2 ALTERNATIVES

2.1 INTRODUCTION

This chapter describes the Proposed Project and a range of reasonable alternatives to the Proposed Project Alternative consistent with the requirements of California Code of Regulations (CCR) Sections 15124 and 15126.6 and 40 Code of Federal Regulations (CFR) 1502.14.

The project includes several components which affect different geographic areas. These components are described in more detail below:

- The "Land" component addresses proposed land use changes in the City of Folsom's sphere of influence area. The land use component includes two geographical areas:
    - the "Folsom Specific Plan Area" (SPA), which refers to the sphere of influence area where land use decisions would be governed by the proposed Folsom Plan Area Specific Plan, and
    - the "Off-site Improvements," which refer to various areas outside of the sphere of influence area where utility or roadway improvements would be constructed to support the proposed land use changes.
- The "Water" component addresses the facilities required to provide and convey a water supply to the proposed development. The "Water" Study Area is used to describe the areas which could be affected by the proposed "Water" components.
- A General Plan Amendment would be required as part of the project. This General Plan Amendment is described in more detail in Section 2.17, but would include increases in permitted General Plan densities in some areas of the existing City of Folsom. These areas are described as the "General Plan Amendment Area." A discussion of the environmental effects of the General Plan Amendment is included in Section 3A.10, "Land Use and Agricultural Resources – Land."

Exhibit 2-1 illustrates the various geographic areas and descriptors which will be used throughout this EIR/EIS. Discussion of the Proposed Project and alternatives under consideration is divided into two sections, for "Land" and "Water," because the alternatives for "Water" are different from those for "Land."

The five "Land" alternatives evaluated at an equal level of detail in this draft document, known as a draft environmental impact report/draft environmental impact statement (draft EIR/EIS), are as follows:

- No Project Alternative
- No USACE Permit Alternative
- Proposed Project (Applicants' Proposed Alternative)
- Resource Impact Minimization Alternative
- Centralized Development Alternative
- Reduced Hillside Development Alternative

The "Water" project components are evaluated in eleven separate Off-site Water Facility Alternatives at an equal level of detail in this draft EIR/EIS and include:

- No USACE Permit Off-site Water Facility Alternative – Raw Water Conveyance – Grant Line Road Alignment and On-site WTP
- Proposed Off-site Water Facility Alternative – Raw Water Conveyance – Grant Line Road Alignment and On-site WTP

- Off-site Water Facility Alternative 1 – Raw Water Conveyance – Grant Line Road Alignment and White Rock WTP
- Off-site Water Facility Alternative 1A – Raw Water Conveyance – Grant Line Road Route Variation Alignment and White Rock WTP
- Off-site Water Facility Alternative 2 – Treated Water Conveyance – Douglas Road Alignment and Vineyard Surface Water Treatment Plant (SWTP)
- Off-site Water Facility Alternative 2A – Treated Water Conveyance – Douglas Road Route Variation Alignment and Vineyard SWTP
- Off-site Water Facility Alternative 2B – Treated Water Conveyance – North Douglas Tanks Variation Alignment and Vineyard SWTP
- Off-site Water Facility Alternative 3 – Raw Water Conveyance – Douglas Road Alignment and White Rock WTP
- Off-site Water Facility Alternative 3A – Raw Water Conveyance – Douglas Road Route Variation Alignment and White Rock WTP
- Off-site Water Facility Alternative 4 – Raw Water Conveyance to Folsom Boulevard Alignment and Folsom Boulevard WTP
- Off-site Water Facility Alternative 4A – Raw Water Conveyance to Folsom Boulevard – Route Variation Alignment and Folsom Boulevard WTP

These alternatives were developed by the City of Folsom (City) and the U.S. Army Corps of Engineers (USACE), Sacramento District, after review of scoping comments received on the notice of preparation (NOP) and notice of intent (NOI) and voiced at scoping meetings. The alternatives are based on the project purpose, alternatives screening criteria (described below), and results of the draft Section 404(b)(1) alternatives analysis (Appendix L). As requested by USACE, this document also evaluates a No USACE Permit Alternative. These alternatives represent a reasonable range of alternatives to the Proposed Project, consistent with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements. The Proposed Project and alternatives under consideration (with the exception of the No Project Alternative required by CEQA) have each been formulated to feasibly accomplish most of the basic objectives of the project as discussed in Chapter 1, "Introduction and Statement of Purpose and Need," of this EIR/EIS, and could avoid or substantially lessen one or more of the significant effects.

A summary comparison of these alternatives, as well as identification of the "environmentally superior alternative," required under CEQA is provided in Section 2.9 of this chapter.

2.2 CEQA/NEPA REQUIREMENTS FOR PROJECT DESCRIPTION AND EVALUATION OF ALTERNATIVES

2.2.1 CEQA REQUIREMENTS

PROJECT DESCRIPTION

The guiding principles for the content of a project description in an EIR are provided by the State CEQA Guidelines (14 CCR Section 15124). Section 15124 states that "[t]he description of the project shall contain the

following information, but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact." The contents of a project description shall include:

- the precise location and boundaries of the Proposed Project Alternative, preferably on a detailed topographic map, along with the general location of the project on a regional map;
- a statement of the objectives sought by the Proposed Project Alternative, including the underlying purpose of the project, designed to assist the lead agency in the formulation of alternatives and preparation of findings or a statement of overriding considerations, if necessary;
- a general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities; and
- a statement briefly describing the intended uses of the EIR, including (to the extent the information is known to the lead agency) a list of the agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

This section, while combined with the alternatives analysis required by CEQA and NEPA, also fulfills all of the requirements of CEQA for a project description by describing the Proposed Project Alternative (applicant's proposed alternative).

FOCUS OF THE EIR ALTERNATIVES ANALYSIS

The guiding principles for the selection of alternatives for analysis in an EIR are provided by the State CEQA Guidelines (14 CCR Section 15126.6). CCR Section 15126.6 states that the alternatives analysis must:

- describe a range of reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project but would substantially lessen or avoid any of the significant effects of the project;
- focus on alternatives capable of avoiding or substantially lessening any of the significant environmental impacts of the Proposed Project Alternative, even if they may be more costly or could otherwise impede some of the project's objectives; and
- evaluate the comparative merits of the alternatives.

The focus, definition, and number of alternatives evaluated in this EIR/EIS are governed by the "rule of reason" in accordance with CCR Section 15126.6 of the State CEQA Guidelines. That is, the range of alternatives presented in the EIR/EIS is limited to potentially feasible alternatives that will foster infirmed decisionmaking and public participation. An EIR need not, however, consider every conceivable alternative to the project.

In addition to the guiding principles for selection of alternatives set forth above, the State CEQA Guidelines require that an EIR evaluate a "No Project Alternative," to provide the decision makers and the public with an overview of what could reasonably be expected to occur if the proposed Folsom South of U.S. Highway 50 Specific Plan project were not approved and implemented (see Section 2.4 below). The State CEQA Guidelines also require that an EIR identify alternatives that were considered for evaluation but eliminated from further consideration (see Section 2.9–2.11 below), and that the EIR identify the "environmentally superior alternative." Consideration of the other CEQA-mandated requirements is provided in Chapters 3 and 4 of this EIR/EIS.

