDDB 2002). An active Swainson's hawk nest was observed adjacent to the study area in a cottonwood tree off of Las Palmas Avenue on June 7, 2002 (see Figure III.D.2).

Agricultural fields provide foraging habitat for Swainson's hawks. Alfalfa, fallow fields, dry and irrigated pastures, and other low-growing row crops (including corn after harvest), are preferred foraging habitats for Swainson's hawks (CDFG 1995). A group of 13 Swainson's and red-tailed hawks were observed foraging in a recently-harvested alfalfa field in the study area.

Other Raptors: Other raptors that may occur in the study area include American kestrel, white-tailed kite (*Elanus leucurus*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and great horned owl (*Bubo virginianus*). A pair of red-tailed hawks was found nesting immediately east of the wastewater treatment plant and a pair of American kestrels was found nesting along Las Palmas Avenue during the site visit on May 31 and June 7, 2002. Scattered trees found throughout the study area and in the riparian woodland along the San Joaquin River may provide suitable nesting habitat for other raptors. Agricultural fields are also important foraging areas for other raptors.

Valley Elderberry Longhorn Beetle *(Desmocerus californicus dimorphus)*. Federal Status: Threatened. State Status: None: The valley elderberry longhorn beetle is federally listed as threatened. This species is dependent upon blue elderberry shrubs for both food and reproduction. No elderberry shrubs were observed during either the reconnaissance-level surveys or the focused surveys within the study area. Therefore, valley elderberry longhorn beetles are unlikely to occur on the site.

Burrowing Owl: The biology and status of the burrowing owl have been previously discussed. No burrowing owls or evidence of active owl burrows were observed in the study area during either the reconnaissance-level surveys or the focused surveys. However, there is some potential for them to occur in the study area in uncultivated fields, or along roadways or levees.

Tricolored Blackbird: The biology and status of the tricolored blackbird have been previously discussed. There are several known nesting colonies in areas near the San Joaquin River in Stanislaus County. However, there are no emergent wetlands or other suitable breeding habitat present in the study area.

Western Pond Turtle: The biology and status of the western pond turtle have been previously discussed. Two western pond turtles were observed in a percolation pond at the wastewater treatment plant during the site visit on May 31, 2002. It is unlikely that they nest in the study area because the upland habitat nearest the ponds consists of roadways and agricultural fields. These areas do not provide suitable substrate for a female to excavate a nest or proper soil, slope, or moisture conditions for egg incubation. However, pond turtles may use the wastewater ponds for foraging and basking habitat. Western pond turtles are known also to occur along the San Joaquin River drainage, east of the wastewater treatment plant (Jennings and Hayes 1994).

IMPACTS AND MITIGATION

APPROACH

SIGNIFICANCE CRITERIA

Development of the West Patterson projects as proposed would ultimately result in conversion of a large portion of the area's primarily agricultural habitats for industrial, commercial and single-family residential purposes. These proposed uses would have a number of impacts on the area's biological resources, which may constitute significant adverse effects.

CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

- substantially reduce the habitat of a fish or wildlife species
- cause a fish or wildlife population to drop below self-sustaining levels

- threaten to eliminate a plant or animal community
- reduce the number or restrict the range of a rare or endangered plant or animal

Removal or disturbance of nesting raptors, as discussed in Fish and Game Code section 3503.5, would be considered a significant impact. In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the effects of a project:

- Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; or,
- Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

ASSUMPTIONS

This section describes the assumptions used to evaluate impacts on the biological resources that would result from the proposed development of the West Patterson project area and wastewater treatment facility. These assumptions are as follows:

1. Direct impacts to wildlife species are assumed to be correlated with the loss of plant communities that provide their primary habitat. These losses would result from site excavation, road building, grading, filling or other damage to habitats, and direct wildlife loss or disturbance by construction activities and human uses. The conversion of these communities to commercial and industrial development, houses and infrastructure, therefore, may result in the loss or reduction of use for some wildlife species. The existing wildlife species are usually eliminated or replaced with a suite of species that tolerate these development activities.

2. Indirect impacts to wildlife could also occur. If remaining fragments of undeveloped habitat are isolated from larger areas of contiguous habitat, particularly during development of individual parcels in the Business Park Plan area, the remaining habitats are expected to have lower biological values than those prevailing before development. Indirect impacts to wildlife, most often associated with increased human activity can occur off site.

The following section addresses potential impacts to biotic resources resulting from development of the Plan area, including the wastewater treatment plant facilities, and the construction of necessary infrastructure and transportation improvements.

PROJECT IMPACTS AND MITIGATION

Impact D.1. Development of the West Patterson project area would result in loss of habitat for, and potential take of, San Joaquin kit fox. (Significant)

Reconnaissance and protocol-level kit fox surveys provided no indication that kit foxes are currently utilizing the project area. The open grasslands of the foothills just to the west and across Interstate 5 provide much higher quality and potentially less threatening habitat than the proposed project area (Cypher, 2002 and Williams, pers. com., 2002). In general, the project area is not likely to be an important corridor linking larger areas of kit fox habitat, as no large tracts of suitable habitat are directly accessible via the project area. Furthermore, potential foraging and denning habitat on the project area is of low value for the kit fox and is expected to be used only infrequently, if at all. The further east in the project area, the less likely it is that kit foxes currently utilize the sites.

However, some potential impact to kit foxes may occur within the Business Park Plan area as a result of development near the Delta Mendota Canal, and in particular, the area between the Delta Mendota Canal and California Aqueduct. Kit foxes in other portions of their range use canals of this type on occasion. These linear features are potential travel corridors for kit foxes during dispersal or exploratory forays.

Potential impacts to kit foxes are considered to be less than significant with the exception of the areas immediately adjacent to, and between, the Delta Mendota Canal and California Aqueduct. The following mitigation measures would be necessary to reduce the potential impacts to kit foxes in all portions of the project area to less than significant.

Mitigation Measure D.1.a. Compensation for loss of habitat.

The existing rights-of-way for the Delta Mendota Canal and California Aqueduct provide potential movement corridors for kit foxes as does the area between these canals. Approximately 47 acres of agricultural-fallow habitat within the Business Park Plan area lies between the canals and approximately 24.5 acres of orchard. Conversion of this habitat for industrial or commercial purposes shall be mitigated for in one of the following manners:

- Fee title purchase and/or dedication of a permanent conservation easement of land in the higher quality kit fox habitat (under 1,000 feet in elevation) west of Interstate 5 within Stanislaus County at a ratio of 2:1 (two acres protected for each acre developed). Lands will be dedicated prior to grading activities on the property; or,

- Payment of an in-lieu fee of $2,000 per developed acre, to be held by the County, The Center for Natural Lands Management, the California Wildlife Foundation, the CDFG, or other entity approved by the USFWS, for the ultimate purpose of establishing a permanent movement corridor in western Stanislaus County below 1,000 feet elevation and west of Interstate 5, pursuant to the existing recovery planning goals for kit fox in the County. Fees shall be paid prior to grading of the site. When these funds are ultimately applied for mitigation purposes, should the actual cost of setting aside and protecting lands under this provision be less than the $2,000 per developed acre, then the unused portion of the funds shall be reimbursed to the original payee, less reasonable administrative costs for the account holder.

Lands selected for conservation shall be approved by the USFWS.

Mitigation Measure D.1.b. Construction avoidance and minimization measures.

Although kit foxes are not known to currently occupy the project area, they could, on rare occasion, move through it. To avoid and/or minimize any potential impacts, the following pre-construction and construction activities will be carried out, consistent with USFWS (1999) pre-construction and construction guidelines.

- Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities for any project activity likely to impact the San Joaquin kit fox. Pre-construction survey reports shall be provided to the USFWS within five days of completing surveys. If construction is phased, pre-construction surveys shall be conducted for each phase according to the timing and schedule stated above.

- A worker education program shall be conducted.
- Project-related vehicles shall observe a 20-mph speed limit in the project area, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active.
- To the extent practicable, nighttime construction shall be minimized.
- Off-road traffic outside of designated project areas shall be prohibited.
- To prevent inadvertent entrapment of kit foxes or other animals during the construction phases of the projects, all excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or equipped with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals.
- All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of a qualified biologist, the pipe may be moved once to remove it from the path of construction activity.
- All food-related trash items such as wrappers, cans, bottles, and food scraps, shall be disposed of in a closed container and removed at least once a week from a construction or project site.

Implementation of these mitigation measures would reduce impacts to the San Joaquin kit fox and its habitat to less-than-significant levels.

Impact D.2. Development of the West Patterson project area and wastewater evaporation pond site(s) would result in loss of foraging habitat for Swainson's hawks. (Significant)

The likelihood of Swainson's hawks nesting on the West Patterson project area in the near future is considered low. However, the project area does contain suitable foraging habitat for Swainson's hawks and at least one active nest site has been reported within a ten-mile radius within the last five years. Preferred foraging habitat for Swainson's

hawks includes: dry-land and irrigated pasture, alfalfa, fallow fields, low-growing row or field crops, rice land, and cereal grain crops (CDFG 1994b).

The Business Park Plan Area (not including the Keystone Pacific Business Park site) includes 418 acres of agricultural/row crops, 47 acres of agricultural/fallow, and 26 acres of agricultural/disked lands that may serve as foraging habitat for Swainson's hawks. In addition, the Keystone Pacific Business Park site includes 221 acres of agricultural/row crop and the Patterson Gardens site contains 233 acres of agricultural/disked habitat. Construction of new wastewater treatment percolation ponds could result in the loss of an additional 120 acres of foraging habitat.

Loss of foraging habitat within a ten-mile radius of an active (used during one or more of the last five years) Swainson's hawk nest is considered a significant impact by the CDFG. Implementation of the following mitigation measures would be needed to reduce the potential impact on this species to a less-than-significant level.

Mitigation Measure D.2.a. Pre-construction surveys.

In order to assure that nesting Swainson's hawks will not be disturbed by construction in the project area, a qualified ornithologist shall conduct pre-construction surveys. Survey Period I occurs from January 1 – March 20, Period II from March 20 – April 5, Period III from April 5 – April 20, Period IV from April 21 – June 10 (surveys not recommend during this period), and Period V from June 10 – July 30. Three surveys shall be completed in at least each of the two survey periods immediately prior to a project's initiation but are recommended during periods II, III, and V. If a nest site is found, consultation with CDFG shall be required.

Mitigation Measure D.2.b. Compensation for loss of habitat.

For each acre of Swainson's hawk foraging habitat developed within five miles of an active nest tree but greater than one mile from the nest tree, 0.75 acres of "Habitat Management" land (land managed so as to provide long-term foraging habitat for Swainson's Hawks) shall be provided (0.75:1 ratio). For projects within one mile of an active nest, the ratio is 1:1.

The proposed project would result in conversion of agricultural land to industrial, commercial and residential uses. Development on the West Patterson Business Park

Master Development Plan area (not including the Keystone Pacific Business Park site) would convert approximately 491 acres of row crops, fallow fields, and disked fields. Development on the Keystone Pacific Business Park site would result in the loss of approximately 221 acres of an agricultural field comprised of row crops. Development on the Patterson Gardens site would result in the loss of approximately 233 acres of disked fields. A total of 945 acres of potential Swainson's hawk foraging habitat would be lost. This habitat occurs within five miles, but over one mile from an active nest. Thus, 708.75 acres of Habitat Management lands will be required in compensation.

Additionally, as much as 120 acres of potential foraging habitat could be lost due to construction of the new wastewater treatment percolation ponds. Because the wastewater pond sites have not been selected, the actual distance from an active nest cannot be determined. However, the study area includes potential pond sites that are anywhere from less than one mile to five miles from an active nest. Following finalization of the construction footprint and prior to any project construction activity, the total acreage of Habitat Management lands required for mitigation will be calculated according to the mitigation ratios given above.

Habitat Management lands protected under this requirement may be protected through either of the following:

1. Placement of a permanent conservation easement on agricultural lands or other suitable habitats that provide foraging habitat for Swainson's hawks. As previously identified, preferred foraging habitats for Swainson's hawks include grasslands, dry-land and irrigated pastures, alfalfa, fallow fields, low-growing row or field crops, rice land, and cereal grain crops. Lands will be dedicated prior to grading activities on the property; or

2. Payment of an in-lieu fee of $600 per developed acre, to be held by the County, The Center for Natural Lands Management, the California Wildlife Foundation, the CDFG, or other entity approved by the CDFG for the ultimate purpose of purchasing permanent conservation easements over Swainson's hawk foraging habitat. Fees will be paid prior to grading of the site. When these funds are ultimately applied for mitigation purposes, should the actual cost of setting aside and protecting lands under this provision be less or greater than the $600 per developed acre, then the project proponent will, as applicable, be reimbursed the amount less than the $600 per acre, or, will add additional funds to the account as required to match the actual cost of setting aside the mitigation lands, including reasonable administrative costs for the account holder.

Easements purchased under either of the above methods may be located in the grassland communities west of Interstate 5 and may be established in conjunction with efforts to

establish a permanent movement corridor for San Joaquin kit fox (see kit fox mitigation above) in western Stanislaus County (see Measure D.1.a above).

Implementation of Mitigation Measures D.2.a, and one of the alternative measures D.2.b would reduce impacts to the Swainson's hawk to less-than-significant levels.

Impact D.3. Development of the West Patterson project area and wastewater evaporation pond site(s) would result in loss of habitat for burrowing owls and potentially could result in take of individual burrowing owls. (Significant)

No burrowing owls or secondary evidence of their presence (i.e., feathers, castings, prey remains) were observed during protocol-level surveys of the West Patterson project area. However, ground squirrel burrows were located throughout various portions of the project area making the site consistent with potential owl habitat. Ground squirrels and burrowing owls are known to quickly colonize abandoned agricultural sites. Thus, there is a reasonable likelihood that owls may take up residence within the project area prior to site development.

Raptors, including burrowing owls, and their nests are protected under both federal and state laws and regulations, including the Migratory Bird Treaty Act and California Fish and Game Code section 3503.5. The loss of occupied burrowing owl habitat, or habitat known to have been occupied by owls during the nesting season within the past three years, would be considered significant and therefore would require mitigation to reduce impacts to a less-than-significant level. If burrowing owls are present on-site at the time of construction, then construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Furthermore, the destruction of occupied burrows is also considered a taking. Any loss of individual owls or fertile eggs, any activities resulting in nest abandonment, or the destruction of occupied owl burrows would constitute a significant impact. Construction activities such as tree removal, site grading, etc., that disturb a nesting burrowing owl on-site or immediately adjacent to the construction area, or destroy occupied burrows, would constitute a significant impact.

Mitigation Measure D.3. Pre-construction surveys.

Pre-construction surveys for burrowing owls shall be conducted by a qualified biologist prior to any soil-altering activity occurring within the project area and a surrounding area

of potential effect. The pre-construction surveys shall be conducted per CDFG guidelines, and will be required regardless of the time of year in which work occurs. If no owls are found, no further mitigation will be warranted since recent extensive surveys of the site have resulted in no evidence of their presence. If burrowing owls are found close enough to the construction/demolition activities, consultation with, and authorization by, the CDFG shall be required. Mitigation measures proposed for Swainson's hawk and/or San Joaquin kit foxes would benefit burrowing owls, and would compensate for any other potential impacts to the species, so no additional mitigation is necessary.

Implementation of this measure would reduce impacts to burrowing owls or its habitat to less-than-significant levels.

Impact D.4. Excavation of Salado Creek on the Patterson Gardens site would impact 0.36 acres of Jurisdictional Waters. (Significant)

As previously described, Salado Creek is an actively maintained farm ditch through the Patterson Gardens site, with steep banks and a mostly bare channel. There are narrow variable fringes of emergent vegetation on either side of the ditch, with a scattering of infrequent wetland vegetation in the channel bottom. Ruderal upland plants that are controlled by frequent spraying or scraping occur along the ditch banks. The USACE has claimed 0.36 acres of this habitat as jurisdictional under Section 404 of the Clean Water Act.

As part of the Patterson Gardens development project, approximately 11,000 cubic yards of material would be excavated from Salado Creek to widen the channel and recontour the bed and banks to improve the drainage and flood control capacity of the creek. A landscaped buffer is proposed on both sides of the recontoured creek. A box culvert would be constructed to cross under the new Calvinson Parkway in Patterson Gardens; utility lines would cross the creek at this location. Two pump station outlets near the north end of Salado Creek would convey stormwater from drainage basins into the creek.

Excavation of 0.36 acres of jurisdictional waters is considered a significant impact.

Mitigation Measure D.4. Creek Restoration.

The channel and banks of Salado Creek shall be restored and enhanced resulting in significantly higher-value habitat than currently exists. The designed width from top-of-bank to top-of-bank for the restored creek shall be 35 feet (the existing width is approximately 22 feet). The creek shall be buffered on both sides: a minimum of 20 feet of oak savannah shall be established on the west-side; the east side shall consist of a minimum of 10.5 feet of oak savannah, with an additional approximately 9.5-foot-wide buffer, including features such as a 5-foot pedestrian path and a 4.5-foot landscaped strip. The channel bottom and the lower portion of the banks shall be seeded and/or planted with wet meadow species. The species may include: Baltic rush (*juncus balticus),* creeping wild rye (*Leymun triticoides*), spike rush (*Eleocharis palustris*), salt grass (*Distichlis spicata*), and meadow barley (*Hordeum brachyantherum*). Species planted in the oak savannah (including the upper edges of the banks) may include: valley oak (*Quercus lobata*), California wild rose (*Rosa californica*), narrow-leaf milkweed (*Asclepias fascicularis*), purple needle grass (*Nasella pulchra*), creeping wild rye, and deer grass (*Muhlenbergia rigens*). Water in the channel during construction shall be temporarily diverted using a cofferdam, and the water shall be piped around the work areas. Standard best management practices (BMPs) shall be used during construction for erosion and sedimentation control, including implementation of a SWPPP.

Implementation of this mitigation measure is proposed as part of the project and would reduce the adverse environmental effects of the proposed excavation of Salado Creek to a less-than-significant level.

Impact D.5. Development of the West Patterson project area would potentially result in disturbance of nesting raptors during construction. (Significant)

Red-tailed hawks, barn owls (*Tyto alba*), and several other raptor species are known, or are expected, to nest in the vicinity of the project area. Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state law. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Any loss of fertile raptor eggs or nesting raptors, or any activities resulting in raptor nest abandonment, would constitute a significant impact. Construction activities such as tree

removal, site grading, etc., that disturb a nesting raptor on-site or immediately adjacent to the construction zone would constitute a significant impact.