SCREENING CRITERIA

Consistent with the requirements of CEQA, the City used the CEQA project objectives identified in Chapter 1, "Introduction and Statement of Purpose and Need," as criteria to screen the alternatives that should be considered

in this EIR/EIS and to determine whether the alternatives would avoid or substantially lessen any of the significant environmental impacts of the project.

2.2.2 NEPA REQUIREMENTS

FOCUS OF THE EIS ALTERNATIVES ANALYSIS

The NEPA Council on Environmental Quality (CEQ) Regulations (40 CFR 1502.14) require that an EIS include:

- an exploration and objective evaluation of reasonable alternatives;
- identification of the alternatives considered but eliminated from detailed study, along with a brief discussion of the reasons that these alternatives were eliminated;
- substantial treatment of each alternative considered in detail, including the Proposed Action (Proposed Project), to allow reviewers to evaluate the comparative merits of the proposed action (i.e., proposed project) and alternatives;
- include any reasonable alternative not within the lead agency's jurisdiction;
- consideration of the No Action Alternative;
- identification of the agency's preferred alternative, if any; and
- appropriate mitigation measures not already included in the proposed action or alternatives.

Additionally, USACE NEPA regulations require identification and consideration of a No Department of the Army Section 404 of the Clean Water Act (CWA) permit alternative, which is referred to in the EIR/EIS as the No USACE Permit Alternative.

Alternatives to the Proposed Project Alternative that were considered and evaluated in this EIR/EIS are described below. Consideration of the other NEPA-mandated requirements is provided in Chapters 3 and 4 of this EIR/EIS.

Unlike CEQA, which permits the evaluation of alternatives to occur in less detail than is provided for the Proposed Project Alternative, NEPA requires the analysis of alternatives to occur at a substantially similar level of detail as that devoted to the proposed action. The NEPA Regulations (40 CFR 1502.14) require agencies to rigorously explore and objectively evaluate all reasonable alternatives and to devote substantial treatment to each alternative considered, including the Proposed Project Alternative.

SCREENING CRITERIA

The following screening criteria are in compliance with the U.S. Environmental Protection Agency (EPA) Section 404(b)(1) Guidelines (40 CFR, 2301 et seq.), which are the substantive criteria used by USACE in evaluating discharges of fill material into waters of the U.S. under Section 404 of the CWA. The guidelines require that the following four criteria be satisfied for USACE to make a decision that a proposed discharge is in compliance:

- The discharge must be the Least Environmentally Damaging Practicable Alternative (LEDPA).
- The discharge must not violate any water quality standard or toxic effluent standard, or jeopardize the continued existence of a threatened or endangered species.
- The discharge must not result in a significant degradation of the waters of the U.S.

- Appropriate and practicable steps must be taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

Before USACE can issue a permit, it must find that the requirements of the Section 404(b)(1) Guidelines have been satisfied. The key criterion and the focus of the alternatives analysis is the requirement that the discharge be the LEDPA. USACE considers practicable alternatives to include, but not to be limited to:

- on-site activities that do not include a discharge into waters of the U.S. or ocean waters; and
- discharges of dredged or fill material at other locations in waters of the U.S. or ocean waters.

Criteria which are used to determine whether there are practicable alternatives include the availability of areas that are not presently owned by the applicant that could be reasonably obtained, used, expanded, or managed to fulfill the basic purpose of the proposed activity (after considering cost, existing technology, and logistics) and whether an alternate project location that does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., that is not water dependent) is available. Practicable alternatives that do not involve special aquatic sites are presumed to be available unless clearly demonstrated otherwise. Where the activity associated with a discharge is proposed for a special aquatic site (as defined under Section 404(b)(1) Guidelines) does not require access, proximity or siting within the special aquatic site to fulfill its basic purpose all practicable alternatives to the proposed discharge that do not involve a discharge into a special aquatic site are presumed to have less adverse impacts on the aquatic ecosystem, unless clearly demonstrated.

The key provisions in the language are "practicability" and "overall project purpose." An alternative is considered to be practicable if it is available to the applicant and capable of being accomplished by the applicant after consideration of costs, existing technology, and logistics, in light of the overall project purpose. As stated in Chapter 1, "Introduction and Statement of Purpose and Need," USACE has determined that the overall purpose of the project is to provide a large-scale mixed-use community with associated infrastructure, within the Urban Services Boundary in eastern Sacramento County If a practicable alternative is identified that would have less adverse impacts on the aquatic ecosystem and would not have other significant adverse environmental consequences, then USACE would be unable to issue a permit for the Proposed Project.

2.3 "LAND" PORTION OF THE PROJECT

Section 2.3 describes those facilities that would be developed as part of the "Land" portion of the project under the various alternatives considered and evaluated in this EIR/EIS. (Facilities that would be developed as part of the "Water" portion of the project are described later in this chapter in Sections 2.4 through 2.8.)

2.3.1 PROPOSED PROJECT ALTERNATIVE

INTRODUCTION

This section describes the Proposed Project Alternative for the "Land" portion of the project. The Proposed Project Alternatives for both the "Land" and "Water" portions of the project have been formulated to achieve the project purpose, objectives, and needs of the project, as discussed in Chapter 1, "Introduction and Statement of Purpose and Need," of this EIR/EIS.

The South Folsom Property Owners Group–the project applicant(s), are seeking adoption by the City of the proposed *Folsom Plan Area Specific Plan* (specific plan), hereinafter referred to as the "Folsom South of U.S. 50 Specific Plan project" or the "Proposed Project" and associated entitlements discussed in greater detail below. The Folsom South of 50 Specific Plan project would be a mixed-use development on approximately 3,510 acres in the Folsom sphere of influence, immediately south of the Folsom city limits. The total area that would be annexed into the City would be 3,584 acres, and also includes portions of the U.S. Highway 50 (U.S. 50) right-of-way. The area to be annexed into the City is referred to through this EIR/EIS as the SPA. A copy of the draft

Folsom Plan Area Specific Plan is available for review at the City of Folsom offices located at 50 Natoma Street, Folsom, CA 95630 and is also attached to this EIR/EIS as Appendix N. The project applicant(s) are also seeking authorization and permit(s) from USACE to place dredged or fill material into waters of the U.S.

PROGRAM LEVEL ANALYSIS AND ADDITIONAL DETAILED ANALYSIS

As discussed in Chapter 1 (Section 1.4.3), this EIR/EIS includes a program-level, or "first-tier," analysis for the project and considers the broad environmental effects of adoption and implementation of the Folsom Specific Plan. The specific plan and the EIR/EIS include performance standards and mitigation measures that would apply to all subsequent, future project development phases under the specific plan (as conditions of approval) in the SPA. For information on project phasing, please refer to Section 2.3.1.

In addition to the programmatic analysis described above, this EIR/EIS also includes an additional detailed analysis of certain specific issue areas for the Proposed Project Alternative. Where such an analysis has been conducted, a statement is provided at the start of each issue area in the 3A "Land" sections that impacts would be the same under the additional level of detailed analysis as they would under the programmatic level of analysis.

The extent of environmental review, if any, for future development entitlements will depend on a number of factors as described in Chapter 1 (Section 1.4.3).

This section refers to the "project" as the "Proposed Project" since it encompasses the Proposed Project Alternative.

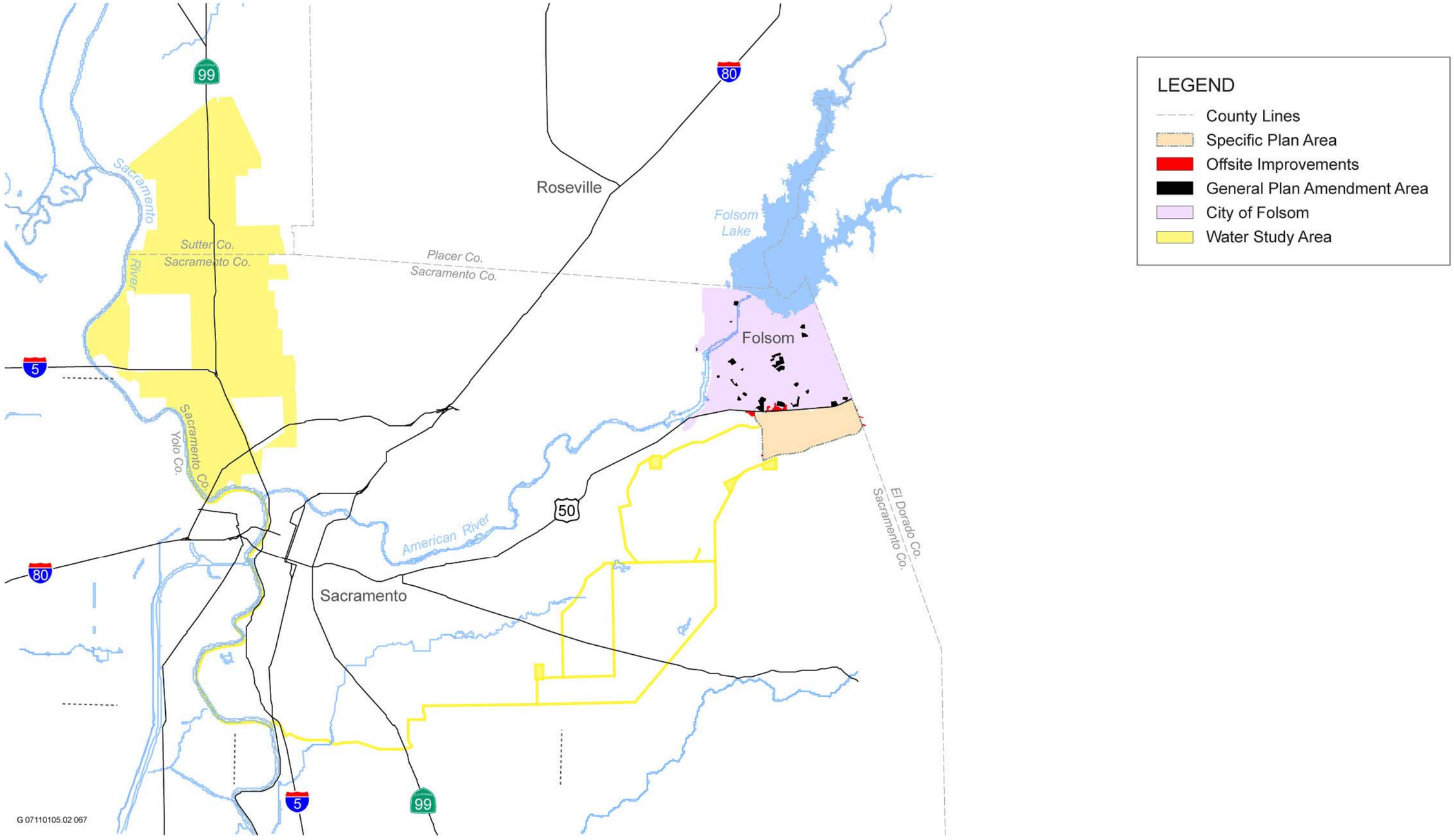
REGIONAL LOCATION

The SPA is generally located in eastern Sacramento County, south of U.S. 50, immediately south of the Folsom city limits (Exhibits 2-1 and 2-2). The SPA lies south of U.S. 50, north of White Rock Road, east of Prairie City Road (a small area extends west of Prairie City Road at the southwest corner of the SPA), and west of the Sacramento/El Dorado County line.

The City of Folsom and the SPA are in the Sierra Nevada foothills, at the eastern edge of the alluvial Sacramento Valley. The Sierra Nevada province is characterized by steep-sided hills and narrow, rocky stream channels. This province consists of Pliocene and older deposits that have been uplifted as a result of plate tectonics, granitic intrusion, and volcanic activity. Subsequent glaciation and additional volcanic activity are factors that led to the east-west orientation of stream channels. The Sacramento Valley is a nearly flat alluvial plain that extends almost 180 miles from the Sacramento–San Joaquin Delta on the south to Redding on the north, and approximately 50 miles from the Sierra Nevada foothills on the east to the Coast Range on the west. Climate in the Folsom area is characterized by warm, dry summers with an almost complete absence of rain, and mild winters with relatively light rains.

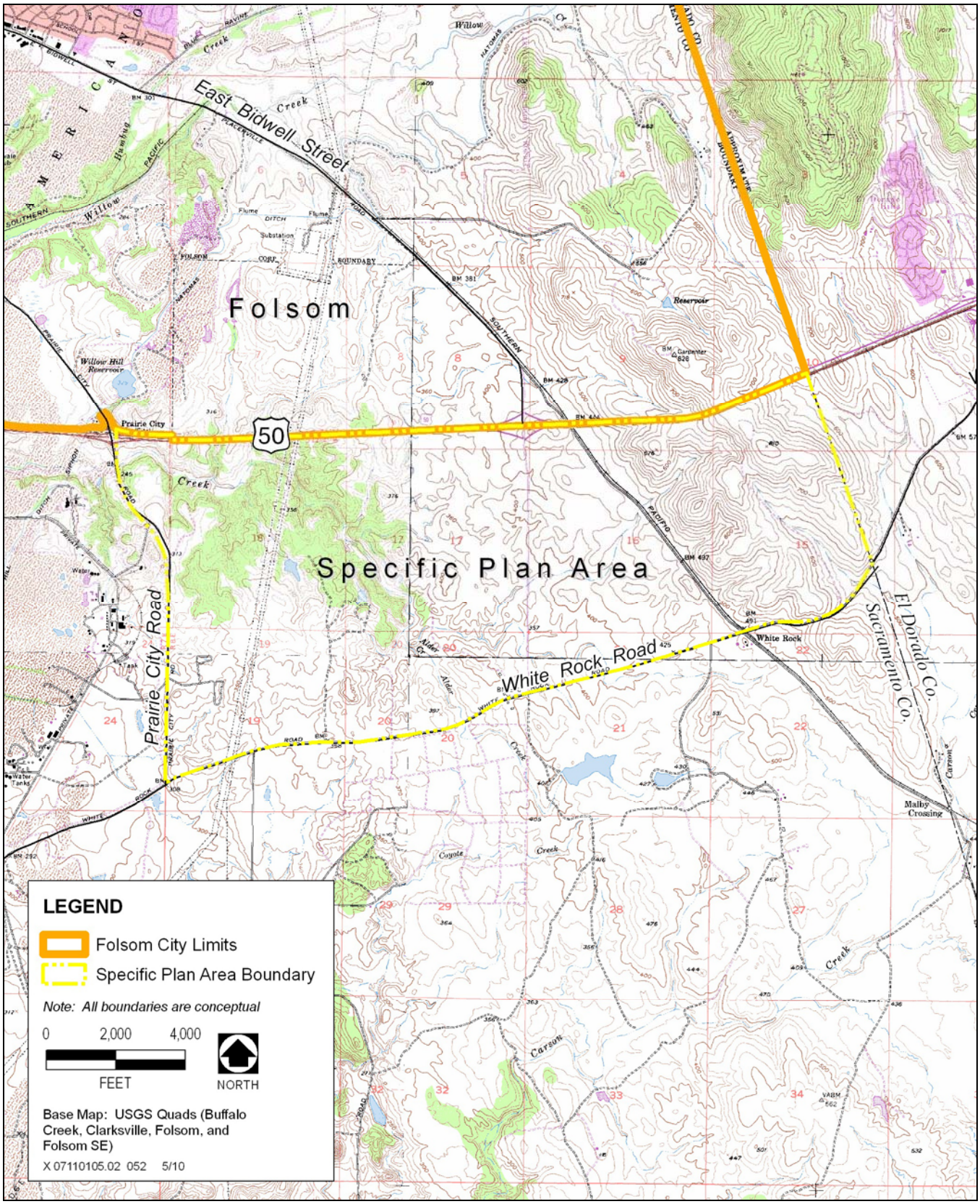
A large portion of the SPA is currently being used as pastureland for cattle grazing. Surrounding land uses include facilities owned by Aerojet General Corporation and associated buffer lands to the west; U.S. 50 with urbanized development within the existing Folsom city limits to the north; residential development to the east; and agricultural and grazing land uses to the south.