Mitigation Measure D.5.a. Avoidance.

To the extent possible, demolition and construction shall be scheduled to avoid the nesting season, which extends from January through August.

Mitigation Measure D.5.b. Pre-construction/pre-disturbance surveys.

If it is not possible to schedule demolition and construction between August and January, then one of the following options shall be implemented:

1. With the approval of the CDFG, trees containing known or potential raptor nest sites may be removed to discourage future nesting attempts on the condition that no raptor pair is currently utilizing the site; or

2. Pre-construction surveys for nesting raptors shall be conducted by a qualified ornithologist or wildlife biologist to ensure that no raptor nests will be disturbed during project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the qualified surveyor shall inspect all trees in and immediately adjacent to the impact areas for raptor nests. If an active raptor nest is found close enough to the construction area to be disturbed by these activities, the ornithologist, in consultation with CDFG, shall determine the extent of a construction-free buffer zone to be established around the nest.

Implementation of these mitigation measures would reduce the impacts of the proposed project on raptors nesting within the project site or immediately adjacent to the site to less-than-significant levels.

Impact D.6. Certain construction activities could potentially affect western pond turtles. (Significant)

Western pond turtles are known to occupy the existing wastewater percolation ponds, and certain construction activities (e.g. grading) could potentially affect these turtles. For

example, draining the ponds during expansion of the treatment facility could strand turtles. This is considered a potentially significant impact.

Mitigation Measure D.6. Relocation.

Prior to the start of any construction activities within a percolation pond, the pond shall be drained. A qualified biologist shall be present to survey for western pond turtles during the pond draining. If any turtles are found, they shall be captured and moved to suitable habitat outside of the construction area by the qualified biologist.

Implementation of this mitigation measure would reduce this significant impact to a less-than-significant level.

Impact D.7. Construction of an additional wastewater pond and expansion of the wastewater treatment plant could result in temporary disturbance, direct, or indirect, impacts to the biological mitigation site located immediately north of the existing wastewater treatment plant. (Significant)

Construction-related activities, such as grading and pond construction, have the potential to directly or indirectly affect the existing biological mitigation area. This would be considered a significant impact.

Mitigation Measure D.7. Avoidance.

The biological mitigation site at the north edge of the existing wastewater treatment plant shall be avoided during construction so that its function as a mitigation site is not adversely affected.

Implementation of this mitigation measure would reduce the impact to a less-than-significant level.

Impact D.8. Construction activities could inadvertently impact riparian woodland located adjacent to the northeastern-most percolation pond site. (Significant)

Neither the wastewater treatment plant nor the alternative percolation pond sites support riparian habitat, wetlands, or jurisdictional waters. Construction activities could

inadvertently impact the riparian woodland located adjacent to the northeastern-most percolation pond site. This would be considered a significant impact.

Mitigation Measure D.8. Setback.

To protect the riparian woodland habitat located adjacent to the northeastern-most percolation pond site, no construction activities (e.g. vehicles, equipment or staging) may occur within a 100-foot setback from the riparian woodland. During construction, the setback area shall be fenced with high visibility fencing to prevent access. The protective fencing shall be maintained until all construction activities are complete. All grading plans shall include appropriate control measures to minimize runoff into riparian woodland.

Implementation of this mitigation measure would reduce the impact to a less-than-significant level.

Impact D.9. Development in the West Patterson project area would cause loss of orchard and ruderal habitats. (Less than Significant)

The proposed project would result in the conversion of orchards and ruderal habitat to industrial, commercial and residential uses. Approximately 87 acres of orchard and three acres of ruderal habitat in the Business Park Plan area and approximately 65 acres of orchard in Patterson Gardens would be lost. Orchard and ruderal habitats are locally common, the plant species present within these areas are common regionally, and the majority of biotic resources associated with these habitats will continue to be abundant following full buildout of the West Patterson project area. Therefore, conversion of orchards and ruderal areas is considered a less-than-significant impact.

Mitigation Measure. No mitigation necessary.

Impact D.10. Development of the West Patterson project area would cause loss of seasonal aquatic habitat associated with man-made ponds. (Less than Significant)

The two farm ponds, located on the Patterson Gardens site and in the southwestern portion of the West Patterson Business Park Master Development Plan area, would be lost as a result of development. Both are artificial ponds that collect rainfall and excess irrigation water. The pond in the southwestern portion of the Business Park Plan area, adjacent to the Delta Mendota Canal, is about 0.14 acres. Once water in this pond

reaches a certain elevation, it discharges into the Canal via a flap-gate. The pond on the Patterson Gardens site is about 0.01 acre located near the intersection of Sperry Avenue and Ward Avenue. Although these ponds support a few hydrophytic species, they offer little other floristic or wildlife value.

Conversion of these two ponds, comprising about 0.15 acres of the West Patterson project area, to residential or commercial uses would not be considered a significant impact on biological resources. Both the Patterson Gardens proposal and the Keystone Pacific Business Park proposal include stormwater detention basins that would serve much the same purpose as the existing farm ponds; these basins would cover a larger acreage than the existing farm ponds.

Mitigation Measure. No mitigation necessary.

Impact D.11 Development of the West Patterson project area would result in impacts to aquatic habitat in linear drainage features. (Less than Significant)

The project would ultimately involve the removal of the Lateral 6 South canal. As previously described, this canal is an artificially created irrigation ditch used for the conveyance of irrigation water. It contains only sparse vegetation comprised primarily of ruderal species (plants common to highly disturbed areas). It is neither a jurisdictional water of the U.S., subject to Corps of Engineers jurisdiction, nor does it come under the Section 1600 provisions of the Fish & Game Code, administered by the California Department of Fish and Game. Impacts associated with the removal of this irrigation ditch are considered less than significant.

Mitigation Measure. No mitigation necessary.

Impact D.12. Development of the West Patterson project area would result in impacts to habitat for certain special-status animal species. (Less than Significant)

Some special-status terrestrial vertebrates may only occur as occasional visitors, migrants, transients, or foragers within the project area. These vertebrates include the San Joaquin whipsnake, Greater Sandhill Crane, Black Tern, White-faced Ibis, Long-billed Curlew, Double-crested Cormorant, California Gull, Ferruginous Hawk, Cooper's Hawk, Sharp-shinned Hawk, Merlin, Prairie Falcon, Short-eared Owl, Golden Eagle,

Yellow Warbler, Tri-colored Blackbird, and western mastiff bat. The West Patterson projects would have no effect on the breeding success of any of these species, although they will result in a small reduction of foraging and/or roosting habitat available to them regionally. Due to the abundance of similar habitats regionally, however, West Patterson projects are expected to have a less-than-significant impact on these species.

Mitigation Measure. No mitigation necessary.

Impact D.13. Development of the West Patterson project area would result in impacts to nesting habitat for the White-tailed Kite. (Less than Significant)

Potential White-tailed Kite nesting habitat on the project site is limited due to the small number of suitable nest trees. Furthermore, no evidence of current or prior use of the project area for nesting was observed during the nesting raptor survey in 2002. Therefore, because alternative-nesting habitat is abundant in the region, loss of the small amount of suitable White-tailed Kite nesting habitat in the project area is considered less-than-significant.

Mitigation Measure. No mitigation necessary other than measures D.5.a and D.5.b as identified in Section III.D, Biological Resources, under "Impact D.5," pp. III.D.53 to III.D.54 for nesting raptors.

CUMULATIVE IMPACTS

Consideration of concerns and issues regarding potential cumulative impacts on biological resources have been included as part of the detailed biological resources assessment conducted for the Revised Draft EIR, and is reflected in the discussions regarding special-status plant and animal species (Section III.D, Biological Resources, pp. III.D.23-44) and in the identified impacts and mitigation measures for the proposed project (Section III.D, Biological Resources, Impacts and Mitigation, pp. III.D.44-45 [Significance Criteria], pp. 45-46 [Assumptions], pp. 46-58 [Project Impacts and Mitigation, Impacts D.1-D.13].

Cumulative impact concerns relate primarily to the removal of the agricultural lands that predominate the site of the preferred alternative. These lands provide somewhat limited, albeit important, habitat values for a variety of wildlife species, including several special-status animals. However, most plant and animal species expected to be affected are considered common in agricultural areas throughout the Central Valley.

The annual cropping pattern over most of the project area creates a situation, depending on what crops are grown and harvested at what time of year, that results in varying value of the landscape to wildlife over the course of a growing season, or from year to year. Because much of the region surrounding the proposed project site is also in agriculture, the impact associated with such variation is lessened. While removal of the proposed project area from agriculture will have some effect on the wildlife of the region, adequate agricultural lands remain, and will likely remain into the foreseeable future, to support wildlife populations, including special-status species. In addition, mitigation measures are identified in the Revised Draft EIR that would result in lands being set permanently aside for conservation purposes. Therefore, implementation of the identified mitigation measures would reduce any cumulative impacts from the project to a level that is less than significant.

References

All referenced documents are available for review, by appointment, at the offices of H.T. Harvey Associates, 1550 Harbor Boulevard, Suite 200, Sacramento, California 95691, (916) 371-3733, except for those identified with an internet website address.

Arnold, S. J., and T. Halliday. 1986. Life history notes: *Hyla regilla*, predation. Herp. Review 17(2):44.

Baldwin, K. S., and R. A. Stanford. 1987. Life history notes: *Ambystoma tigrinum californiense*, predation. Herp. Review 18(2):33.

Bloom, P. H. 1980. The Status of the Swainson's Hawk in California, 1979. Federal Aid in Wildlife Restoration, Project W-54-R-12, Final Report 11-8-0. California Department of Fish and Game, Wildlife Management Division, Nongame Bird and Mammal Section. Sacramento. 24pp.

Bloom, P. H., and D. Van De Water. 1994. Swainson's Hawk. pp. 150-151 *In* C. G. Thelander and M. Crabtree, editors. Life On the Edge: A Guide to California's Endangered Natural Resources: Wildlife. BioSystems Books, Santa Cruz, CA. 550 pp.

California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April 1993.

[CDFG] California Department of Fish & Game. 1994a. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607. Environmental Services Division.

[CDFG] California Department of Fish & Game. 1994b. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California.

[CDFG] California Department of Fish and Game. 1995. Staff Report on Burrowing Owl Mitigation. Sacramento, CA.

[CDFG] California Department of Fish & Game. 1999. CWHR version 7.0 personal computer program. Sacramento, CA.

CNDDB 2001. California Natural Diversity Data Base. California Department of Fish and Game. Sacramento, CA.

CNDDB 2002. California Natural Diversity Data Base. California Department of Fish and Game. Sacramento, CA.

[CNPS] California Native Plant Society. 2001. Inventory of Rare and Endangered Vascular Plants of California (6th edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, California.

Crawford Multari & Clark Associates. August 2001. Draft Environmental Impact Report for the West Patterson Business Park Master Development Plan. Prepared for the City of Patterson and Stanislaus County.

Cypher, B. L., and K. A. Spencer. 1998. Competitive interactions between coyotes and San Joaquin kit foxes. J. Mamm. 79:204-214.

Dennis, B. 1989. Allee effects: population growth, critical density, and the chance of extinction. Natural Resource Modeling 3:481-538.

Dragoo, J. W., J. R. Choate, T. L. Yates, and T. P. O'Farrell. 1990. Evolutionary and taxonomic relationships among North American arid-land foxes. J. Mamm. 71:318-322.

Estep, J. A. 1989. Biology, movements and habitat relationships of the Swainson's Hawk in the Central Valley of California, 1986-1987. California Department of Fish and Game, Wildlife Management Division, Nongame Bird and Mammal Section. 52 pp.

Fisher, R., G. Hansen, R. W. Hansen, and G. Stewart. 1994. Giant garter snake. pp. 284-287 *In* Thelander, C. G., and M. Crabtree, editors. Life On the Edge: A Guide to California's Endangered Natural Resources: Wildlife. BioSystems Books, Santa Cruz, CA. 550 pp.

Fowler, C. W., and J. D. Baker. 1991. A review of animal population dynamics at extremely reduced population levels. Report of the International Whaling Commission 41:545-554.

Garrett, R., P. Springer, D. Yparraguirre, and A. Dahl. 1994. Aleutian Canada Goose. Pages 138-139. In Thelander, C. G., and M. Crabtree, editors. Life on the edge: a guide to California's endangered natural resources: wildlife. BioSystems Books, Santa Cruz, CA. 550 pp.

Gilpin, M. E., and M. E. Soule. 1986. Minimum viable populations: processes of species extinction. pp. 19-34 *In* M. E. Soule, editor. Conservation Biology: The Science of Scarcity and Diversity. Sinauer Associates, Sunderland, MA.

Golightly, R. T. and R. D. Ohmart. 1984. Water economy of two desert canids: coyote and kit fox. J. Mamm. 65:51-58.

Grinnell, J., J. S. Dixon, and J. M. Linsdale. 1937. Furbearing Mammals of California: Their natural history, systematic status, and relations to man. University of California Press.

Hansen, G. E., and J. M. Brode. 1980. Status of the giant garter snake *Thamnophis couchi gigas* (Fitch). California Dept. Fish and Game, Inland Fish. Endangered Species Prog., Spec. Publ. 80-5. 14 pp.

Hayes, M. P. and M. M. Miyamoto. 1984. Biochemical, behavioral and body size differences between the red-legged frogs, *Rana aurora aurora* and *Rana aurora draytonii*. Copeia 1984(4):1018-1022.

Hayes, M. P. and M. R. Tennant. 1985. Diet and feeding behavior of the California red-legged frog, *Rana aurora draytonii* (Ranidae). The Southwestern Naturalist 30(4):601-605.

Hayes, M. P., and M. R. Jennings. 1988. Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytonii*) and the foothill yellow-legged frog (*Rana boylii*): implications for management. pp. 144-158 *In* R. Sarzo, K. E. Severson, and D. R. Patton (technical coordinators). Proceedings of the symposium on the management of amphibians, reptiles, and small mammals in North America. United States Department of Agriculture, Forest Service, Rocky Mountain Range and Experiment Station, Fort Collins, Colorado. General Technical Report (RM-166): 1-458.

Hickman, J. C. 1993. The Jepson Manual: Higher Plants of California. University of California Press.

Holland, R. F. 1986. Preliminary Description of the Terrestrial Natural Communities of California. California Department of Fish & Game.

Jennings, M. R. 1988. Natural history and decline of native ranids in California. pp. 61-72 *In*: H. F. De Lisle, P. R. Brown, B. Kaufman, and B. McGurty, editors. Proceedings of the Conference On California Herpetology. Southwestern Herpetologists Society, Special Publication (4):1-143.

Jennings, M. R., and M. P. Hayes. 1990. Final report of the status of the California red-legged frog (*Rana aurora draytonii*) in the Pescadero Marsh Natural Preserve. Final report prepared for the California Department of Parks and Recreation, Sacramento, California, through Agreement (4-823-9018). Department of Herpetology, California Academy of Sciences, Golden Gate Park, San Francisco, CA. 56 pp.

Jennings, M. R., and M. P. Hayes. 1994a. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA. iii+255 pp.

Jennings, M. R., and M. P. Hayes. 1994b. The decline of native ranid frogs in the desert southwest. pp. 183-211 *In* P. R. Brown and J. W. Wright, editors. Herpetology of the North American Deserts: Proceedings of a Symposium. Southwestern Herpetologists Society, Special Publication (5). iv+300 pp.

Livezey, R. L., and A. H. Wright. 1947. A synoptic key to the salientian eggs of the United States. The American Midland Naturalist 37(1):179-222.

Mayer, K.E. and Laudenslayer, W.F. 1988. A Guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. Sacramento, CA.

McGrew, J. C. 1979. *Vulpes macrotis*. Mammalian Species No. 123.

McNab, R. B., and P. F. Springer. 1989. Population, distribution and ecology of Aleutian Canada Geese on their migration and wintering areas, 1988-1989. Fifteenth Annual Study of Aleutian Canada Geese, Humboldt State University Foundation, Humboldt State University, Arcata, CA. 35 pp.

Mercure, A. K, K. Ralls, K. P. Koepfli, and R. B. Wayne. 1993. Genetic subdivisions among small canids: mitochondrial DNA differentiation of swift, kit, and arctic foxes. Evolution 47:1313-1328.

Miller, K. J., A. Willy, S. Larsen, and S. Morey. 1996. Endangered and threatened wildlife and plants: determination of threatened status for the California red-legged frog. Fed. Register 61(101):25813-25833.

Morey, S. 1988. Tiger Salamander. pp. 2-3. *In*: D. C. Zeiner, W. F. Laudenslayer, K. E. Mayer, and M. White, editors. California's Wildlife Volume 1, Amphibians and Reptiles. State of California, The Resources Agency California Fish and Game, Sacramento, CA.

Morrell, S. 1972. Life history of the San Joaquin kit fox (*Vulpes macrotis mutica*). Calif. Fish and Game Bull. 58:162-174.

Morrell, S. 1975. San Joaquin kit fox distribution and abundance in 1975. Administrative Report 75-3, California Department of Fish and Game, Sacramento, CA.

Morrison, M. L., and D. Van Vuren. 1993. Ecological relationships of ground squirrels at the Concord Naval Weapons Station. Contract Number N62474-92-LT-00L05, Final report to Western Division, Naval Facilities Engineering Command, San Bruno, CA.

O'Farrell, T. P., T. Kato, P. McCue, and M. S. Sauls. 1980. Inventory of the San Joaquin kit fox on BLM lands in southern and southwestern San Joaquin Valley. Final Report, ECC 1183-2400, EG&C, Santa Barbara Operations, U.S. Department of Energy, Goleta, CA.

O'Farrell, T. P., and P. McCue. 1981. Inventory of the San Joaquin kit fox on BLM lands in western San Joaquin Valley. Final Report, ECC 1183-2416, EG&C, Santa Barbara Operations, U.S. Department of Energy, Goleta, CA.

Orloff, S., F. Hall, and L. Spiegel. 1986. Distribution and habitat requirements of the San Joaquin kit fox in the northern extreme of their range. Trans. West Sect. Wildl. Soc. 22:60-70.