Access to the SPA would be provided via the existing White Rock Road, Prairie City Road, and Scott Road. Both Prairie City Road and Scott Road provide existing access to the site from U.S. 50, which is limited-access. Proposed roadways which would serve the SPA include Oak Avenue and Empire Ranch Road (both of which have proposed interchanges with U.S. 50), and the proposed Easton Valley Parkway, which would provide an east-west connection to the SPA.



Source: Adapted from CSAA, Bay and Mountain Section 1999

Regional Location Map and Project Components **Exhibit 2-1**



Source: Sacramento Area Council of Governments 2006

Project Site Location Map **Exhibit 2-2**

REQUESTED ENTITLEMENTS

The following entitlements are requested from the City and USACE for the Proposed Project Alternative. Additional approvals, permits, and authorizations are listed in Chapter 1, "Introduction and Statement of Purpose and Need." The entitlements necessary for the off-site water facilities are discussed in Section 2.13.2 of this EIR/EIS.

City of Folsom

Adoption of the Proposed Project Alternative, as well as action alternatives under consideration, contemplates approval of the following City entitlements:

- certification of the EIR/EIS and Mitigation Monitoring and Reporting Program (MMRP),
- amendment of the Folsom General Plan,
- adoption of the Folsom Plan Area Specific Plan,
- adoption of a Public Facilities Financing Plan,
- potential approval of development agreements between the City and project applicant(s),
- approval of large-lot tentative maps, and
- pre-zoning of the SPA.

Future City entitlement approvals may include, but are not limited to, the following:

- use permits,
- approval of tentative parcel and subdivision maps,
- design review,
- lot line adjustments,
- engineering improvement plans,
- planned development permits,
- grading plans, and
- Development Agreement between the City and future project applicant(s).

Each of these requested entitlements and approvals is described in turn below.

- **Certification of the EIR/EIS and Mitigation Monitoring and Reporting Program.** After preparation of the Final EIR/EIS, the City will consider certification of the EIR/EIS and MMRP. The Final EIR/EIS will respond to significant environmental comments raised during review of the Draft EIR/EIS and will document any project modifications, corrections, or revisions to the environmental impacts or mitigation measures of the Proposed Project Alternative. The MMRP will outline what actions must be taken, as conditions of approval, to comply with the EIR/EIS, and the timing and responsibilities for conducting and monitoring the various mitigation activities.

- **General Plan Amendments and Annexation to the City of Folsom.** The City of Folsom would adopt a General Plan Amendment, with several components. The General Plan Amendment would:

    - define the compatible land uses for the SPA;

    - propose annexation of the entire approximately 3,584-acre SPA into the City of Folsom's territory;

    - modify densities for Single Family, Multi-Family Medium Density, and Multi-Family High Density General Plan land use designations throughout the City of Folsom (See Section 2.17, "General Plan Amendment" for more details);

    - amend the General Plan by adding a Mixed Use land use category; and

- amend the City's transportation Level of Service (LOS) policy for the SPA (this change would not affect the existing city).

Prior to approval of annexation by the Sacramento Local Agency Formation Commission (LAFCo), the project applicant(s) must demonstrate that the Proposed Project Alternative meets the conditions established in the Memorandum of Understanding (MOU) between the City and Sacramento, Sacramento County, and Resolution 1196 of the Sacramento LAFCo Approving the City of Folsom Sphere of Influence Amendment Application. These conditions are listed below.

- Revise and update the City's General Plan in accordance with State law.

- Obtain a certification of substantial compliance from the California Department of Housing and Community Development consistent with California Government Code Section 65585(d) or (h). The City shall establish in its approved Housing Element that it has or will meet its regional share housing needs for all income levels for the second and third Housing Element revisions, as defined in California Government Code Section 65588.

- Adopt appropriate land use designations for all property within the sphere of influence area.

- Prezone the property consistent with California Government Code Section 56375 and the Folsom General Plan.

- Apply comprehensive planning of the SPA.

- Provide a program for implementation and financing for major infrastructure and services components, including identification of the source of water supplies to serve the annexed area.

- Ensure collaborative participation by the public and stakeholders including Sacramento and El Dorado Counties, and the Folsom Cordova Unified School District.

- Prepare a plan for necessary improvements to each jurisdiction's roadway network to accommodate increased traffic from the SPA, in cooperation with Sacramento and El Dorado Counties. This plan must include a list of improvements, phasing plan, and clearly defined financing mechanism. Implementation of this plan must result in service levels on local roadways consistent with each jurisdiction's general plan.

- Identify traffic and transportation measures which are needed to mitigate potential impacts on regional transportation facilities from proposed development within the SPA. The City must also identify a funding mechanism to construct the traffic and transportation measures necessary to fully mitigate impacts from the SPA, and a timeline for the construction of improvements. As soon as reasonably possible, these improvements should be programmed into the Metropolitan Transportation Plan and Metropolitan Transportation Improvement Program.

- Prepare a Transit Master Plan and a Bikeway Master Plan to delineate transit routes and bikeways in the SPA, consistent with the goals and policies of the City's General Plan.

- Preparation of a Drainage Master Plan for the SPA that includes hydrologic modeling along Alder Creek, documenting no net increase in downstream floodwater surface elevations;

- Document the City's multi-species habitat mitigation strategy (Habitat Conservation Plan [HCP]) for the SPA (may be fulfilled through City participation in Southeast Sacramento County HCP process).

- Document that on-site surface contamination has been remediated, and that groundwater contamination has been remediated or is being remediated effectively prior to annexation of any property owned by Aerojet General Corporation.

- Demonstrate that the City has a sufficient water supply to serve existing customers in compliance with the Water Forum agreements, and all proposed uses within the SPA per California Government Code Section 56668(k);

- Demonstrate the timely availability of wastewater transmission and treatment capacity.

- Meet and confer with special districts regarding impacts to operations.

- Where permitted by law, incorporate feasible school mitigation requirements into development agreements.

- Comply with mitigation measures identified in environmental review for expansion of sphere of influence boundary.

- Mitigate for oak woodland and habitat preservation, including 30% preservation of natural open space within the annexed area.

- Demonstrate that services can be provided in compliance with the City's General Plan.

- Establish revenue sharing agreements with Sacramento County establishing the apportionment of future tax revenues in the SPA.

► **Folsom Specific Plan Adoption.** The specific plan is intended to provide a comprehensive land use, policy, and regulatory document to govern all future development in the SPA. The specific plan excludes the area of proposed interchanges with U.S. 50 because no land use designations are proposed in these areas. The goal of the specific plan is to establish a development framework for land use, resource protection, circulation, public utilities and services, design, and implementation. Development of the specific plan (i.e., the Proposed Project Alternative under the CEQA process) and the subsequent entitlement process provides for a sequence of community input and government review to ensure that development occurs in a logical, consistent, and timely manner.

Specific plans are an implementation mechanism for new-growth areas authorized, but not mandated, by California statute (California Government Code Section 65451 et seq.). The content of a specific plan is defined in California Government Code Section 64541(a), which specifies the following in detail:

- the distribution, location, and extent of the uses of the land, including open space, within the area covered by the plan;

- the proposed distribution, location, extent, and intensity of major components of public and private transportation, sewage, water drainage, solid-waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan;

- standards and criteria by which development would proceed, and standards for the conservation, development, and utilization of natural resources, where applicable; and

- a program of implementation measures including regulations, programs, public-works projects, and financing measures necessary to carry out the above-listed criteria.

Under state law, the specific plan implements and must be consistent with the goals, policies, and objectives of the approving local agency's general plan. Here, the project is intended to be consistent with the *Folsom General Plan* (City General Plan), as adopted on October 31, 1988 and amended through September 12, 2008 (the date of the project's NOP). All subsequent entitlements and approvals relating to land or infrastructure in the plan area (i.e., SPA), including but not limited to subdivisions, public-works projects, prezones, rezones, and conditional use permits, are required to be consistent with the specific plan if the specific plan is to be used as the entitling document. Once the specific plan is adopted, the maximum extent of development in the SPA will have been determined and cannot be exceeded. However, development intensity and residential density within individual communities in the SPA may be transferred from lower density areas to higher density areas, with City approval, provided that the maximum limits set forth in the specific plan are not exceeded.

- **Public Facilities Financing Plan.** A Public Facilities Financing Plan has been prepared and included as part of the Folsom Plan Area Specific Plan, and would be adopted by the City Council before the approval of any tentative map within theSPA. The Financing Plan would define the specific mechanisms required to fund capital costs of all infrastructure necessary as a result of specific plan buildout. The Financing Plan would define funding for the maintenance of new infrastructure and public services needed by the future residents and business locating within the SPA.

- **Development Agreement.** The project applicant(s) intend to enter into a Development Agreement or Agreements with the City pursuant to California Government Code Section 65864 et seq. at the time of specific plan adoption. The agreement would set forth many, if not all, of the applicant(s)' obligations to the City and other public agencies with regard to the project, including but not limited to construction, maintenance, and financial responsibilities. The agreement would also set forth the City's other project obligations, including but not limited to processing of subsequent entitlement applications, formation of financing mechanisms (including but not limited to Mello-Roos districts), and the vesting of development entitlements. Pursuant to applicable Government Code provisions, public hearings at both the City Planning Commission and City Council would be held on the proposed Development Agreement before the City Council takes any action. The specific terms and conditions of any such development agreements are subject to negotiation and approval of the parties.

- **Pre-zoning.** The City of Folsom would pre-zone the SPA prior to annexation.

U.S. Army Corps of Engineers

The Proposed Action represents a Federal action because it would require Federal permits and authorizations for one or more of the following activities: issuance of a Section 404 CWA permit for discharges into waters of the U.S.; Section 106 review of impacts to cultural and historical resources, and issuance of a biological opinion and incidental-take statement pursuant to Section 7 of the Federal Endangered Species Act (ESA) for potential take of endangered or threatened species.

Sacramento Local Agency Formation Commission

Implementation of the Proposed Project Alternative or any of the action alternatives requires approval of annexation of the SPA to the City of Folsom by the Sacramento LAFCo.

PROPOSED FOLSOM SOUTH OF 50 SPECIFIC PLAN LAND USES

As described below, the Proposed Project Alternative would include a range of housing types, employment centers, open space, and recreation opportunities, as well as support services such as roadway improvements, support infrastructure, and utilities. Land uses are described below and shown in Table 2-1 and Exhibit 2-3. Exhibit 2-4 illustrates the proposed zoning districts which would be pre-zoned in the SPA.