Ralls, K., P. J. White, J. Cochran, and D. B. Siniff. 1990. Kit fox-coyote relationships in the Carrizo Plain Natural Area. Annual report to the U. S. Fish and Wildlife Service, Sacramento, CA.

Rathbun, G. B., M. R. Jennings, T. G. Murphey, and N. R. Siepel. 1993. Status and ecology of sensitive aquatic vertebrates in lower San Simeon and Pico Creeks, San Luis Obispo County, California. Final report prepared for the California Department of Parks and Recreation, San Simeon Region, through Cooperative Agreement (14-16-0009-01-1909). U.S. Fish and Wildlife Service, National Ecology Research Center, Piedras Blancas Research Station, San Simeon, California. ix+103 pp.

Sawyer, J. O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society.

Sawyer, J.O. and T. Keeler-Wolf. 1997. Manual of California Vegetation. California Native Plant Society.

Scrivner, J. H., T. P. O'Farrell, T. T. Kato, and M. K. Johnson. 1987. Dispersal of San Joaquin kit foxes, *Vulpes macrotis mutica*, on Naval Petroleum Reserve #1, Kern County, California, 1980-184. Rep. No. EGG 10282-2168, EG&G Energy Measurements, Goleta, CA. 32pp.

[SCS] Soil Conservation Service. 1997. Soil Survey of Stanislaus County, California, Western Part. U.S. Department of Agriculture.

Semlitsch, R. D. 1983. Structure and dynamics of two breeding populations of the eastern tiger salamander, *Ambystoma tigrinum*. Copeia 1983:608-616.

Semlitsch, R. D. 1985. Analysis of climatic factors influencing migrations of the salamander, *Ambystoma talpoideum*. Copeia 1985:477-489.

Semlitsch, R. D., and H. M. Wilbur. 1988. Effects of pond drying time on metamorphosis and survival in the salamander, *Ambystoma talpoideum*. Copeia 1988:978-983.

Stebbins, R. C. 1954. Amphibians and Reptiles of Western North America. McGraw-Hill Book Co., Inc., New York. 52 pp.

Stebbins, R. C. 1972. Amphibians and Reptiles of California. California Natural History Guides (31). University of California Press, Berkeley.

Stebbins, R. C. 1985. A Field Guide to Western Reptiles and Amphibians. Second edition, revised. Houghton Mifflin Company, Boston, MA, 336 pp.

Storer, T. I. 1925. A synopsis of the Amphibia of California. University of California Publications in Zoology 27:1-1-342.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley. May 31, 2000.

USACE. 1987. U.S. Army Corps of Engineers Wetland Delineation Manual. Technical Report YL-87-1. Environmental Laboratory, Waterways Experiment Station, Vicksburg, MS.

USACE 2002. Nancy Haley, Chief, San Joaquin Valley Office, Letter to Mara Bresnick, Foxglove Environmental, July 2002.

U.S. Fish and Wildlife Service (USFWS). 1967. Native fish and wildlife. Endangered species. Fed. Register 32:4001.

U.S. Fish and Wildlife Service (USFWS). 1980. Blunt-nosed leopard lizard recovery plan. U.S. Fish and Wildlife Service, Portland, OR. 62 pp.

U.S. Fish and Wildlife Service (USFWS). 1991. Endangered and threatened wildlife and plants: notice of review. Fed. Register 56:58804.

U.S. Fish and Wildlife Service (USFWS). 1996. Endangered and threatened wildlife and plants: determination of threatened status for the California red-legged frog. Fed. Register 61(101):25813-25833.

U.S. Fish and Wildlife Service (USFWS). 1998. Recovery plan for upland species of the San Joaquin Valley, California. Region 1, Portland, OR. 319 pp.

U.S. Fish and Wildlife Service (USFWS). 2000a. Draft recovery plan for the California red-legged frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. 258 pp.

U.S. Fish and Wildlife Service (USFWS). 2000b. Endangered and threatened wildlife and plants: proposed designation of critical habitat for the California red-legged frog (*Rana aurora draytonii*): proposed rule. Fed. Register 65 (176): 54892-54932.

U.S. Fish and Wildlife Service (USFWS). 2002. Endangered and threatened wildlife and plants: notice of review. Fed. Register 67: 40657.

Woodbridge, B. 1998. California Partners in Flight Riparian Bird Conservation Plan for the Swainson's Hawk. Point Reyes Bird Observatory.

PERSONAL CONTACTS

Philip Irons, Assistant Planner, Stanislaus County Department of Planning and Development, 1010 10th Street, Modesto, CA 95354. (209)525-6330.

Brian Cypher, Endangered Species Recovery Program, Bakersfield, CA. April 15, 2002

Dan Williams, Endangered Species Recovery Program, Turlock, CA. May 2, 2002

Ignacio Lopez. Director of Public Works. City of Patterson, with Linda Leeman of EDAW, Inc. on July 2, 2002.

E. TRANSPORTATION AND CIRCULATION

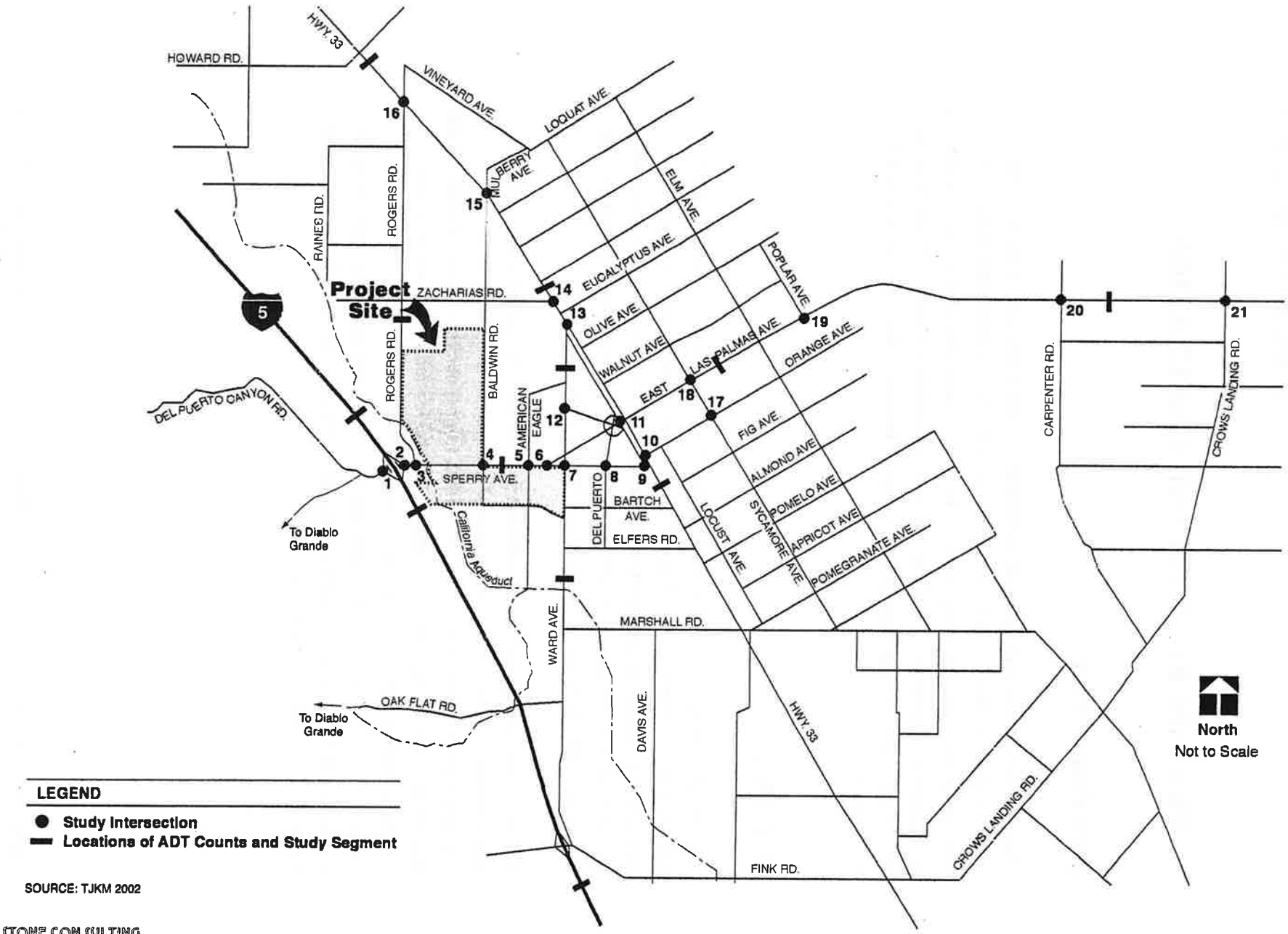
INTRODUCTION

This section describes existing traffic conditions on local roads and highways, more generally discusses bicycle and pedestrian conditions, and quantifies the traffic impacts of the proposed West Patterson projects. The section summarizes the results of a detailed traffic analysis prepared by TJKM, in *West Patterson Master Plan EIR Traffic Study in the City of Patterson*, September 2002. A copy of the text of this report is provided in Appendix D.

SETTING

The City of Patterson is located approximately 35 miles south of the junction of I-205 and I-5. Like most cities in the Central Valley, it was originally built to support the agricultural economic development of the surrounding area. However, the population growth in the last 20 years can be attributed primarily to workers who live in Patterson and work in the San Francisco-San Jose-Tri-Valley areas.

The most substantial growth occurred between 1980 and 1990, with a growth rate of approximately 120 percent to a population of approximately 8,870 in 1990. The population growth slowed somewhat after 1990, to a population of approximately 11,600 in 2000 according to the 2000 U.S. Census. This population growth has produced an overall increase in traffic volumes on roadway networks in the area. Average daily traffic (ADT) volumes were counted on major roadways and peak hour traffic volumes and turning movements were counted at major intersections in the traffic study area (see Figure III.E.1: Traffic Study Locations).



SOURCE: TJKM 2002

TURNSTONE CONSULTING

PATTERSON

FIGURE III.E.1: TRAFFIC STUDY LOCATIONS

AREA ROADWAYS

REGIONAL ROADWAYS

For regional travel, the City of Patterson relies primarily on Interstate Highway 5 (I-5), a major north-south freeway to the west of the city limits. I-5 connects to I-580, approximately 15 miles to the north of Patterson. I-5 and I-580 provide access to regional employment centers in Pleasanton, San Ramon and the rest of the San Francisco Bay Area.

Interstate 5 is a four-lane freeway near Patterson. Traffic from Patterson typically uses the interchange at Sperry Avenue. As published in the 2000 Caltrans Volume report, the peak month ADT on I-5 was 24,400 vehicles per day (vpd) to the north of Sperry Avenue. This traffic volume is a decrease compared to the 1990 peak month volume of approximately 33,500 vpd. All or most of this decrease in traffic volume appears to have occurred in the most recent two years.

The interchange of I-5/Sperry Avenue is configured as a tight diamond with a narrow local road underpass and a steep drop in grade next to the northbound on-ramp. The ramps are one lane in each direction.

State Route 33 (SR 33), approximately three miles east of I-5, is a north-south, two-lane state highway that provides access to Westley to the north and Crows Landing to the south. Four lanes are provided on SR 33 in the vicinity of Las Palmas Avenue near downtown Patterson. The ADT on SR 33 in the vicinity of the West Patterson project area is approximately 3,000 to 4,700 vpd.

LOCAL ROADWAYS

Figure III.E.1 shows the existing local street circulation in the project area. Sperry Avenue serves east-west traffic while Baldwin Road serves north-south traffic in the project vicinity.

Sperry Avenue is a two-lane major arterial that provides the main access between downtown Patterson, the West Patterson project area, and I-5. In the vicinity of I-5 east of Rogers Road, the existing ADT on Sperry Avenue is approximately 5,880 vpd. Traffic volumes have more than doubled since 1990, when the ADT was approximately 2,800 vpd, with an average growth rate of nearly 10 percent per year over the last 10 years.

There is a Class II (signed and striped) bicycle route on Sperry Avenue between SR 33 and 9th Avenue on the north (westbound) side; on the south (eastbound) side the bicycle route operates as a Class III route because it is not striped and is poorly signed.

Diablo Grande Parkway is under construction at Del Puerto Canyon Road near the I-5 Sperry Avenue interchange. This new road will connect with the Diablo Grande development to the southwest. The only existing access to Diablo Grande is via Oak Flat Road located between the Sperry Avenue and Fink Road interchanges. Diablo Grande Parkway will provide a direct connection to the freeway.

Baldwin Road is a two-lane north-south collector street between Sperry Avenue and SR 33. It is the eastern boundary of the proposed West Patterson Business Park Master Development Plan site.

Ward Avenue is a two-lane north-south collector street east of and paralleling Baldwin Road. It connects to SR 33 on the north and to I-5 near Fink Road south of the City of Patterson. Ward Avenue forms the eastern boundary of the Patterson Gardens site. A Class I bicycle path parallels Ward Avenue on the west side between Sperry Avenue and the Sports Complex to the south.

Las Palmas Avenue, east of the West Patterson project area, is a wide, two-lane major east-west arterial lined with mature palm trees. East of Sycamore Avenue it has center two-way left-turn lanes; west of Sycamore it narrows to a two-lane road. West of SR 33 and the railroad tracks, in downtown Patterson, a roundabout is formed on Las Palmas Avenue by its intersection with three other major streets: Third Street, Salado Avenue, and Del Puerto Avenue. Traffic destined for Modesto currently uses either Las Palmas Avenue or I-5 and State Route 132. East Las Palmas Avenue (which begins east of SR 33) currently carries approximately 11,700 vpd on the segment east of downtown Patterson.

Rogers Road is a two-lane north-south road on the western boundary of the West Patterson project area. The road connects Sperry Avenue to SR 33 several miles north of the project area. A count taken in 2001 showed an ADT of approximately 260 vpd.

REGULATORY FRAMEWORK

CITY OF PATTERSON GENERAL PLAN POLICIES

The Patterson General Plan Transportation and Circulation Element provides goals related to maintaining and expanding the roadway network, providing adequate parking, and promoting bicycle travel. Policies furthering these goals that are relevant to the West Patterson projects include:

III.A.1. Street design and access standards shall provide for safe and efficient movement of goods and people. Restrictive traffic control measures (such as channelization, street closures, and prohibition of some traffic movements) shall be used where appropriate to promote traffic safety and efficient traffic operation.

III.A.2. The City shall endeavor to maintain a Level of Service "C", as defined by the *1985 Highway Capacity Manual* or subsequent revisions, on all streets and intersections within the city. To identify the potential impacts of new development on traffic service levels, the City shall require the preparation of traffic impact analyses at the sole expense of the developer for developments determined to be large enough to have potentially significant traffic impacts.

III.A.4. Neighborhood streets shall be designed, where feasible, to discourage unsafe traffic speeds.

III.A.10. Industrial and commercial development shall be planned so that truck access through residential areas is avoided.

III.A.11. The City shall ensure through a combination of traffic impact fees and other funding mechanisms that new development pays its share of the costs of circulation improvements. The total cost of required improvements shall be paid for by new development.

III.D.1. To the extent feasible, the City shall provide for separation of residential and other noise-sensitive land uses from major roadways to reduce noise and air pollution impacts.

III.F.2. The City shall require provision of adequate off-street parking in conjunction with all new developments. Parking shall be located convenient to new development and shall be easily accessible from the street system. The adequacy and appropriateness of parking requirements in the *Zoning Ordinance* shall be periodically reevaluated.

III.G.1. The City shall create and maintain a safe and convenient system of pedestrian and bicycle pathways that encourages walking or bicycling as an alternative to driving. New development shall be required to pay its share of the costs for development of this pathway system.

III.G.2. The City shall establish a safe and convenient network of identified bicycle routes connecting residential areas by the shortest possible routes with recreation, shopping, and employment areas within the city. The City shall cooperate with surrounding jurisdictions in designing and implementing an area-wide bikeway system.

III.G.3. Bicycle routes shall emphasize paths separated from vehicle traffic to the maximum extent possible, but shall also include bicycle lanes within public streets. The City shall limit on-street bicycle routes to those streets where the available roadway width and traffic volumes permit safe coexistence of bicycle and motor vehicle traffic.

III.G.5. The City shall require inclusion of bicycle parking facilities at all new major public facilities and commercial and employment sites.

The City adopted a Bicycle Transportation Master Plan, amending the Transportation Element of the General Plan, in 2001. The Patterson Bicycle Master Plan is part of and consistent with the Stanislaus County Bicycle Transportation Master Plan. Goals in the Bicycle Master Plan that are relevant to the West Patterson projects include:

Goal 4. Work with employers and developers to establish requirements for facilities which encourage bicycle commuting, including safe bicycle parking facilities, shower and changing facilities and incentives for employees who regularly commute by bicycle

Goal 5. Work with residential developers to encourage bicycle-friendly development.

Goal 8. Seek opportunities to establish trails or paths on irrigation, railway or other rights-of-way.

CITY OF PATTERSON ZONING ORDINANCE

Chapter 18.72 of the Patterson Zoning Ordinance addresses off-street parking and loading requirements and provides design standards for off-street parking. Section 18.72.120 establishes the required number of off-street parking spaces for various land uses. Houses require two parking spaces, including one covered space, per dwelling unit when the houses have two or more bedrooms. Manufacturing, processing, assembly machine and trade shops and similar uses require one space per 500 sq. ft. of building floor area.

Warehouses and storage facilities require the larger of one space per 1,000 sq. ft. of building floor area or one space for every two employees on the largest shift. Truck loading requirements for commercial and industrial buildings are a minimum of one space for the first 10,000 sq. ft. of floor area and one additional space for each additional 20,000 sq. ft. or major fraction of floor area (Section 18.72.180). In Light Industrial districts, loading requirements are established based on permit review (Section 18.52.140).

STANISLAUS COUNTY GENERAL PLAN

The Circulation Element of the Stanislaus County General Plan includes policies and implementation measures related maintaining and expanding the roadway network, minimizing traffic congestion and promoting bicycle travel. Relevant policies, followed by implementation measures furthering the policy, include:

Policy I. Development will be permitted only when facilities for circulation exist, or will exist as part of the development, to adequately handle increased traffic.

I.2. Dedication and improvement of right-of-way to conform to the adopted plan line or ultimate right-of-way line shall be required as a condition of development.

I.4. Developers will pay cost of new roads and streets necessary to serve the development and pay costs to mitigate impacts to the existing roads and streets caused by the development.

Policy II. Circulation systems shall be designed and maintained to promote safety and minimize traffic congestion.

II.1. Review circulation systems of development proposals to ensure no adverse effects to adjoining land.

II.3. The County shall maintain LOS C or better for all roadways and intersections, unless they are located within the sphere of influence of a city that has adopted a lower level of service.

Policy IV. Transportation requirements of commercial and industrial development shall be considered in all planning, design, construction, and improvements.

IV.1. Dedication and improvement of right-of-way to conform to the Official Plan Line or ultimate right-of-way line shall be required as a condition of development.

IV.3. Streets in industrial and commercial zones shall be designed to accommodate truck traffic. The minimum roadway in a commercial zone shall be a 60' collector

and a 70' minor industrial shall be the minimum required width in an industrial zone.

IV.4. Developers will pay cost of new roads and streets necessary to serve the development and pay costs to mitigate impacts to the existing roads and streets caused by the development.

Policy VI. Bikeways and pedestrian paths shall be routed to provide reasonable access from residential areas to major bicycle and pedestrian traffic destinations such as schools, recreation and transportation facilities, centers of employment, and shopping areas.

VI.1. Bikeways and pedestrian paths shall be considered when constructing or improving the road and street system within a sphere of influence or other urban areas.

VI.2. To accommodate bicycle traffic, wide curb lanes (13 feet minimum) or striped bike lanes shall be considered for major streets.

EXISTING TRAFFIC CONDITIONS

Traffic conditions were analyzed for both roadway links, assessing the average daily traffic on a segment of the roadway, and for intersections during the A.M. and P.M. peak hours of traffic flow. As part of the traffic circulation study, in March 2001 TJKM conducted average daily traffic (ADT) volume counts of major roadways in the study area. Operations at intersections controlled by signals or stop signs can be evaluated using a "level of service" concept (LOS). Levels of service are defined by a range from LOS A to LOS F. LOS A represents the best condition, denoting free-flow conditions with little or no restrictions to driver behavior. LOS F denotes jammed traffic flow conditions with intolerable delays and back-ups during the peak hour. A description of the levels-of-service for signalized intersections is found in Table III.E.1. For this report, the intersection level of service analysis was conducted based on peak hour intersection LOS as defined in the *Highway Capacity Manual, Special Report No. 209*, prepared by the Transportation Research Board, updated in October 2000. The analysis uses travel speeds, length of delay, and volume-to-capacity ratios to establish the LOS. Critical movements through a signalized intersection, particularly left turn movements, are used in the analysis, and the intersection as a whole is evaluated based on the length of green time.

Of the 21 study intersections, 16 are unsignalized. The method of unsignalized intersection capacity analysis used in this study is from Chapter 10, "Unsignalized

Table III.E.1: Level of Service Criteria for Signalized Intersections

Level of Service	Type of Flow	Delay	Maneuverability	Delay/ Vehicle (s/veh)
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase and not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	> 10-20
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	> 20-35
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result in some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back ups.	> 35-55
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	> 55-80
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with oversaturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80

Sources: TJKM; *Highway Capacity Manual, Special Report No. 209,* Transportation Research Board, 2000; *Highway Capacity Manual, Special Report No. 87,* Highway Research Board, 1965.

Intersections" in the *Highway Capacity Manual*. This method applies to two-way STOP sign or YIELD sign controlled intersections (or one-way STOP sign or YIELD sign controlled intersections at three-way intersections). At such intersections, drivers on the minor street are forced to use judgment when selecting gaps in the major flow through which to execute crossings or turning maneuvers. Thus, the capacity of the controlled "legs" of an intersection is based on three factors:

- The distribution of gaps in the major street traffic stream.
- Driver judgment in selecting gaps through which to execute their desired maneuvers.
- Follow-up time required to move into the front-of-queue position.

The level of service criteria for two-way stop-controlled intersections, shown in Table III.E.2, is somewhat different from the criteria used for signalized intersections. The primary reason for this is that drivers expect a signalized intersection to carry higher traffic volumes than unsignalized intersections.

Table III.E.2: Level of Service Criteria for Unsignalized Intersections

Control Delay (sec/veh)	Level of Service	Delay
0-10	A	Little or no delay
> 10-15 s/veh	B	Short traffic delays
> 15-25 s/veh	C	Average traffic delays
> 25-35 s/veh	D	Long traffic delays
>35-50 s/veh	E	Very long traffic delays
> 50 s/veh	F	Extreme traffic delay

Notes:
sec/veh = seconds per vehicle

Source: TJKM, 2002; *Highway Capacity Manual, Special Report No. 209*, Transportation Research Board, 2000.

Additionally, driver behavior makes delays at signalized intersections less onerous than at unsignalized intersections.

The LOS is analyzed for both the minor approach and the whole intersection. Depending on the availability of gaps, the minor approach might be operating at LOS D, E or F

while the intersection LOS operates at LOS C or better. A minor approach that operates at LOS D, E or F does not automatically translate into a need for a traffic signal. A signal warrant (a technical analysis showing whether a traffic signal would improve intersection operations and is justified) would still need to be met. There are many instances where only a few vehicles are experiencing LOS D, E or F on the minor approach while the overall intersection operates at an acceptable LOS. A signal warrant analysis generally shows that a signal is not needed under these conditions.

EXISTING TRAFFIC LEVELS OF SERVICE

Based on consultation with the City, County, and the Stanislaus County Council of Governments staff (StanCOG), 21 intersections and 11 roadway segments were selected for analysis. These intersections were selected based on their proximity to the project site, geographic constraints, and an examination of the expected dispersion of project traffic on the area's road network. AM and PM peak hour turning movement counts were obtained during February 2002. The locations of the study intersections and roadway segments are shown in Figure III.E.1, p. III.E.2. The intersection level of service analysis results are provided in Table III.E.3. All study intersections currently operate at LOS C or better during the morning and afternoon peak hour, and thus operate at acceptable levels. The roadway segment level of service analysis, assessing ADT, is presented in Table III.E.4. As shown, all roadway segments operate at LOS C or better, meeting the standards established in the *Patterson General Plan* policy III.A.2.

OTHER MODES OF TRAVEL

BICYCLES AND PEDESTRIANS

The intent of the City's *General Plan* is to encourage pedestrian and bicycle travel. New development is expected to pay its fair share of the costs for development of a pathway system to connect residential areas with recreation, shopping, and employment areas within the City, and where practical, as part of a region-wide bikeway system. The *General Plan* specifies that while some bicycle lanes shall be included within public streets, the emphasis shall be on paths separated from vehicle traffic to the maximum extent possible.

Table III.E.3: Existing Intersection Levels of Service

	Existing Intersection Control	AM		PM	
		Delay	LOS	Delay	LOS
1. Sperry Ave/I-5 SB Off-Ramps	Unsignalized	10.0	A	13.5	B
2. Sperry Ave/I-5 NB On-Ramps	Unsignalized	8.8	A	11.4	B
3. Sperry Ave/Rogers Road	Signalized	6.0	A	8.4	A
4. Sperry Ave/Baldwin Rd	Unsignalized	10.1	B	11.4	B
5. Sperry Ave/American Eagle Dr	Signalized	4.5	A	3.6	A
6. Sperry Ave/Las Palmas Ave	Unsignalized	9.1	A	9.2	A
7. Sperry Ave/Ward Ave	Signalized	5.0	A	5.1	A
8. Sperry Ave/S Del Puerto Ave	Signalized	4.4	A	5.4	A
9. Sperry Ave/SR-33	Unsignalized	8.7	A	10.6	B
10 First St/Orange Ave	Unsignalized	8.9	A	9.5	A
11. SR-33/Las Palmas Ave	Signalized	10.5	B	18.4	B
12. Ward Ave/ Salado Ave	Unsignalized	13.9	B	12.1	B
13. Ward Ave/SR-33	Unsignalized	11.4	B	0.8	A
14. Zacharias Rd/SR-33	Unsignalized	10.0	A	11.1	B
15. Baldwin Rd/SR-33	Unsignalized	10.4	B	0.3	A
16. Rogers Rd/SR-33	Unsignalized	11.0	B	12.3	B
17. Sycamore Ave/Orange Ave	Unsignalized	9.6	A	9.9	A
18. Sycamore Ave/E. Las Palmas Ave	Unsignalized	17.2	C	15.4	C
19. E.Las Palmas/ Poplar Ave	Unsignalized	12.4	B	13.8	B
20. West Main/Carpenter Rd	Unsignalized	9.5	A	18.3	C
21. West Main/Crows Landing Rd	Unsignalized	11.6	B	14.8	B

Notes:
LOS = Level of Service
Delay =Average stopped delay at signalized intersections and average delay for all movements at STOP-controlled intersections, in seconds per vehicle

Source: TJKM, 2002

Table III.E.4: Existing Roadway Segments Levels of Service

Study Segments	Peak Direction	AM Volume	AM LOS	PM Volume	PM LOS
1. I-5 N of Sperry Ave.[1]	NB	2,107	C	1,319	B
	SB	1,301	B	2,190	C
2. I-5 S of Sperry Ave.[1]	NB	1,918	B	1,286	A
	SB	1,282	B	1,927	B
3. I-5 S of Fink Rd.[1]	NB	1,920	B	1,248	A
	SB	1,278	B	1,910	B
4. Sperry Ave.[2]	EB	67	A	344	A
	WB	227	A	116	A
5. SR-33 N of Rogers Rd.[2]	NB	254	A	264	A
	SB	194	A	398	A
6. SR-33 N of Zacharias Rd.[2]	NB	242	A	243	A
	SB	181	A	374	A
7. SR-33 S of Sperry Ave.[2]	NB	209	A	190	A
	SB	135	A	300	A
8. Ward Ave N of American Eagle[2]	NB	59	A	66	A
	SB	72	A	107	A
9. Ward Ave N of Marshall Rd.[2]	NB	8	A	34	A
	SB	28	A	36	A
10. E. Las Palmas Ave E of Sycamore Ave.[2]	EB	458	A	438	A
	WB	349	A	401	A
11. Main St E of Carpenter Rd.[2]	EB	190	A	293	A
	WB	155	A	218	A

Notes:
1. Highway Capacity Manual 2000 – Basic Freeway Segment analysis.
2. Highway Capacity Manual 2000 – Urban Streets analysis

Source: TJKM, 2002.

In the West Patterson project area there are few sidewalks or bicycle paths and relatively few land uses that would attract pedestrian traffic. There is a Class I (separated from the roadway) bicycle and pedestrian path paralleling Ward Avenue south of Sperry Avenue that leads to the Sports Complex.

TRANSIT

Sperry Avenue is currently not served by any public transit services, nor are any other locations within reasonable walking distance of the West Patterson project area. The Stanislaus Regional Transit system (START) provides the Runabout service route between downtown Patterson and Turlock. From Turlock, the route travels west and uses Las Palmas Avenue and then turns south on SR 33 to end in Newman.

IMPACTS AND MITIGATION

APPROACH

SIGNIFICANCE CRITERIA

A project would normally have a significant effect on the environment if it would cause an increase in traffic which is substantial in relation to the existing or future baseline traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections), or change the condition of an existing street (i.e., through street closure, or change to direction of travel) in a manner that would substantially affect access or traffic load and capacity of the street system. Specifically, for the City of Patterson, a project-generated increase in traffic is considered to be significant if it would result in any of the following:

- At a signalized intersection, the project traffic would cause the intersection level of service (LOS) to deteriorate below LOS C.
- At a side street stop-controlled study intersection, where the intersection currently does not satisfy traffic signal warrants, the project would cause one or more traffic signal warrants to be satisfied.
- At a side street stop-controlled study intersection, where the intersection currently does not satisfy traffic signal warrants, if the project would not cause traffic to satisfy one or more traffic signal warrants, but would cause the critical movement(s) at the intersection to degrade to worse than LOS D (or from LOS E to LOS F), and where the increase in minor street critical delay would involve more than 30 peak-hour vehicles and is judged high enough such that an unsafe condition could prevail.

Stanislaus County considers that project traffic resulting in service levels deteriorating below LOS C to cause significant traffic impacts.

METHODOLOGY AND ASSUMPTIONS

The following scenarios are analyzed in the traffic impact analysis:

- Existing plus Project
- Future 2025 Baseline (projected population and employment reflective of the City's growth scenario for 2025)
- Future 2025 Baseline plus Project

The impacts of traffic from the West Patterson projects on the surrounding transportation system were assessed by establishing project trip generation, trip distribution, and trip assignment, in order to assign project-generated traffic to roadway segments and intersections. This information was used in traffic computer models to compare existing traffic conditions with existing-plus-project conditions to determine the effects of project-generated traffic on the study intersections and roadway segments. For future impacts, a 2025 future baseline was established, including assumptions about growth in Patterson and in Stanislaus County, and project trips were added to this future baseline.

Travel Demand Analysis

A long-range traffic forecasting model was used to assess the impact of the proposed West Patterson projects. The countywide gravity-based computer model prepared by the Stanislaus Council of Governments (StanCOG) was used in the study. The current StanCOG model is a daily model, reporting average daily traffic on roadway segments. The model estimates the daily trips using a trip generation equation for each land use type. After trip generation, the model distributes all the trips between their origins and destinations onto the roadway network in the model and assigns trips to individual streets.

As part of this traffic analysis, an A.M. and P.M. peak hour model was developed from the StanCOG model. The model was calibrated based on the counts collected at the 21 study intersections and 11 roadway segments. Model calibration is a process to adjust the model results to approximate measured existing traffic conditions based on recent traffic counts at the study locations. After calibration, the forecast traffic on the 21 study intersections and 11 roadway links in the model reflected accuracy to within five percent of measured traffic counts. Traffic Analysis Zones (TAZs) were established to represent geographical locations in the traffic study area in the computer model. Trips are

generated at the TAZ level and distributed onto the roadway network. The TAZs are shown on Figure III.E.2.

Trip Generation

A summary of the land uses for the proposed West Patterson projects is shown in Table III.E.5. The non-residential land use proposed in the West Patterson projects would provide potential employment for existing and future Patterson residents, including residents in the Walker Ranch and Patterson Ranch residential developments located east of the proposed West Patterson Business Park Master Development Plan area across Baldwin Road, and for residents in the Diablo Grande development to the southwest of I-5.

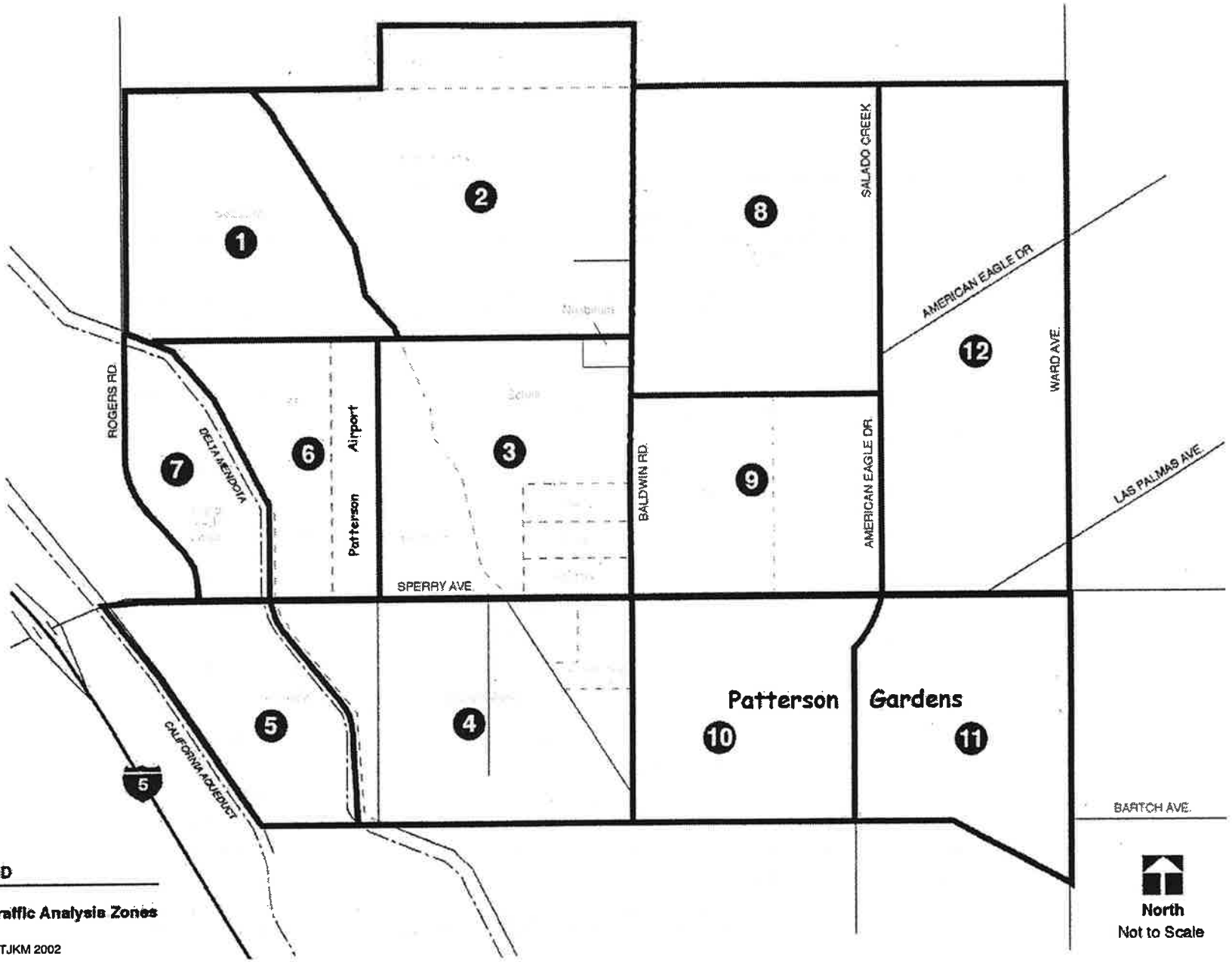
Trip generation for the study area is based on the StanCOG model. The trip generation rates in the model represent the number of trips (including the trip origination and trip destination ends) for each of the land use types based on employment assumptions. A summary of the trip generation associated with the land uses for the proposed West Patterson projects are shown in Table III.E.5. The West Patterson projects would generate approximately 8,582 vehicle trips and 9,360 vehicle trips, respectively during the A.M. and P.M. peak hours.