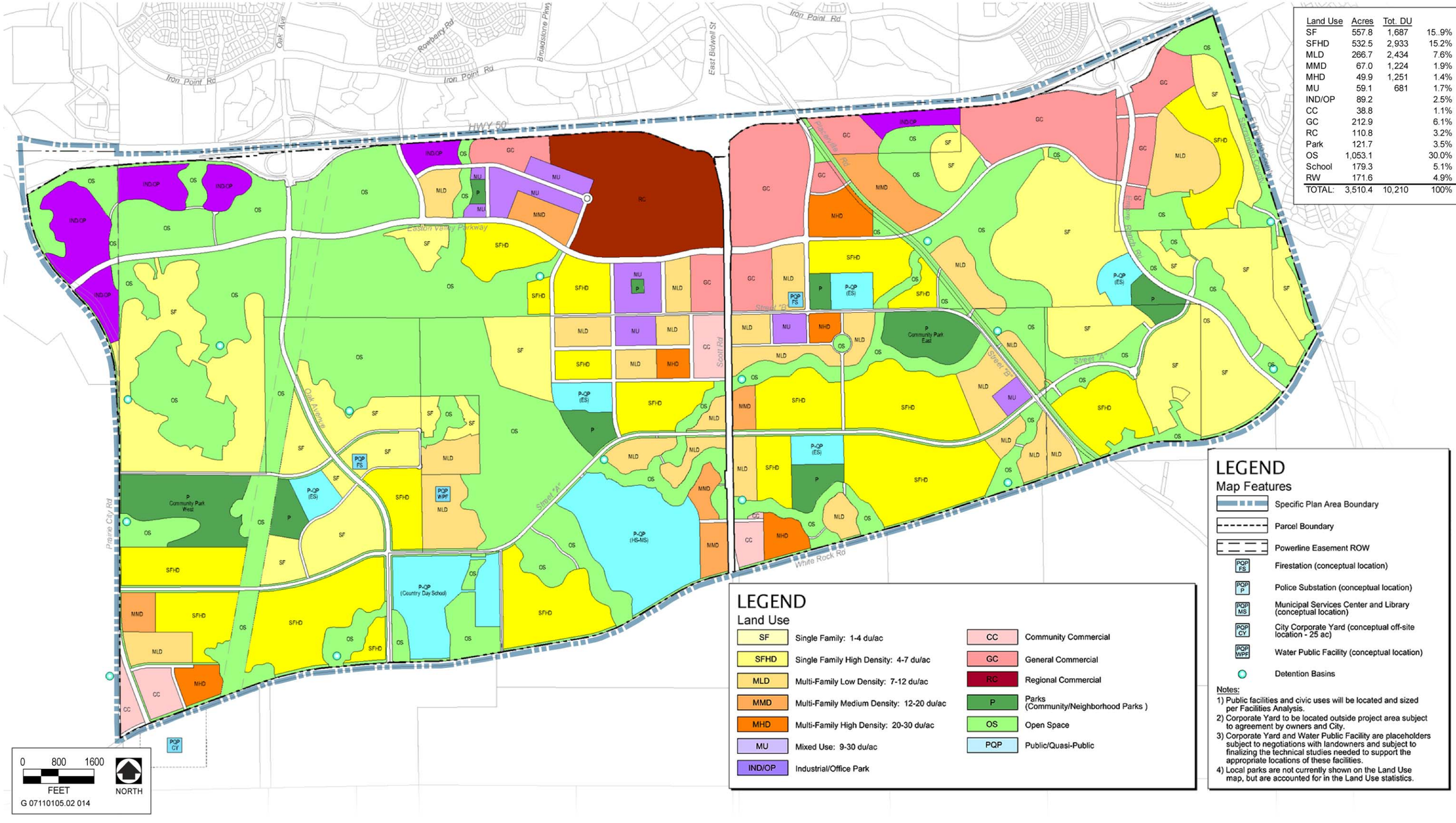
Table 2-1 Acres of Proposed Folsom South of U.S. 50 Specific Plan Project Land Uses		
Land Use	Dwelling Units/Acre	Total Acres
Single Family	1–4	557.8
Single Family High Density	4–7	532.5
Multi-Family Low Density	7–12	266.7
Multi-Family Medium Density	12–20	67.0
Multi-Family High Density	20–30	49.9
Mixed-Use District	9–30	59.1
Office Park		89.2
Community Commercial		38.8
General Commercial		212.9
Regional Commercial		110.8
Parks – Community West		44.5
Parks – Community East		26.1
Parks – Neighborhood		47.6
Parks – Local		3.5
High School-Middle School		79.6
Elementary School		51.0
Country Day School		48.7
Circulation Improvements		171.6
Open Space		1,053.1
Specific Plan Area Total		**3,510.4**
Other Areas Proposed for Annexation		73.6
"**Land" Project Total**		**3,584**
Source: Torrance Planning 2009		

Buildout of the Proposed Project Alternative would be split into four development phases, is anticipated to occur over an approximately 20-year period, and would include the elements described below.

Residential and Mixed-Use

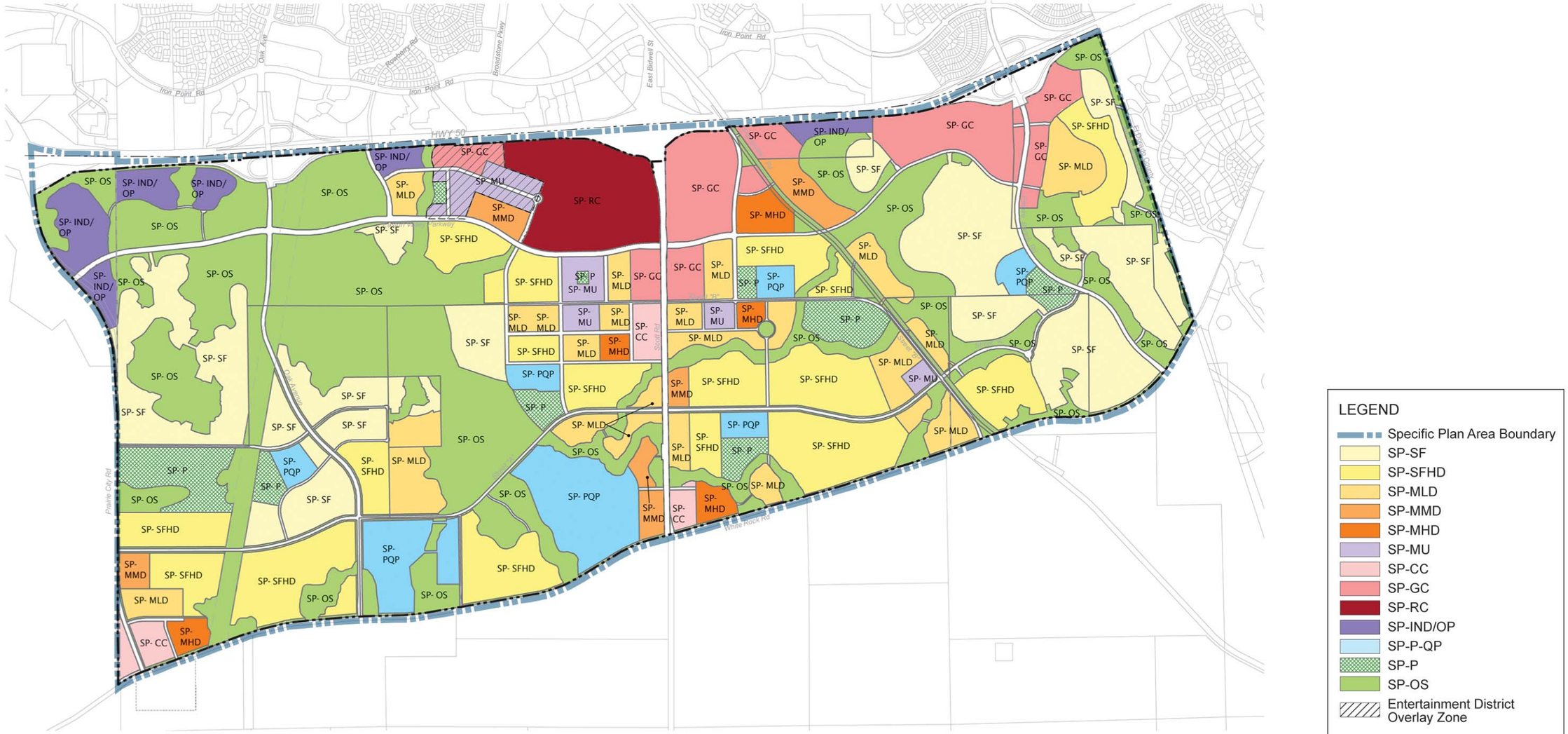
The Proposed Project Alternative provides for the construction of approximately 10,210 dwelling units in five residential land use classifications on 1,477.2 acres. The proposed densities are as follows:

- Single Family, with a permitted density range of 1–4 dwelling units per acre (du/ac) and a desired density of 3 du/ac;
- Single Family High Density, with a permitted density range of 4–7 du/ac and a desired density of 5 du/ac;
- Multi-Family Low Density, with a permitted density range of 7–12 du/ac and a desired density of 9 du/ac;



Source: MacKay & Somps 2009

Folsom South of 50 Conceptual Land Use Plan (Proposed Project Alternative) **Exhibit 2-3**



Source: Torrence Planning 2010

Proposed Zoning Districts **Exhibit 2-4**

- Multi-Family Medium Density, with a permitted density range of 12–20 du/ac and a desired density of 18 du/ac; and

- Multi-Family High Density, with a permitted density range of 20–30 du/ac and a desired density of 25 du/ac.