Trip Distribution/Assignment

After trip generation, the projected study area trips were distributed onto the model network. For modeling purposes, generated trips are generally produced at the home end and attracted to a destination (usually the employment end). The model balances productions and attractions trips for the whole model and distributes the total trips onto the model roadway network.

Future Roadway Improvements

Stanislaus County has funded a portion of the plan to widen Sperry Avenue between I-5 and Baldwin Avenue from two to four lanes with a landscaped median. The plans for Sperry Avenue also include exclusive single left turn lanes at some intersections to accommodate future traffic growth. Because this is a funded project, it has been generally included in assumptions about future traffic conditions. Future conditions also



SOURCE: TJKM 2002

FIGURE III.E.2: TRAFFIC ANALYSIS ZONES

TABLE III.E.5: WEST PATTERSON PROJECTS TRIP GENERATION

TAZ[1]	Land Use[2]	Name[3]	Size	Units	Emp.	A.M. In	A.M. Out	A.M. Total	P.M. In	P.M. Out	P.M. Total
1	R & D	Cozzens north	439,085	SF	2,435	760	256	1,016	313	791	1,104
	Lt. Industrial		1,006,236	SF							
2	R & D	Keystone Pacific	627,264	SF	4,555	1,389	461	1,850	562	1,443	2,004
	Lt. Industrial		2,130,084	SF							
3	R & D	Schali, Beuhner, Lewis, Rea, Falzone	1,599,523	SF	3,178	1,098	420	1,519	513	1,160	1,672
4	R & D	Bizzanelli Ranch, Hansen east	1,704,067	SF	3,385	1,174	478	1,651	546	1,239	1,786
5	Hwy. Comm.	Hansen west	473,933	SF	1,481	641	313	954	351	664	1,015
	Lt. Industrial		392,040	SF							
6	R & D	Cozzens south,	606,355	SF	1,205	421	160	581	196	444	640
10	Residential	Patterson Gardens (Calvinson west)	440	du	--	48	170	218	187	71	258
11	Residential	Patterson Gardens (Calvinson east) and Middle School	547	du	--	410	383	793	427	453	880
	Comm./Office	GPA	302,481	SF	746						
			Total Trips			5,941	2,641	8,582	3,095	6,265	9,360

Notes:

SF = square feet
du = dwelling units

1. TAZ means Transportation Analysis Zone. See Figure III.E 2 for a map showing the TAZs. Note that TAZs 7-9 and 12 are not within the West Patterson projects area and therefore are not listed above. Development in those TAZs is included in the future 2025 cumulative traffic analysis.
2. Land uses in the West Patterson projects area include R&D (research & development and similar uses), Lt. Industrial (light industrial); Hwy. Comm (highway commercial); Comm./Office (retail, other commercial and office uses); and residential.
3. See Figure II.3 in the Project Description for a map showing property ownership in the West Patterson projects area.

Source: TJKM, 2002

include an assumption that there would be two new intersections with Sperry Avenue in the West Patterson projects area. The traffic analysis was carried out before the details of the Sperry Avenue improvements had been completed. Therefore, the EIR analysis assumes widening between Baldwin Avenue and Rogers Road, just east of the I-5/Sperry Avenue interchange, and provides a more conservative analysis of traffic impacts because it does not assume the additional improvements between Rogers Road and the freeway ramps have been constructed. As discussed below, impacts of future traffic growth from the West Patterson projects and overall growth in the region would require additional traffic signals and turning lanes at various intersections to enable Sperry Avenue to handle the projected traffic volumes. Mitigation measures are identified that would add signals and turning lanes at appropriate intersections.

PROJECT IMPACTS AND MITIGATION

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

Impact E.1. Traffic generated by full buildout of the proposed project would affect traffic levels of service at local intersections in the project vicinity in the near-term Existing-plus-Project scenario. (Significant)

Based on the calibrated existing roadway network, the proposed project traffic was distributed onto the roadway system. Table III.E.6 shows the existing-plus-project intersection levels of service for the 21 study intersections and the two new intersections assumed on Sperry Avenue. Based on the existing intersection and roadway geometry, 16 of the 21 study intersections would deteriorate to worse than LOS C conditions for at least one of the peak hours. The two new intersections with Sperry Avenue would need to include installation of traffic signals.

Five of the 21 study intersections would operate at acceptable LOS C or better with traffic generated by full buildout of the West Patterson projects. Without mitigation, all intersections along Sperry Avenue except at South del Puerto Avenue would operate at unacceptable LOS E or F during the morning peak hour. During the afternoon peak hour, all study intersections along Sperry Avenue except South Del Puerto Avenue and American Eagle Drive would operate at LOS E or F. The intersections at the I-5 freeway ramps would operate at LOS E or F during the A.M. and P.M. peak hours. All study

Table III.E.6: Existing Plus Project Intersection Levels of Service

	Existing plus Project Intersection Control (Mitigated)	*Existing Condition*				*Existing plus Project Condition*							
		AM		PM		AM		AM –Mitigated		PM		PM - Mitigated	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Sperry Ave/I-5 SB Off-Ramps	**Signalized**	10.0	A	13.5	B	>120	**F**	8.3	A	>120	**F**	24.1	C
2. Sperry Ave/I-5 NB On-Ramps	**Signalized**	8.8	A	11.4	B	>120	**F**	6.9	A	42.5	**E**	5.3	A
3. Sperry Ave/Rogers Road	Signalized	6.0	A	8.4	A	116.0	**F**	19.0	B	>120	**F**	23.0	C
4. Sperry Ave/Baldwin Rd	**Signalized**	10.1	B	11.4	B	>120	**F**	20.0	B	>120	**F**	23.6	C
5. Sperry Ave/American Eagle Dr	Signalized	4.5	A	3.6	A	98.6	**F**	15.1	B	32.2	C	7.0	A
6. Sperry Ave/Las Palmas Ave	**Signalized**	9.1	A	9.2	A	>120	**F**	11.5	B	>120	**F**	22.7	C
7. Sperry Ave/Ward Ave	Signalized	5.0	A	5.1	A	56.7	**E**	25.1	C	12.3	B	13.8	B
8. Sperry Ave/S Del Puerto Ave	Signalized	4.4	A	5.4	A	8.4	A	--	--	23.2	C	--	--
9. Sperry Ave/SR-33	**Signalized**	8.7	A	10.6	B	88.6	**F**	7.6	A	>120	**F**	29.7	C
10 First St/Orange Ave	Unsignalized	8.9	A	9.5	A	10.0	A	--	--	10.4	B	--	--
11. SR-33/Las Palmas Ave	**Signalized**	10.5	B	18.4	B	29.0	**C**	--	--	22.6	C	--	--
12. Ward Ave/ Salado Ave	**Signalized**	13.5	B	12.1	B	77.4	**F**	10.0	B	15.1	C	3.8	A
13. Ward Ave/SR-33	**Signalized**	11.4	B	0.8	A	42.3	**E**	7.1	A	69.7	**F**	17.3	B
14. Zacherias Rd/SR-33	**Signalized**	10.0	A	11.1	B	19.9	C	12.9	B	>120	**F**	20.8	C
15. Baldwin Rd/SR-33	**Signalized**	10.4	B	0.3	A	25.6	B (D)	5.9	A	>120	**F**	12.8	B
16. Rogers Rd/SR-33	**Signalized**	11.0	B	12.3	B	44.4	**E**	6.3	A	>120	**F**	17.5	B
17. Sycamore Ave/Orange Ave	Unsignalized	9.6	A	9.9	A	10.0	B	--	--	10.2	B	--	--
18. Sycamore Ave/E. Las Palmas Ave	**Signalized**	17.2	C	15.4	C	>120	**F**	12.5	B	>120	**F**	13.0	B
19. E. Las Palmas/ Poplar Ave	**Signalized**	12.4	B	13.8	B	54.6	**F**	3.5	A	>120	**F**	19.4	B
20. West Main/Carpenter Rd	**Signalized**	9.5	A	18.3	C	>120	**F**	27.5	C	>120	**F**	20.6	C
21. West Main/Crows Landing Rd	**Signalized**	11.6	B	14.8	B	>120	**F**	15.7	B	>120	**F**	8.9	A
22. Sperry Ave/Proposed Road A	**Signalized**	--	--	--	--	--	--	11.9	B	--	--	28.7	C
23. Sperry Ave/Proposed Road B	**Signalized**	--	--	--	--	--	--	29.1	C	--	--	23.0	C

Note:
LOS = Level of Service; LOS below acceptable levels shown in **bold**.
s/veh = seconds per vehicle
Delay = average stopped delay at signalized intersections, and average delay for all movements at STOP-controlled intersections.
Assumes Sperry Avenue widened to four lanes between Ward Avenue and Rogers Road.
Intersection controls in **bold** show mitigated conditions

Source: TJKM, 2002.

intersections along State Route 33 would operate at LOS F in the afternoon peak hour except at Las Palmas Avenue. In the morning the intersections of Spring Avenue, Ward Avenue, and Rogers Road with SR 33 would operate at LOS E or F. The other three study intersections along SR 33 would operate at an acceptable LOS C or better.

Sycamore Avenue at East Las Palmas, East La Palmas at Palmer, West Main at Carpenter, and West Main at Crows Landing Road would all operate at LOS F during both A.M. and P.M. peak hours. Ward Avenue at Salado Avenue would operate at an acceptable LOS C in the afternoon peak, but LOS F in the morning peak. Orange Avenue at First Street and at Sycamore would operate at an acceptable LOS A or B in both morning and afternoon peak hours.

Mitigation measures would be necessary at these intersections for them to operate at acceptable levels of service. In addition to widening Sperry Avenue between Rogers Road and Ward Avenue, already assumed to occur, Sperry Avenue would need to be widened beyond Rogers Road to the I-5 ramps, as is planned, and 14 of the 21 study intersections (plus two more at the project driveways) would need to be signalized, to operate at acceptable LOS C or better. The intersections that would require signalization are shown in bold in the "Existing plus Project Intersection Control" column in Table III.E.6. New, exclusive left turn lanes would be needed at 10 of the 21 study intersections. Table III.E.6 provides LOS and vehicle delays for the mitigated condition. Mitigation measures are described more specifically below.

Mitigation Measure E.1.

The City and County shall construct the intersection improvements listed below as new buildings are constructed and occupied in the West Patterson project area with sufficient employment to cause LOS to deteriorate below City and County standards. Triggers for implementation of mitigation measures are provided in the discussion of phasing under Cumulative Impacts in Mitigation Measure E.6.

The City and/or County shall establish a community facilities funding district or other financing mechanism, and project sponsors planning to develop in the West Patterson project area shall contribute a fair share of the costs of traffic mitigation.

Measure E.1.a: Intersection 1. Sperry Ave/I-5 SB Off-Ramps. Signalize intersection and add southbound left-turn lane.

Measure E.1.b: Intersection 2. Sperry Ave/I-5 NB On-Ramps. Signalize intersection and add eastbound left-turn and through lanes, add a westbound through lane and a northbound right-turn lane. Widen Sperry Avenue between ramps and Rogers Road.

Measure E.1.c: Intersection 3. Sperry Ave/Rogers Road. Signalize intersection and add an eastbound through lane; in the westbound direction, add two left-turn lanes, and a through lane; in the northbound direction, add left, through and right turn lanes.

Measure E.1.d: Intersection 4. Sperry Ave/Baldwin Road. Signalize the intersection and in the eastbound direction add a left-turn lane and a right-turn lane; in the westbound direction, add a left-turn lane, a through lane and a right-turn lane; in the northbound direction, add a left-turn lane.

Measure E.1.e: Intersection 5. Sperry Ave/American Eagle Drive. Add an eastbound through lane; in the northbound direction, add a left-turn lane and a shared through/right-turn lane.

Measure E.1.f: Intersection 6. Sperry Ave/Las Palmas Avenue. Add a through lane at the eastbound approach; add a westbound left-turn lane; on the northbound approach, add a left-turn lane and a shared through/right-turn lane.

Measure E.1.g: Intersection 7. Sperry Ave/Ward Ave. Add a through lane at the eastbound approach.

Measure E.1.h: Intersection14. Zacharias Rd/SR-33. On the eastbound approach, add a right-turn lane; on the northbound approach on SR-33, add a left-turn lane.

Measure E.1.j: Intersection 19. E. Las Palmas/ Poplar Ave. On the southbound approach, add a left-turn lane; add a right-turn lane to the westbound approach.

Measure E.1.k: Intersection 20. West Main/Carpenter Rd. Add a left-turn lane to the eastbound and westbound approaches.

Measure E.1.l: Intersection 21. West Main/Crows Landing Rd. Signalize the intersection; add left-turn lanes on the eastbound and westbound approaches; in the southbound and northbound directions, add right-turn lanes.

With implementation of this mitigation measure, LOS at all intersections would improve to acceptable LOS C or better, as shown in Table III.E.6 in the "A.M. Mitigated" and "P.M. Mitigated" columns. Mitigation measures implemented at intersections along State Route 33 may involve construction within property under the jurisdiction of the California Department of Transportation. An encroachment permit may be required from Caltrans before these measures could be constructed.

Impact E.2. Traffic generated by buildout of the proposed West Patterson projects would affect levels of service on freeway and roadway segments in the project vicinity. (Less than Significant)

The roadway link levels-of-service analysis results are shown in Table III.E.7. Based on the existing roadway lane configurations, the study area roadways and freeway segments operate at LOS C or better with existing traffic volumes. (Freeway and roadway segments analyzed are shown on Figure III.E.1.)

Under the Existing-plus-Project scenario, most roadway segments would continue to operate at LOS C or better with traffic generated by buildout of the West Patterson projects using the existing roadway network, except Sperry Avenue. The projected traffic on Sperry Avenue would operate at LOS F on the existing two-lane road in the westbound direction in the morning and the eastbound direction in the afternoon. Assuming that Sperry Avenue would be widened to four lanes, traffic would operate at LOS C or better, as shown in parentheses in the LOS columns in Table III.E.8 (see "Future Roadway Improvements," above for a description of the County's plan to widen most of Sperry Avenue to four lanes).

Mitigation Measure. No mitigation necessary

BICYCLE AND PEDESTRIAN CONDITIONS

Impact E.3. The West Patterson projects would contribute to the demand for bicycle and pedestrian facilities in the project area. (Less than Significant)

Data from the 2000 census show that in the more rural counties in California, like Sonoma and Solano Counties, bike trips average less than two percent and walk trips average lower than three percent of total travel. The West Patterson projects would include pedestrian facilities and additional bicycle facilities. New, landscaped pedestrian pathways are proposed along Sperry Avenue and as part of the new landscaping along Salado Creek

Table III.E.7: Existing and Project Roadway Segment Levels of Service

Study Segments	Peak Direction	Existing Conditions AM Volumes	Existing Conditions AM LOS	Existing Conditions PM Volumes	Existing Conditions PM LOS	Existing plus Project Conditions AM Volumes	Existing plus Project Conditions AM LOS	Existing plus Project Conditions PM Volumes	Existing plus Project Conditions PM LOS
1. I-5 N of Sperry Ave.[1]	NB	2,107	C	1,319	B	2,603	C	2,159	C
	SB	1,301	B	2,190	C	2,035	B	2,725	C
2. I-5 S of Sperry Ave.[1]	NB	1,918	B	1,286	A	2,270	C	1,379	B
	SB	1,282	B	1,927	B	1,337	B	2,341	C
3. I-5 S of Fink Rd.[1]	NB	1,920	B	1,248	A	1,975	B	1,264	B
	SB	1,278	B	1,910	B	1,282	B	1,967	B
4. Sperry Ave.[2]	EB	67	A	344	A	565	C(C)	2,008	F(C)
	WB	227	A	116	A	1,929	F(C)	804	C(C)
5. SR-33 N of Rogers Rd.[2]	NB	254	A	264	A	584	A	928	B
	SB	194	A	398	A	911	B	753	B
6. SR-33 N of Zacharias Rd.[2]	NB	242	A	243	A	409	A	305	A
	SB	181	A	374	A	241	A	549	A
7. SR-33 S of Sperry Ave.[2]	NB	209	A	190	A	690	A	340	A
	SB	135	A	300	A	247	A	778	B
8. Ward Ave., N of American Eagle[2]	NB	59	A	66	A	147	A	146	A
	SB	72	A	107	A	140	A	184	A
9. Ward Ave., N of Marshall Rd.[2]	NB	8	A	34	A	234	A	46	A
	SB	28	A	36	A	12	A	360	A
10. E. Las Palmas Ave E of Sycamore Ave.[2]	EB	458	A	438	A	655	A	889	B
	WB	349	A	401	A	953	B	718	A
11. Main St., E of Carpenter Rd.[2]	EB	190	A	293	A	305	A	718	A
	WB	155	A	218	A	725	B	408	A

Notes:
[1]Highway Capacity Manual 2000 – Basic Freeway Segments Analysis
[2]Highway Capacity Manual 2000 –Urban Streets Analysis.
LOS (C) - Mitigated LOS based on four lane Sperry Avenue
All other roadway segments based on existing lane configurations.

Source: TJKM, 2002.