A total of 1,477.2 acres are proposed for residential development. In addition, 59.1 acres are proposed for a Mixed-Use District, which would include both residential and commercial uses. This district's proposed density range is 9–30 du/ac, with a desired density of 12 du/ac.

Commercial/Industrial

The Proposed Project Alternative includes 451.7 acres of land designated for commercial/industrial use, under the commercial land use classifications of Office Park, Community Commercial, General Commercial, and Regional Commercial (Table 2-1). Three office park areas are proposed along U.S. 50. Community Commercial sites, covering a total of 38.8 acres, are proposed for the intersection of Prairie City and White Rock Roads, and at two locations along Scott Road. 212.9 acres of General Commercial uses are proposed in the central and eastern portion of the SPA along U.S. 50, and on Scott Road in the northern portion of the SPA. A Regional Commercial district (shopping centers) is proposed for 110.8 acres at the southwest corner of Scott Road and U.S. 50.

Parks and Recreation

The Proposed Project Alternative includes a total of 121.7 acres of parks. With 10,210 dwelling units proposed, and a projected population of 24,335 (based on people-per-unit ratios of 2.92 for single-family residences and 1.94 for multi-family residences), this represents 5 acres of parkland per 1,000 residents. Two community parks, totaling 70.6 acres, would provide communitywide recreational facilities serving multiple neighborhoods. An additional 47.6 acres of neighborhood parks are proposed. These parks would be smaller than the community parks, ranging in size between three and ten acres, and would be linked to neighborhoods and services by trails and bicycle facilities. Each of the proposed school sites is located adjacent a proposed neighborhood park in order to provide joint use opportunities. An additional 3.5 acres of local parks would be designated within residential areas as tentative maps are approved. These local parks would serve the recreational needs of the immediately surrounding areas. In addition to the proposed park area, multi-use trails would be appropriate within some open space areas of the SPA, as discussed in "Open Space," below.

Open Space

The Proposed Project Alternative includes 1,053.1 acres of land designated as open space. Measure W, passed by Folsom voters in 2004, amended the Folsom City Charter to require that 30% of the plan area be maintained as natural open space.

Alder Creek, which flows in a northwesterly direction across the western half of the SPA, is entirely encompassed within open space in the plan area. Multi-use trails connect the plan area's proposed residential and commercial areas to services and schools, and provide an alternative to automobile use. The proposed specific plan highlights the importance of visual connections to open space areas; roadways are to be placed along the boundaries of open space areas where possible, with clear visibility at access points to trails.

Stormwater Management

Project implementation would include development of about 3,500 acres of land, most of which has not been previously developed. Drainage watercourses are needed to effectively drain the site, control flooding, and provide recreation and water quality benefits to the proposed development. Exhibit 2-5 shows the proposed pattern of stormwater drainage in the SPA at buildout. A network of conveyance pipes, inlets, manholes, and regulating structures would deliver runoff to the aforementioned system components (Exhibit 2-5).

Alder Creek and several tributaries flow across the SPA, along with several additional intermittent and ephemeral drainage watercourses on-site. The SPA lies within the Lower American and Upper Cosumnes Watersheds. Although most of the SPA has not been mapped for flood risk by the Federal Emergency Management Agency (FEMA), the SPA has been studied by the California Department of Water Resources (DWR) under its Awareness Flood Mapping Program, and the area along Alder Creek has been designated as Awareness Floodplain by DWR. The area along Alder Creek as it flows through the SPA has been designated by the Sacramento County Department of Water Resources as lying within a 100-year (0.01 Annual Exceedance Probability [AEP] floodplain.

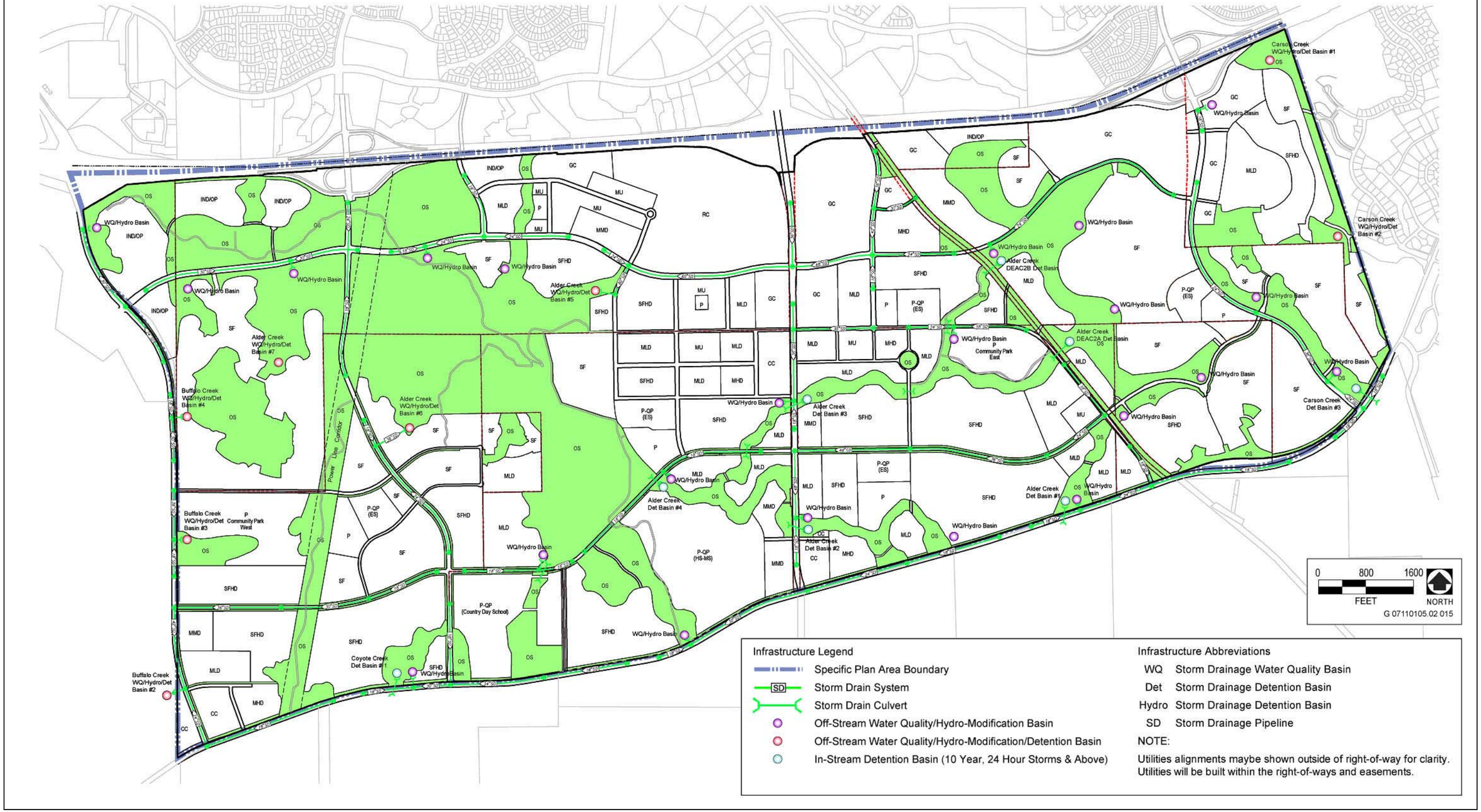
The SPA includes portions of the Alder Creek, Buffalo Creek, Coyote Creek, and Carson Creek Watersheds. Water currently flows off-site via Alder Creek, three outfalls to Buffalo Creek on the western boundary of the SPA, one outfall to Coyote Creek on the southern boundary of the SPA, and three outfalls to Carson Creek on the southern and eastern boundaries of the SPA. Water flows onto the SPA from three off-site developments north of U.S. 50, and from undeveloped properties to the south of the SPA.