Table III.E.8: Existing-Plus-Keystone Pacific Business Park Levels of Service

	Existing Traffic Control	Existing plus Project Intersection Control (Mitigated)	*Existing Condition* AM Delay	AM LOS	PM Delay	PM LOS	*Existing plus Keystone Pacific Condition* AM Delay	AM LOS	AM -Mitigated Delay	AM -Mitigated LOS	PM Delay	PM LOS	PM - Mitigated Delay	PM - Mitigated LOS
1. Sperry Ave/I-5 SB Off-Ramps	Unsignalized	**Signalized**	10.0	A	13.5	B	11.4	B	4.4	A	37.9	**E**	12.7	B
2. Sperry Ave/I-5 NB On-Ramps	Unsignalized	Unsignalized	8.8	A	11.4	B	10.3	B	--	--	12.2	B	--	--
3. Sperry Ave/Rogers Road	Signalized	Signalized	6.0	A	8.4	A	6.1	A	--	--	8.8	A	--	--
4. Sperry Ave/Baldwin Rd	Unsignalized	**Signalized**	10.1	B	11.4	B	18.9	C	3.3	A	>120	**F**	18.3	B
5. Sperry Ave/American Eagle Dr	Signalized	Signalized	4.5	A	3.6	A	5.3	A	--	--	4.7	A	--	--
6. Sperry Ave/Las Palmas Ave	Unsignalized	Unsignalized	9.1	A	9.2	A	13.2	B	--	--	11.4	B	--	--
7. Sperry Ave/Ward Ave	Signalized	Signalized	5.0	A	5.1	A	6.4	A	--	--	5.4	A	--	--
8. Sperry Ave/S Del Puerto Ave	Signalized	Signalized	4.4	A	5.4	A	6.6	A	--	--	9.7	A	--	--
9. Sperry Ave/SR-33	Unsignalized	Unsignalized	8.7	A	10.6	B	12.5	B	--	--	16.2	C	--	--
10 First St/Orange Ave	Unsignalized	Unsignalized	8.9	A	9.5	A	9.6	A	--	--	9.5	A	--	--
11. SR-33/Las Palmas Ave	Signalized	Signalized	10.5	B	18.4	B	17.8	B	--	--	20.6	C	--	--
12. Ward Ave/ Salado Ave	Unsignalized	Unsignalized	13.5	B	12.1	B	17.1	C	--	--	12.4	B	--	--
13. Ward Ave/SR-33	Unsignalized	Signalized	11.4	B	0.8	A	21.0	C	19.6	C	26.1	**D**	22.9	C
14. Zacharies Rd/SR-33	Unsignalized	Unsignalized	10.0	A	11.1	B	12.5	B	--	--	21.0	C	--	--
15. Baldwin Rd/SR-33	Unsignalized	**Signalized**	10.4	B	0.3	A	14.8	B	4.9	A	43.0	**E**	8.4	A
16. Rogers Rd/SR-33	Unsignalized	Unsignalized	11.0	B	12.3	B	15.8	C	--	--	23.1	C	--	--
17. Sycamore Ave/Orange Ave	Unsignalized	Unsignalized	9.6	A	9.9	A	10.5	B	--	--	10.5	B	--	--
18. Sycamore /E. Las Palmas	Unsignalized	**Signalized**	17.2	C	15.4	C	>120	**F**	8.0	A	>120	**F**	12.2	B
19. E.Las Palmas/ Poplar Ave	Unsignalized	Unsignalized	12.4	B	13.8	B	19.9	C	--	--	21.8	C	--	--
20. West Main/Carpenter Rd	Unsignalized	**Signalized**	9.5	A	18.3	C	22.7	C	7.7	A	>120	**F**	8.7	A
21. West Main/Crows Landing Rd	Unsignalized	**Signalized**	11.6	B	14.8	B	24.1	C	10.6	B	78.7	**F**	10.2	B

Notes:

LOS = Level of Service; LOS below acceptable levels is shown in **bold.**

X = Intersection level of service

X.X = Overall intersection delay in seconds per vehicle

Delay =Average stopped delay at signalized intersections and average delay for all movements at STOP-controlled intersections.

Same mitigation measures assumed for both AM and PM peak hours as appropriate; mitigation measures include new signals as shown in **bold.**

Source: TJKM, 2002.

The City's Bicycle Transportation Master Plan recommends an upgrade of the current Class III bike route on Sperry Avenue between SR 33 and Ward Avenue to a Class II bike lane. In addition, the Bicycle Master Plan also recommends a Class I bike path from Ward Avenue to the California Aqueduct. In order to provide sufficient width for turn lanes on Sperry Avenue to handle future traffic, a Class II bicycle lane is not proposed for Sperry Avenue. Instead, the Keystone Pacific Business Park would include a bicycle lane in the improvements to Baldwin Road and bicycle lanes are proposed in Patterson Gardens connecting the new bike lane in Baldwin Road to an improved bike lane already found in Ward Avenue south of Sperry Avenue In addition, the Patterson Gardens proposal includes a bicycle lane as part of the landscaping along Salado Creek.

The Patterson *General Plan* calls for providing a safe and convenient system of pedestrian pathways to encourage walking (Policy III.G.3). New residential streets should be designed with the basic concept of being walkable, avoiding circuitous routes. Recent research indicates that narrower streets and grid systems promote walkable communities.

It is likely that implementation of the bike lanes in Baldwin Road and within the Patterson Gardens project, and the pedestrian paths on Sperry Avenue and along Salado Creek would make bicycling and walking more attractive modes of travel for future workers and residents in the West Patterson area. Development in the West Patterson project area would not cause significant impacts to existing bicycle and pedestrian facilities or significant impacts to new bicyclists or pedestrians.

Mitigation Measure. No mitigation necessary.

KEYSTONE PACIFIC BUSINESS PARK

Transportation Analysis Zone 2 encompasses the Keystone Pacific Business Park (see Figure III.E.1). As shown on Table III.E.5, development and occupancy of the Keystone Pacific Business Park alone would generate about 1,850 trips in the A.M. peak hour and about 2,005 trips in the P.M. peak hour. This would be about 21 percent of total travel from the West Patterson projects.

Impact E.4. Construction and occupation of the Keystone Pacific Business Park would affect traffic service levels at local intersections in the project study area when added to existing traffic volumes. (Significant)

Traffic from the Keystone Pacific Business Park was analyzed separately, using the same methodologies described above for the West Patterson projects. The results of the analysis of the Keystone Pacific Business Park, added to existing traffic volumes, are shown in Table III.E.8. With traffic from Keystone Pacific Business Park, 7 of the 21 study intersections would operate below LOS C.

The intersection at Sperry Avenue and Baldwin Road would operate at LOS F in the morning and afternoon peak hours. Intersections at Sycamore Avenue and East Las Palmas, West Main and Carpenter Road, and West Main and Crows Landing Road would operate at LOS F in the afternoon peak hour. Baldwin Road at State Route 33 and Sperry Avenue at the I-5 southbound off ramps would operate at LOS E in the afternoon peak hour, and Ward Avenue at State Route 33 would operate at LOS D in the afternoon peak hour. All other study intersections would continue to operate at an acceptable LOS C or better with traffic from the Keystone Pacific Business Park.

Mitigation measures would be needed for these intersections to operate at acceptable levels of service. In addition to widening Sperry Avenue between Ward Avenue and Rogers Road, already assumed to occur, six of the seven intersections would need new traffic signals as identified in bold in Table III.E.8 in the "Existing plus Project Intersection Control (Mitigated)" column, and four would need new exclusive turn lanes at one or more approaches, as described below.

Mitigation Measure E.4.

The City and County shall construct the intersection improvements listed below as new buildings are constructed and occupied in the Keystone Pacific Business Park with sufficient employment to cause LOS to deteriorate below City and County standards. Triggers for implementation shall be as shown below under Mitigation Measure E.8.

The project sponsor for buildings in the Keystone Pacific Business Park shall participate a community facilities funding district or other funding mechanism for these improvements.

Measure E.4.a: Intersection 1. Sperry Ave/I-5 SB Off-Ramps. Signalize intersection.

Measure E.4.b: Intersection 4. Sperry Ave/Baldwin Rd. Signalize intersection and add right-turn lane at the westbound approach on Sperry Avenue.

Measure E.4.c: Intersection 13. Ward Ave/SR 33. Add right-turn lane at the southbound approach on Ward Avenue.

Measure E.4.d: Intersection 15. Baldwin Rd/SR 33. Signalize intersection.

Measure E.4.e: Intersection 18. Sycamore Ave/E. Las Palmas Ave. Signalize intersection.

Measure E.4.f: Intersection 20. West Main/Carpenter Rd. Signalize intersection and add a left-turn lane at the eastbound approach on West Main Road.

Measure E.4.g: Intersection 21. West Main/Crows Landing Rd. Signalize intersection and add a left-turn lane at the eastbound approach on West Main Road.

With implementation of these mitigation measures, all intersections would operate at acceptable LOS C or better, as shown in Table III.E.8, and traffic impacts from the Keystone Pacific Business Park would be reduced to less-than-significant levels.

PATTERSON GARDENS

Transportation Analysis Zones 10 and 11 include the Patterson Gardens project (see Figure III.E.1). As shown on Table III.E.5, development and occupancy of Patterson Gardens alone would generate about 1,010 trips in the A.M. peak hour and about 1,140 trips in the P.M. peak hour. This would be about 12 percent of total travel from the West Patterson projects.

Impact E.5. Construction and occupation of Patterson Gardens would affect traffic service levels at local intersections in the project study area when added to existing traffic volumes. (Significant)

Traffic from Patterson Gardens was analyzed separately, using the same methodologies described above for the West Patterson projects. The results of the analysis of Patterson Gardens, added to existing traffic volumes, are shown in Table III.E.9. With traffic from Patterson Gardens, 3 of the 21 study intersections would operate below LOS C, resulting in significant traffic impacts.

The intersection at Sycamore Avenue and East Las Palmas Avenue would operate at LOS E in the A.M. peak hour and at LOS F in the P.M. peak hour. The intersection at West Main and Carpenter Road would operate at LOS F in the P.M. peak hour, and the intersection at West Main and Crows Landing Road would operate at LOS E in the P.M. peak hour. All other study intersections would continue to operate at acceptable LOS C or better with traffic from the Patterson Gardens project.

Table III.E.9: Existing-Plus-Patterson Gardens Levels of Service

	Existing Traffic Control	Existing plus Project Intersection Control (Mitigated)	*Existing Condition*				*Existing plus Patterson Gardens Condition*							
			AM		PM		AM		AM - Mitigated		PM		PM - Mitigated	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Sperry Ave/I-5 SB Off-Ramps	Unsignalized	Unsignalized	10.0	A	13.5	B	10.1	B	--	--	13.6	B	--	--
2. Sperry Ave/I-5 NB On-Ramps	Unsignalized	Unsignalized	8.8	A	11.4	B	9.0	A	--	--	10.8	B	--	--
3. Sperry Ave/Rogers Road	Signalized	Signalized	6.0	A	8.4	A	6.5	A	--	--	7.5	A	--	--
4. Sperry Ave/Baldwin Rd	Unsignalized	Unsignalized	10.1	B	11.4	B	11.2	B	--	--	12.7	B	--	--
5. Sperry Ave/American Eagle Dr	Signalized	Signalized	4.5	A	3.6	A	6.7	A	--	--	7.2	A	--	--
6. Sperry Ave/Las Palmas Ave	Unsignalized	Unsignalized	9.1	A	9.2	A	14.4	B	--	--	19.1	C	--	--
7. Sperry Ave/Ward Ave	Signalized	Signalized	5.0	A	5.1	A	5.5	A	--	--	4.3	A	--	--
8. Sperry Ave/S Del Puerto Ave	Signalized	Signalized	4.4	A	5.4	A	5.5	A	--	--	7.4	A	--	--
9. Sperry Ave/SR-33	Unsignalized	Unsignalized	8.7	A	10.6	B	11.2	B	--	--	12.3	B	--	--
10 First St/Orange Ave	Unsignalized	Unsignalized	8.9	A	9.5	A	9.4	A	--	--	9.5	A	--	--
11. SR-33/Las Palmas Ave	Signalized	Signalized	10.5	B	18.4	B	18.4	B	--	--	21.8	C	--	--
12. Ward Ave/ Salado Ave	Unsignalized	Unsignalized	13.5	B	12.1	B	16.1	C	--	--	12.3	B	--	--
13. Ward Ave/SR-33	Unsignalized	Unsignalized	11.4	B	0.8	A	17.9	C	--	--	22.2	C	--	--
14. Zacharias Rd/SR-33	Unsignalized	Unsignalized	10.0	A	11.1	B	12.8	B	--	--	13.2	B	--	--
15. Baldwin Rd/SR-33	Unsignalized	Unsignalized	10.4	B	0.3	A	12.4	B	--	--	15.3	C	--	--
16. Rogers Rd/SR-33	Unsignalized	Unsignalized	11.0	B	12.3	B	13.8	B	--	--	18.8	C	--	--
17. Sycamore Ave/Orange Ave	Unsignalized	Unsignalized	9.6	A	9.9	A	10.5	B	--	--	10.5	B	--	--
18. Sycamore Ave/E. Las Palmas	Unsignalized	**Signalized**	17.2	C	15.4	C	45.5	**E**	6.4	A	83.5	**F**	8.7	A
19. E.Las Palmas/ Poplar Ave	Unsignalized	Unsignalized	12.4	B	13.8	B	15.5	C	--	--	18.2	C	--	--
20. West Main/Carpenter Rd	Unsignalized	**Signalized**	9.5	A	18.3	C	16.8	C	11.8	B	54.9	**F**	20.8	C
21. West Main/Crows Landing Rd	Unsignalized	**Signalized**	11.6	B	14.8	B	18.3	C	7.4	A	36.6	**E**	9.5	A

Notes:

LOS = Level of Service. LOS below acceptable levels shown in **bold**.
X = Intersection level of service
X.X = Overall intersection delay in seconds per vehicle
Delay =Average stopped delay at signalized intersections and average delay for all movements at STOP-controlled intersections.
Same mitigation measures assumed for both AM and PM peak hours as appropriate; mitigation measures include new signals, shown in **bold**.

Source: TJKM, 2002.

Mitigation measures would be needed for these intersections to operate at acceptable levels of service. In addition to widening Sperry Avenue between Ward Avenue and Rogers Road, already assumed to occur, all three of the intersections would need new traffic signals as identified in bold in Table III.E.9 in the "Existing plus Project Intersection Control (Mitigated)" column, and West Main at Carpenter Road would need a new exclusive turn lane as described below.

Mitigation Measure E.5.

The City and County shall construct the intersection improvements listed below as residential phases are constructed and occupied in Patterson Gardens with sufficient population to cause LOS to deteriorate below City and County standards.

The Keystone Corporation, project sponsor for the Patterson Gardens project, shall participate in the existing community facilities funding district or other funding mechanism to complete these improvements.

Measure E.5.a: Intersection 18. Sycamore Ave/E. Las Palmas Ave. Signalize intersection.

Measure E.5.b: Intersection 20. West Main/Carpenter Rd. Signalize intersection and add a left-turn lane in the eastbound direction of West Main.

Measure E.5.c: Intersection 21. West Main/Crows Landing Rd. Signalize intersection.

With implementation of these measures, significant impacts caused by traffic from the Patterson Gardens project would be reduced to less-than-significant levels, as shown in Table III.E.9.

FUTURE CUMULATIVE TRAFFIC IMPACTS - 2025

Future 2025 Baseline Traffic

The Stanislaus Council of Governments has generated forecasts of growth in employment and population throughout the county to the year 2025. Using these growth forecasts, StanCOG has prepared projections of traffic growth in the future using its county-wide traffic model. The StanCOG 2025 Model land use and circulation network assumptions were used for future 2025 projections of cumulative traffic growth in the Patterson

vicinity and western Stanislaus County. These assumptions included additional traffic using the existing access to Oak Flat Road from the Diablo Grande development project and traffic generated by that development that would use the new Diablo Grande Parkway connecting to Sperry Avenue. The future 2025 base year accounts for growth in traffic due to employment and residential growth in the vicinity of Patterson without traffic from the West Patterson projects.

As discussed above, the traffic analysis assumes that Sperry Avenue would be widened between Rogers Road and Baldwin Road from two to four lanes, with single exclusive left-turn lanes at major intersections. Using this lane configuration, 9 of the 21 study intersections would operate below LOS C in the morning or the afternoon peak hour in 2025 under future baseline conditions, as shown in Table III.E.10.

The existing ramps at the Sperry Avenue and I-5 interchange would be of adequate width to accommodate projected traffic; without signalization the southbound off-ramp would operate at LOS F in the afternoon peak hour. Assuming the road is widened to four lanes with additional turn lanes as appropriate, intersections along Sperry Avenue would operate at acceptable LOS C or better in the future. Intersections at SR 33 with Ward Avenue, Zacharias Road, Baldwin Road and Rogers Road would operate at LOS E or F in 2025 during the afternoon peak hour. The State Route 33 intersections with Ward Avenue and Rogers Road would operate at LOS F during the morning peak hour. The intersections of East Las Palmas Avenue with Sycamore Avenue and Poplar Avenue would operate at LOS F during both the A.M. and P.M. peak hours. The intersections of West Main with Carpenter Road and Crows Landing Road would also operate at LOS F during both the A.M. and P.M. peak hours.

Nine intersections would need to be signalized in the future to accommodate the projected traffic growth without traffic from the West Patterson projects. The "minor" legs of two of the unsignalized intersections (Sperry Avenue at Las Palmas Avenue and Sperry Avenue at SR 33) would operate at LOS D, as shown in parentheses in Table III.E.10, but signals would not be warranted at these intersections because the minor legs of stop-controlled intersections have relatively few vehicles.

Table III.E.10: Future 2025 Baseline Condition Levels of Service

Study Intersections	Existing Intersection Control	Future 2025 Base Intersection Control	Future 2025 Base Conditions							
			AM		AM - Mitigated		PM		PM - Mitigated	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1. Sperry Ave/I-5 SB Off-Ramps	Unsignalized	**Signalized**	14.4	B	6.1	A	66.4	**F**	9.4	A
2. Sperry Ave/I-5 NB On-Ramps	Unsignalized	Unsignalized	10.3	B	–	–	14.2	B	–	–
3. Sperry Ave/Rogers Road	Signalized	Signalized	8.6	A	–	–	11.2	B	–	–
4. Sperry Ave/Baldwin Rd	Unsignalized	Signalized	5.7	A	–	–	5.4	A	–	–
5. Sperry Ave/American Eagle Dr	Signalized	Signalized	11.1	B	–	–	13.6	B	–	–
6. Sperry Ave/Las Palmas Ave	Unsignalized	Unsignalized	22.9	C	–	–	25.3	B (D)	–	–
7. Sperry Ave/Ward Ave	Signalized	Signalized	8.2	A	–	–	11.6	B	–	–
8. Sperry Ave/S Del Puerto Ave	Signalized	Signalized	9.1	A	–	–	11.1	B	–	–
9. Sperry Ave/SR-33	Unsignalized	Unsignalized	16.9	C	–	–	34.2	B (D)	–	–
10 First St/Orange Ave	Unsignalized	Unsignalized	9.4	A	–	–	10.3	B	–	–
11. SR-33/Las Palmas Ave	Signalized	Signalized	18.3	B	–	–	26.3	C	–	–
12. Ward Ave/ Salado Ave	Unsignalized	Unsignalized	14.8	B	–	–	14.7	B	–	–
13. Ward Ave/SR-33	Unsignalized	**Signalized**	>120	**F**	13.0	B	>120	**F**	13.6	B
14. Zacharias Rd/SR-33	Unsignalized	**Signalized**	17.2	C	5.0	A	99.6	**F**	7.9	A
15. Baldwin Rd/SR-33	Unsignalized	**Signalized**	32.1	D	2.5	A	35.5	E	2.2	A
16. Rogers Rd/SR-33	Unsignalized	**Signalized**	>120	**F**	7.5	A	>120	**F**	14.4	B
17. Sycamore Ave/Orange Ave	Unsignalized	Unsignalized	10.1	B	–	–	10.7	B	–	–
18. Sycamore Ave/E. Las Palmas Ave	Unsignalized	**Signalized**	>120	**F**	12.8	B	>120	**F**	17.3	B
19. E.Las Palmas/ Poplar Ave	Unsignalized	**Signalized**	>120	**F**	18.8	B	>120	**F**	30.6	C
20. West Main/Carpenter Rd	Unsignalized	**Signalized**	>120	**F**	15.6	B	>120	**F**	21.4	C
21. West Main/Crows Landing Rd	Unsignalized	**Signalized**	>120	**F**	23.0	C	>120	**F**	25.7	C

Notes:
LOS = Level of Service; LOS below acceptable levels shown in **bold**.
s/veh = seconds per vehicle
Delay =Average stopped delay at signalized intersections and average delay for all movements at STOP-controlled intersections.
X(X) = LOS for main and (minor) approaches
Assumes Sperry Avenue widened to four lanes.
Mitigated conditions assume signalization added where shown in **bold**.

Source: TJKM, 2002.

Future 2025 Base Plus West Patterson Projects

Impact E.6. The West Patterson projects would contribute considerably to future cumulative significant traffic impacts at local intersections. (Significant)

The estimated vehicle trips generated by the proposed West Patterson projects were added to the 2025 roadway network in the StanCOG computer model. The results of the 2025 baseline-plus-project analysis are shown in Table III.E.11.

Table III.E.11: Future 2025 Baseline-plus-Project Levels of Service

Study Intersections	Existing Intersection Control	Future 2025 Base plus Project (Mitigated)	Future 2025 Baseline-plus-Project							
			AM		AM - Mitigated		PM		PM - Mitigated	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1. Sperry Ave/I-5 SB Off-Ramps	Unsignalized	Signalized	>120	**F**	22.5	C	>120	**F**	25.2	C
2. Sperry Ave/I-5 NB On-Ramps	Unsignalized	**Signalized**	>120	**F**	7.2	A	48.2	**E**	5.2	A
3. Sperry Ave/Rogers Road	Signalized	Signalized	29.6	C	22.6	C	46.7	D	34.4	C
4. Sperry Ave/Baldwin Rd	Unsignalized	Signalized	82.9	**F**	21.1	C	61.3	**E**	22.4	C
5. Sperry Ave/American Eagle Dr	Signalized	Signalized	>120	**F**	11.2	B	>120	**F**	9.0	A
6. Sperry Ave/Las Palmas Ave	Unsignalized	**Signalized**	>120	**F**	16.2	B	>120	**F**	16.2	B
7. Sperry Ave/Ward Ave	Signalized	Signalized	85.7	**F**	22.7	C	>120	**F**	14.1	B
8. Sperry Ave/S Del Puerto Ave	Signalized	Signalized	26.7	C	20.7	C	88.5	**F**	16.7	B
9. Sperry Ave/SR-33	Unsignalized	**Signalized**	>120	**F**	17.4	B	>120	**F**	15.1	B
10 First St/Orange Ave	Unsignalized	Unsignalized	12.1	B	–	–	11.5	B	–	–
11. SR-33/Las Palmas Ave	Signalized	Signalized	44.4	**D**	30.2	C	26.4	C	24.0	C
12. Ward Ave/ Salado Ave	Unsignalized	**Signalized**	>120	**F**	8.3	A	64.7	**F**	7.6	A
13. Ward Ave/SR-33	Unsignalized	Signalized	>120	**F**	12.7	B	>120	**F**	14.6	B
14. Zacharias Rd/SR-33	Unsignalized	Signalized	>120	**F**	13.9	B	>120	**F**	8.3	A
15. Baldwin Rd/SR-33	Unsignalized	Signalized	>120	**F**	11.5	B	>120	**F**	18.9	B
16. Rogers Rd/SR-33	Unsignalized	Signalized	>120	**F**	6.4	A	>120	**F**	12.5	B
17. Sycamore Ave/Orange Ave	Unsignalized	Unsignalized	12.5	B	–	–	16.4	C	–	–
18. Sycamore Ave/E Las Palmas Ave	Unsignalized	Signalized	>120	**F**	14.6	B	>120	**F**	9.8	A
19. E.Las Palmas/ Poplar Ave	Unsignalized	Signalized	>120	**F**	4.9	A	>120	**F**	15.3	B
20. West Main/Carpenter Rd	Unsignalized	Signalized	>120	**F**	22.3	C	>120	**F**	28.3	C
21. West Main/Crows Landing Rd	Unsignalized	Signalized	>120	**F**	21.6	C	>120	**F**	13.8	B
22. Sperry Ave/Proposed Road A	-	**Assumed Signalized**	–	–	4.9	A	–	–	13.8	B
23. Sperry Ave/Proposed Road B	-	**Assumed Signalized**	–	–	30.6	C	–	–	21.0	C

Notes:
LOS = Level of Service; LOS below acceptable levels shown in **bold.**
s/veh = intersection delay in seconds per vehicle.
Delay =Average stopped delay at signalized intersections and average delay for all movements at STOP-controlled intersections.
Mitigated conditions include new signalization where shown in **bold.**

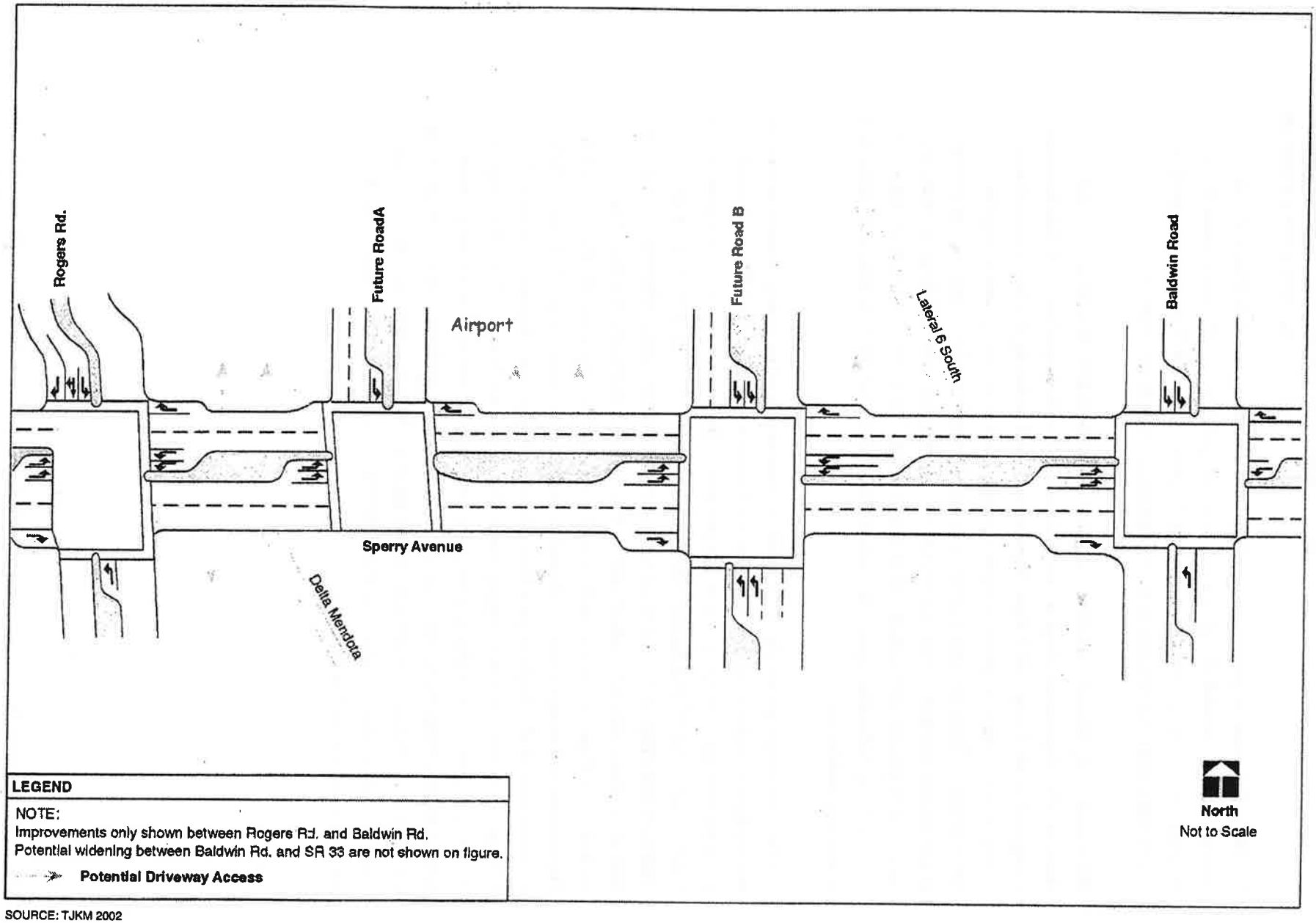
Source: TJKM, 2002

Nineteen of the 21 study intersections would operate at LOS D, E or F in the future with cumulative growth in the morning, afternoon, or both peak hours. This would, result in unacceptable intersection conditions throughout the traffic study area, compared with no intersections operating at unacceptable levels of service under current conditions. The project would cause 11 additional intersections to operate below acceptable LOS C in the morning and 10 in the evening peak hour, compared with 2025 future baseline conditions. First Street at Orange Avenue and Sycamore Avenue at Orange Avenue would continue to operate at LOS C or better during both the morning and afternoon peak hours. All other study intersections would operate at LOS D or worse during the morning or afternoon peak hours, or both. Thus, the West Patterson projects would cause significant traffic impacts in the future.

The West Patterson projects would contribute at least five percent to total traffic at intersections that would already operate at unacceptable levels of service under 2025 baseline conditions and would require signalization. Thus, the West Patterson projects would contribute considerably to future significant cumulative impacts.

Mitigation of significant cumulative impacts would include both signalization and roadway reconfiguration of Sperry Avenue, as well as new signals at other intersections. Compared to the Future 2025 Base Year scenario and including the two assumed new project access roads on Sperry Avenue, six additional intersections would require signalization. These are Sperry Avenue at the I-5 northbound off-ramp, Sperry Avenue at Las Palmas Avenue, Sperry Avenue at SR -33, Ward Avenue at Salado Avenue, and the two new project intersections on Sperry Avenue. Thus, there would be a total of 15 new traffic signals along Sperry Avenue with the project in 2025, as mitigated, compared to existing conditions.

Traffic volumes projected for 2025 could be accommodated on Sperry Avenue assuming the roadway is widened to four-lanes, as is planned, with additional left-turn, through, and right-turn lanes at various study intersections. The configuration of each intersection is described in the mitigation measure below. Figure III.E.3 provides conceptual schematic drawings of several Sperry Avenue intersections with additional turn lanes and transitions that would be needed between Rogers Road and Baldwin Road. The interchange at Sperry Avenue and I-5 would also need to be improved. The California Department of Transportation (Caltrans) is studying this interchange. In January 2002, Caltrans published a Draft Project Study Report—Project Development Support (PSR-PDS) to reconstruct this interchange. Four alternatives are being studied. The project will be submitted as a candidate project for funding from the Regional Transportation Improvements Program and the Interregional Transportation Improvements Program for the 2004 State Transportation Program and other funding mechanisms. The southbound ramp improvements would include two left-turn lanes, which would require that the underpass be widened to four lanes.



SOURCE: TJKM 2002

TURNSTONE CONSULTING

PATTERSON

FIGURE III.E.3: SPERRY AVENUE FOUR-LANE SCHEMATIC DRAWINGS

Mitigation Measure E.6.

The City of Patterson and Stanislaus County shall construct the improvements listed below at various intersections in Patterson and along Sperry Avenue, including new traffic signals and additional left-turn, through and right-turn lanes. A funding mechanism shall be established requiring developers in the West Patterson Business Park Master Development Plan area and Patterson Gardens to contribute a "fair share" of the cost of these improvements.

Measure E.6.a: Intersection 1. Sperry Ave/I-5 SB Off-Ramp. Signalize; widen southbound left-turn to two lanes, add a westbound left-turn lane; and add a westbound though lane, consistent with the Caltrans PSR.

Phasing

At 20 percent of project development: signalize intersection.

At 60 percent to 70 percent of project development: implement remaining measures.

Measure E.6.b: Intersection 2. Sperry Ave/I-5 NB On-Ramps. Signalize; widen underpass to accommodate two eastbound through lanes and a left-turn lane, and a through lane and left and right turn lanes in the westbound direction.

Phasing

At 50 percent of project development: signalize intersection.

At 60 percent to 70 percent of project development: implement remaining measures.

Mitigation E.6.c: Intersection 3. Sperry Ave/Rogers Road. In the eastbound direction, add one left-turn lane and a shared through and right-turn lane; in the westbound direction, add two left-turn lanes and a through lane; in the southbound direction, add a through lane; in the northbound direction add a left, through and right turn lane.

Phasing

At 50 percent of project development: implement mitigation.

Mitigation E.6.d: Intersection 4. Sperry Ave/Baldwin Road. Signalize. In the eastbound direction, add one left-turn lane and a shared through and right-turn lane. In the westbound direction, add one left-turn lane, a through and right turn lane. In the southbound, add two left-turn lanes. In the northbound, add a left-turn lane.

Phasing

At 20 percent of project development: signalize intersection.

At 50 percent of project development: implement remainder of mitigation.

Mitigation E.6.e: Intersection 5. Sperry Ave/American Eagle Drive. In the eastbound direction, add one left-turn lane, a through and right-turn lane. In the westbound direction, add one left-turn lane and a through lane. In the southbound, add a right-turn lane. In the northbound, add a left-turn, a through and right-turn lanes.

Phasing

At 70 to 80 percent of project development: implement mitigation.

Mitigation E.6.f: Intersection 6. Sperry Ave/Las Palmas Avenue. Signalize. In the eastbound direction, add a through and right-turn lane. In the westbound direction, add a left-turn lane. In the northbound, add a left-turn, and a shared through and right-turn lane. No change for the southbound approach.

Phasing

At 20 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining measures.

Mitigation E.6.g: Intersection 7. Sperry Ave/Ward Ave. In the eastbound direction, add one left-turn lane, and a through lane. In the westbound direction, add a through lane. In the southbound, add a left-turn lane. In the northbound, add a left-turn and a right-turn lane.

Phasing

At 70 to 80 percent of project development: implement mitigation.

Mitigation E.6.h: Intersection 8. Sperry Ave/S Del Puerto Ave. In the eastbound direction, add one left-turn lane, and a shared through and right-turn lane. In the westbound direction, add a left and a shared through and right turn-lane.

Phasing

At 70 to 80 percent of project development: implement mitigation.

Mitigation E.6.i: Intersection 9. Sperry Ave/SR-33. Signalize. In the eastbound direction, add one left-turn lane, and a right-turn lane. In the northbound direction, add a left turn-lane.

Phasing

At 20 percent of project development: signalize intersection.

At 70 percent to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.j: Intersection 11. SR-33/Las Palmas Ave. In the northbound direction, add one right-turn lane.

Phasing

At 70 percent to 80 percent of project development: implement mitigation.

Mitigation E.6.k: Intersection 12. Ward Ave/Salado Ave. Signalize. In the southbound direction, add one left-turn lane. In the westbound direction, add a left-turn lane.

Phasing:

At 70 to 80 percent of project development: implement mitigation.

Mitigation E.6.l: Intersection 13. Ward Ave/SR-33. Signalize. In the southbound direction, add one through lane. In the northbound direction, add a left-turn lane and a through lane.

Phasing

At 10 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.m: Intersection 14. Zacharias Rd/SR-33. Signalize. In the eastbound direction, add a left and right-turn lane. In the southbound direction, add one through lane. In the northbound direction, add a left and through lane.

Phasing

At 20 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.n: Intersection 15. Baldwin Rd/SR-33. Signalize. In the eastbound direction, add a left-turn lane. In the southbound direction, add one through lane. In the northbound direction, add a left-turn lane.

Phasing

At 25 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.o: Intersection 16. Rogers Rd/SR-33. Signalize. In the southbound direction, add one through and right-turn lane. In the northbound direction, add a left and right-turn lane.

Phasing

At 40 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.p: Intersection 18. Sycamore Ave/E. Las Palmas Ave. Signalize. In the eastbound direction, add a left-turn and a through lane. In the westbound direction, add a left and a through lane. In the southbound direction, add a left-turn lane.

Phasing

At 20 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.q: Intersection 19. E. Las Palmas/ Poplar. Signalize. In the eastbound direction, add a through lane. In the westbound direction, add a through lane. In the southbound direction, add a left-turn lane.

Phasing

At 20 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.r: Intersection 20. West Main/Carpenter Rd. Signalize. In the eastbound direction, add a left and through lane. In the westbound direction, add a through lane. In the southbound direction, add a left-turn lane. In the northbound direction, add a left-turn lane.

Phasing

At 20 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

Mitigation E.6.s: Intersection 21. West Main/Crows Landing Rd. Signalize. In the eastbound direction, add a left-turn lane. In the southbound direction, add a left-turn lane. In the northbound direction, add a left and right-turn lane.

Phasing

At 40 to 50 percent of project development: signalize intersection.

At 70 to 80 percent of project development: implement remaining mitigation.

With implementation of Mitigation Measure E.6, cumulative impacts at local intersections would be reduced to less-than-significant levels.

Impact E.7. Cumulative traffic, including traffic generated by the West Patterson projects, would contribute to unacceptable levels of service on Interstate 5 in the vicinity of the Sperry Avenue interchange. (Significant)

The peak hour roadway link level traffic volumes and impacts are shown in Table III.E.12. Based on the existing roadway lane configuration, and assuming that Sperry Avenue would be widened to a four-lane road, the projected traffic volumes for the Future 2025 Base Condition and 2025 Base plus Project conditions would not cause study area roadway segments to operate below LOS C. Thus, the West Patterson projects would not cause significant impacts on local roadway segments in the study area.

However, under the Future 2025 Base Conditions, it is estimated that the projected southbound P.M. peak hour traffic on the I-5 freeway (north of Sperry Avenue) would operate at LOS E. For the Future 2025 plus Project conditions, the same section on

Table III.E.12: Future 2025 Roadway Segments Levels of Service

Study Segments	Peak Direction	Future 2025 Base Conditions AM Volumes	AM LOS	Future 2025 Base Conditions PM Volumes	PM LOS	Future 2025 plus Project Conditions AM Volumes	AM LOS	Future 2025 plus Project Conditions PM Volumes	PM LOS
1. I-5, n/o Sperry Ave.[1]	NB	3,433	D	2,714	C	3,944	F	3,507	E
	SB	2,687	C	3,518	E	3,396	D	4,067	F
2. I-5, s/o Sperry Ave.[1]	NB	3,185	D	2,501	C	3,434	D	2,522	C
	SB	2,523	C	3,154	D	2,542	C	3,477	D
3. I-5, s/o Fink Rd.[1]	NB	3,226	D	2,545	C	3,312	D	2,564	C
	SB	2,564	C	3,218	D	2,582	C	3,323	D
4. Sperry Ave.[2,3]	EB	587	A	756	A	2,250	C	1,045	C
	WB	450	A	544	A	781	C	2,329	C
5. SR-33, n/o Rogers Rd.[2]	NB	879	B	732	B	1,009	B	1,098	B
	SB	641	A	992	B	1,038	B	1,132	B
6. SR-33, n/o Zacharias Rd.[2]	NB	744	B	524	A	581	A	564	A
	SB	456	A	794	B	484	A	641	A
7. SR-33, s/o Sperry Ave.[2]	NB	433	A	424	A	878	B	487	A
	SB	353	A	541	A	383	A	853	B
8. Ward Ave., n/o American Eagle[2]	NB	344	A	195	A	285	A	235	A
	SB	142	A	374	A	213	A	348	A
9. Ward Ave., n/o Marshall Rd.[2]	NB	107	A	136	A	521	A	109	A
	SB	116	A	137	A	78	A	604	A
10. E. Las Palmas Ave., e/o Sycamore Ave.[2]	EB	848	B	824	B	819	B	927	B
	WB	819	B	826	B	949	B	825	B
11. Main St., e/o Carpenter Rd.[2]	EB	853	B	1,011	B	720	B	1,175	B
	WB	879	B	929	B	1,173	B	841	B

Notes:
[1]Highway Capacity Manual 2000 – Basic Freeway Segments Analysis
[2]Highway Capacity Manual 2000 –Urban Streets Analysis.
[3] Sperry Avenue is assumed to be four lanes in the Project Scenario.
All other roadways based on existing lane configurations.

Source: TJKM, 2002.

I-5 would operate at LOS F in the southbound direction during the P.M. peak hour and LOS F in the northbound direction during the A.M. peak hour. The Caltrans draft PSR for the I-5/Sperry Avenue Interchange indicated that I-5 would operate at unacceptable service levels by the year 2021 north of Sperry Avenue, and by 2029 south of Sperry Avenue. These unacceptable freeway conditions would result primarily from increases in traffic volumes due to population and employment growth anticipated to occur throughout the Central Valley. The West Patterson projects would contribute to significant cumulative traffic impacts on Interstate-5 in the future.

Mitigation Measure E.7. No mitigation available.

Neither the City of Patterson nor Staislaus County has jurisdiction to design or construct improvements to the ramps at Sperry Avenue and I-5. Caltrans has jurisdiction over

interstate highways in California. Only Caltrans could propose, study and adopt mitigation measures, in the form of freeway widening, that would reduce the impact to less-than-significant levels. Therefore, this impact would remain significant and unavoidable.

Future 2025 Base Plus Keystone Pacific Business Park

Impact E.8. The Keystone Pacific Business Park would contribute considerably to future cumulative significant traffic impacts at local intersections. (Significant)

The future 2025 Base conditions assume that Sperry Avenue is widened from two to four lanes, with single left-turn lanes and new traffic signals at major intersections. Under the future 2025 Base conditions, six intersections would operate at unacceptable LOS E or F during the morning peak, and nine would operate at unacceptable LOS D, E or F in the afternoon peak hour, as shown in Table III.E.13, resulting in significant cumulative impacts. With future growth plus traffic from the Keystone Pacific Business Park, five additional intersections would degrade to unacceptable LOS D, E or F in the morning peak hour and two additional intersections would degrade to LOS E or F in the afternoon peak hour (see Table III.E.13). Thus, traffic from the Keystone Pacific Business Park would contribute to cumulative significant traffic impacts in the future. The affected intersections are: Sperry Ave/State Route 33 (A.M. LOS C to F, P.M. LOS B to F); Sperry Ave/Las Palmas Ave (A.M. LOS C to E); Ward Ave/Salado Ave (A.M. LOS B to D); Zacharias Rd/State Route 33 (A.M. LOS C to D); and Baldwin Rd/State Route 33 (A.M. LOS D to E and P.M. LOS E to F). In addition, traffic from the Keystone Pacific Business Park would contribute to five intersections that would already have declined from acceptable LOS C or better to unacceptable LOS F under 2025 Base conditions, causing further delays and requiring additional mitigation beyond that necessary to improve 2025 Base conditions to acceptable levels. Thus, the Keystone Pacific Business Park traffic alone would affect 10 of the 21 study intersections.

The cumulative impacts of the Keystone Pacific Business Park alone would be substantially less than those of the West Patterson projects as a whole, which would cause 19 of the 21 study intersections to operate at unacceptable LOS D, E, F. Nevertheless, mitigation measures would be needed to reduce the contribution of the Keystone Pacific Business Park to less-than-significant levels.

Table III.E.13: Future 2025 Base Condition Plus Keystone Pacific Levels of Service

Study Intersections	Existing Intersection Control	Future 2025 Base plus Project (Mitigated)	Future 2025 Base Conditions plus Keystone Pacific							
			AM		AM - Mitigated		PM		PM - Mitigated	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Sperry Ave/I-5 SB Off-Ramps	Unsignalized	Signalized	27.3	**D**	7.2	A	>120	F	10.3	B
2. Sperry Ave/I-5 NB On-Ramps	Unsignalized	Unsignalized	13.3	B	--	--	16.4	C	--	--
3. Sperry Ave/Rogers Road	Signalized	Signalized	9.3	A	--	--	14.3	B	--	--
4. Sperry Ave/Baldwin Rd	Unsignalized	Signalized	3.7	A	--	--	10.6	B	--	--
5. Sperry Ave/American Eagle Dr	Signalized	Signalized	15.8	B	--	--	10.2	B	--	--
6. Sperry Ave/Las Palmas Ave	Unsignalized	**Signalized**	40.3	**E**	6.0	A	20.3	C	4.6	A
7. Sperry Ave/Ward Ave	Signalized	Signalized	21.9	C	--	--	31.5	C	--	--
8. Sperry Ave/S Del Puerto Ave	Signalized	Signalized	7.9	A	--	--	30.7	C	--	--
9. Sperry Ave/SR-33	Unsignalized	**Signalized**	74.0	**F**	7.7	A	79.7	**F**	10.6	B
10 First St/Orange Ave	Unsignalized	Unsignalized	9.9	A	--	--	10.7	B	--	--
11. SR-33/Las Palmas Ave	Signalized	Signalized	31.1	C	--	--	23.6	C	--	--
12. Ward Ave/ Salado Ave	Unsignalized	Unsignalized	29.4	**D**	17.4	C	9.3	C	14.4	B
13. Ward Ave/SR-33G	Unsignalized	Signalized	>120	F	7.4	A	>120	F	11.0	B
14. Zacharias Rd/SR-33	Unsignalized	Signalized	28.0	**D**	8.9	A	>120	F	23.0	C
15. Baldwin Rd/SR-33	Unsignalized	Signalized	46.9	**E**	14.1	B	>120	**F**	14.1	B
16. Rogers Rd/SR-33	Unsignalized	Signalized	>120	F	7.7	A	>120	F	12.8	B
17. Sycamore Ave/Orange Ave	Unsignalized	Unsignalized	10.2	B	--	--	10.9	B	--	--
18. Sycamore Ave/E. Las Palmas Ave	Unsignalized	Signalized	>120	F	17.6	B	>120	F	14.2	B
19. E.Las Palmas/ Poplar Ave	Unsignalized	Signalized	>120	F	9.8	A	>120	F	21.0	C
20. West Main/Carpenter Rd	Unsignalized	Signalized	>120	F	20.2	C	>120	F	13.4	B
21. West Main/Crows Landing Rd	Unsignalized	Signalized	>120	F	21.9	C	>120	F	29.2	C

Notes:
LOS = Level of Service; LOS below acceptable levels shown in **bold**.
X = Intersection level of service
X.X = Overall intersection delay in seconds per vehicle
Delay =Average stopped delay at signalized intersections and average delay for all movements at STOP-controlled intersections.
Same mitigation measures assumed for both AM and PM peak hours as appropriate.

Source: TJKM, 2002.

Mitigation Measure E.8.

The City of Patterson and Stanislaus County shall construct the improvements listed below at various intersections impacted by the Keystone Pacific Business Park, including additional new traffic signals and new turn lanes. A community facilities funding district, or other funding mechanism shall be established requiring the Keystone Pacific Business Park developer (or developers) to contribute to the cost of these improvements.

Measure E.8.a: Intersection 6. Sperry Ave/Las Palmas Avenue. Signalize intersection.

Measure E.8.b: Intersection 9. Sperry Ave/SR 33. Add a right-turn lane on the eastbound approach on Sperry Avenue, and add a left-turn lane on the northbound approach on State Route 33.

Measure E.8.c: Intersection 12. Ward Ave/Salado Ave. Signalize intersection and add a right-turn lane on the westbound approach on Salado Avenue

Measure E.8.d: Intersection 14. Zacharias Rd/SR 33. Signalize intersection.

Measure E.8.e: Intersection 15. Baldwin Rd/SR 33. Add a through/turn lane in the southbound approach on Baldwin Road.

Measure E.8.f: Intersection 16. Rogers Rd/SR 33. Add a right-turn lane in the southbound approach on Rogers Road, in addition to contributing to a new signal that would be needed as a result of 2025 Base conditions.

Measure E.8.g: Intersection 20. West Main/Carpenter Rd. Add a through lane on both eastbound and westbound approaches, on West Main, in addition to contributing to a new signal and left-turn lanes on both eastbound and westbound approaches on West Main that would be needed as a result of 2025 Base conditions.

Measure E.8.h: Intersections 1, Sperry Ave/I-5 SB Off-Ramps; 18, Sycamore Ave/E. Las Palmas Ave; and 19, E. Las Palmas Ave/Poplar Ave. Contribute to signalization of the intersections that would need signalization as a result of 2025 Base conditions and that would receive a significant contribution to traffic delays from Keystone Pacific Business Park traffic.

With implementation of these measures, significant cumulative traffic impacts could be reduced to less-than-significant levels, as shown in Table III.E.13.

Future 2025 Base Plus Patterson Gardens

Impact E.9. The Patterson Gardens project would contribute considerably to future cumulative significant traffic impacts at local intersections. (Significant)

Traffic growth under the future 2025 Base conditions would cause six intersections to operate at unacceptable LOS E or F in the A.M. peak hour and nine intersections to operate at unacceptable LOS D, E or F in the P.M. peak hour. With future growth in Patterson Gardens added to the 2025 Base condition, four additional intersections would degrade to unacceptable levels of service (see Table III.E.14). Sperry Avenue at Las Palmas Avenue would degrade from LOS C to LOS F in the A.M. peak hour. Sperry Avenue at American Eagle Drive, and Sperry Avenue at Las Palmas Avenue both would degrade from LOS B to F in the P.M. peak hour. Sperry Avenue at State Route 33 would degrade from LOS C to LOS D in the A.M. peak hour and from LOS B to LOS E in the P.M. peak hour. Baldwin Road at State Route 33 would degrade from an already unacceptable LOS D under 2025 Base conditions to LOS E with traffic from the

Patterson Gardens project in the A.M. peak hour and would further worsen from LOS E to LOS F in the P.M. peak hour.

Table III.E.14: Future 2025 Base Condition plus Patterson Gardens Levels of Service

Study Intersections	Existing Intersection Control	Future 2025 Base plus Project (Mitigated)	Future 2025 Base Conditions plus Patterson Gardens							
			AM		AM – Mitigated		PM		PM - Mitigated	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Sperry Ave/I-5 SB Off-Ramps	Unsignalized	Signalized	15.9	C	6.4	A	>120	F	10.6	B
2. Sperry Ave/I-5 NB On-Ramps	Unsignalized	Unsignalized	10.7	B	--	--	15.1	C	--	--
3. Sperry Ave/Rogers Road	Signalized	Signalized	10.8	B	--	--	14.2	B	--	--
4. Sperry Ave/Baldwin Rd	Unsignalized	Signalized	6.2	A	--	--	6.0	A	--	--
5. Sperry Ave/American Eagle Dr	Signalized	Signalized	31.2	C	10.8	B	>120	**F**	12.8	B
6. Sperry Ave/Las Palmas Ave	Unsignalized	**Signalized**	>120	**F**	6.4	A	>120	**F**	6.3	A
7. Sperry Ave/Ward Ave	Signalized	Signalized	9.9	A	--	--	34.9	C	--	--
8. Sperry Ave/S Del Puerto Ave	Signalized	Signalized	12.3	B	--	--	14.7	B	--	--
9. Sperry Ave/SR-33	Unsignalized	**Signalized**	32.7	**D**	5.8	A	48.7	**E**	7.7	A
10 First St/Orange Ave	Unsignalized	Unsignalized	9.7	A	--	--	10.7	B	--	--
11. SR-33/Las Palmas Ave	Signalized	Signalized	23.2	C	--	--	28.9	C	--	--
12. Ward Ave/ Salado Ave	Unsignalized	Unsignalized	21.1	C	--	--	23.2	C	--	--
13. Ward Ave/SR-33	Unsignalized	Signalized	>120	F	18.2	B	>120	F	13.7	B
14. Zacharias Rd/SR-33	Unsignalized	Signalized	17.2	C	11.5	B	78.5	F	14.2	B
15. Baldwin Rd/SR-33	Unsignalized	Signalized	38.9	**E**	12.8	B	37.2	E	13.5	B
16. Rogers Rd/SR-33	Unsignalized	Signalized	>120	F	7.7	A	>120	F	16.7	B
17. Sycamore Ave/Orange Ave	Unsignalized	Unsignalized	10.1	B	--	--	10.5	B	--	--
18. Sycamore Ave/E. Las Palmas Ave	Unsignalized	Signalized	>120	F	13.7	B	>120	F	15.3	B
19. E.Las Palmas/ Poplar Ave	Unsignalized	Signalized	>120	F	14.4	B	>120	F	14.6	B
20. West Main/Carpenter Rd	Unsignalized	Signalized	>120	F	16.0	B	>120	F	23.6	C
21. West Main/Crows Landing Rd	Unsignalized	Signalized	>120	F	27.5	C	>120	F	27.3	C

Notes:
LOS = Level of Service; LOS below acceptable levels shown in **bold**.
X = Intersection level of service
X.X = Overall intersection delay in seconds per vehicle
(X) = Level of service for the minor approach
Delay =Average stopped delay at signalized intersections and average delay for all movements at STOP-controlled intersections.
Same mitigation measures assumed for both AM and PM peak hours as appropriate.

Source: TJKM, 2002.

Under cumulative conditions in 2025, with Patterson Gardens traffic, a total of 10 intersections would operate at unacceptable levels of service during the morning peak hour in 2025, and 12 intersections would operate at unacceptable levels of service during the afternoon peak hour. Traffic from Patterson Gardens would cause four of the intersections to operate at unacceptable levels of service, and would contribute considerably to two additional intersections that would operate at LOS F under 2025 Base conditions: Sperry Avenue at the I-5 SB Off-Ramps and Ward Avenue at State Route 33. Patterson Gardens traffic would contribute 3.5 percent or less to traffic at six other intersections that would operate at unacceptable LOS F in the future, and therefore would not be considered to contribute considerably to significant cumulative impacts at these intersections.

The cumulative impacts of Patterson Gardens alone would be substantially less than those of the West Patterson projects as a whole, which would cause 19 of the 21 study intersections to operate at unacceptable LOS D, E, F. Nevertheless, mitigation measures would be needed to reduce the contribution of Patterson Gardens to less-than-significant levels.

Mitigation Measure E.9

The City of Patterson and Stanislaus County shall construct the improvements listed below at various intersections impacted by Patterson Gardens, including additional new traffic signals and new turn lanes. A community facilities funding district, or other funding mechanism shall be established requiring the Patterson Gardens developer to contribute to the cost of these improvements.

Measure E.9.a: Intersection 5. Sperry Ave/American Eagle Dr. Add westbound left-turn lane to Sperry Avenue and convert southbound left-turn lane on American Eagle Drive to a shared left and through lane. Add a new approach lane from the project site (the northbound leg of American Eagle Drive). Contribute to signalizing the intersection.

Measure E.9.b: Intersection 6. Sperry Ave/Las Palmas Ave. Add a left-turn lane to the westbound approach on Sperry Avenue. In the northbound direction add an approach lane for project-generated traffic to the extension of Las Palmas Avenue. Restripe the right lane in the southbound approach on Las Palmas Avenue to provide a shared through and right-turn lane. Contribute to signalizing this intersection.

Measure E.9.c: Intersection 9. Sperry Ave/SR 33. Signalize intersection.

Measure E.9.d: Intersection 15. Baldwin Rd/SR 33. Add a through lane on the southbound approach and a left-turn lane in the northbound approach. Contribute to signalizing the intersection.

Measure E.9.e: Intersections 1, Sperry Ave/I-5 SB Off-Ramps; and 15, Ward Ave/SR 33. Contribute to signalization of the intersections that would need signalization as a result of 2025 Base conditions and that would receive a significant contribution to traffic delays from traffic generated by the Patterson Gardens project.

With implementation of these measures, significant cumulative traffic impacts could be reduced to less-than-significant levels, as shown in Table III.E.14.