Alder Creek originates outside and to the south of the SPA and flows across the SPA in a northwesterly direction. Downstream of the SPA, the Alder Creek and Buffalo Creek Watersheds flow west into areas of undeveloped vernal pool grassland and oak woodland with some scattered industrial development with roadways, utilities, and drainage conveyance systems. The Buffalo Creek and Coyote Creek Watersheds originate in the SPA in the southwest corner. The Coyote Creek Watershed flows south from the SPA into undeveloped grazing lands with vernal pools. The Carson Creek Watershed flows through the eastern portion of the SPA and flows off the site into undeveloped grazing lands to the south and residential development to the east. The Alder Creek Watershed drains into Lake Natoma and the American River. Buffalo Creek is also part of the Lower American River Watershed. Carson Creek and Coyote Creek both ultimately flow into the Cosumnes River.

The Buffalo Creek and Coyote Creek Watersheds consist primarily of gently rolling terrain with slopes ranging from 0% to 15% and ground elevations ranging from approximately 300 to 380 feet above mean sea level in the SPA. The Alder Creek Watershed consists of gently rolling and hilly terrain with slopes from 0% to 30% and ground elevations ranging from 240 feet above mean sea level in the northwest to 770 feet in the northeast. The Carson Creek Watershed consists of hilly terrain with slopes ranging from 5% to 30% and ground elevations from approximately 440 to 800 feet above mean sea level in the eastern portion of the SPA.

A preliminary grading plan has been developed that accommodates needs for on-site stormwater detention, incorporates preferred alignments for roadways, and joins with existing conditions at the project boundaries. A stormwater system consisting of surface swales, catch basins, drainage inlets, underground pipes, and detention basins has been developed for the Proposed Project Alternative. These stormwater facilities would be constructed along the natural drainage courses within the SPA to mimic natural drainage patterns. The stormwater system has been designed to collect and convey 100-year (0.01 AEP) storm events. The proposed drainage and detention facilities would detain flows exiting the site such that 10-year (0.1 AEP) and 100-year (0.01 AEP) flow events would remain at or below existing conditions flows.

The Proposed Project Alternative would employ a Low Impact Development (LID) stormwater management system that would increase infiltration potential, evaporation, and surface storage while reducing excess stormwater runoff. A LID stormwater management system treats stormwater at its source rather than at a centralized collection site or pond. LID systems reduce runoff volume and rate by maximizing infiltration capacity through the use of undisturbed areas, on-site water management facilities, and functional landscaping to capture runoff at its source. Decentralizing stormwater collection can reduce pollutants because as stormwater travels from its source, it can pick up pollutants that can reduce water quality in receiving bodies. By allowing stormwater infiltration at its source, it does not have the opportunity to pick up pollutants as it travels to a centralized and distant collection system. Pollutant reduction is also achieved by minimizing paved surfaces in the SPA. The following elements may be included as part of the Proposed Project Alternative LID system:



Source: RRM Design Group 2008

Conceptual Drainage Plan **Exhibit 2-5**

bioretention facilities, infiltration trenches, dry wells, landscape/buffer strips, and swales (grassed, bio retention, and/or wet). Specific features to be included would be determined between the project applicant(s) and the City.

The majority of the Alder Creek streambed through the SPA would be preserved in the open space land use designation as part of the site development plan, as would many of the other drainage channels and swales. Grading would be required in some of the open-space tract to contain seasonal flows to an active channel and more reliably define the extent of the 100-year (0.01 AEP) floodplain in this area. Construction of several roadway crossings are proposed over Alder Creek, however, and detention basins would be constructed in on-site drainage watercourses. During smaller events, runoff would be conveyed within the creek banks while larger flows would utilize up to the design depth of the detention basins. Sixteen detention and water quality basins are proposed throughout the SPA. These basins are sized to hold both the required detention volume, and an additional water quality volume. Exhibit 2-5 illustrates the locations of detention basins. As shown on Exhibit 2-5, one detention basin is proposed to be located off-site, immediately west of Prairie City Road.

The City's Public Works Department provides stormwater services in Folsom. The SPA is not currently served with stormwater infrastructure. The Proposed Project Alternative would include stormwater infrastructure designed to collect and convey 100-year (0.01 AEP) storm events. The proposed infrastructure includes surface swales, catch basins, drainage inlets, underground pipes, and detention basins. Stormwater runoff would be collected in the proposed system, and discharged into Alder Creek, Buffalo Creek, Carson Creek, and Coyote Creek. Exhibit 2-5 illustrates the conceptual stormwater system for the SPA.

Waters of the U.S., Including Wetland Impacts and Avoidance

A total of 84.94 acres of waters of the U.S. are located within the SPA. Additionally, 1.30 acres of waters were identified on the site that USACE determined to be nonnavigable, isolated, and intrastate waters with no apparent interstate commerce connection. Table 2-2 presents acreage of waters of the U.S., with detail shown for vernal pools, seasonal wetland swales, seasonal wetlands, freshwater marsh, freshwater seeps, ponds, stream channels, intermittent drainage channels, and ditches.

Table 2-2
Waters of the U.S., Including Wetlands in the SPA

Wetland Type	Existing Acres	Acres Filled By Proposed Project Implementation (Direct Impact)	Acres Avoided by Proposed Project Implementation	Acres Fragmented by Proposed Project Implementation (Indirect Impact)
Vernal pool	4.64	2.92	1.72	0.00
Seasonal wetland	4.66	3.87	0.78	0.00
Seasonal swale	25.48	17.63	7.85	0.00
Seep	10.80	4.48	6.33	0.17
Marsh	0.21	0.07	0.14	0.016
Ponds	6.87	1.17	5.71	0.088
Stream channel	17.19	3.38	13.81	0.012
Drainage channel	11.72	4.47	7.25	0.00
Ditch	1.96	1.40	0.55	0.00
Willow Scrub	0.11	0.11	0.00	0.00
Total Waters of the U.S.	**83.64**	**39.50**	**44.14**	0.29
Isolated Waters	1.30	1.25	0.05	0.00
Grand Total	**84.94**	**40.75**	**44.19**	**0.29**

Source: ECORP Consulting, Inc. 2009 and 2010

The Proposed Project Alternative includes 1,050 acres of open space that would contain preserve areas intended to preserve and protect aquatic features, sensitive habitat areas, and cultural resources. Development impacts on wetland habitats and other waters of the U.S. within the preserve areas would be avoided. The boundaries of the preserve areas would be determined during the wetland permitting process. The open space would be distributed throughout the SPA, but concentrated primarily in the western portion of the site where oak woodlands and Alder Creek are present. Most of the stream channels and intermittent drainage channels are included in proposed open space corridors. As shown in Table 2-2, a total of 44.19 acres of waters of the U.S. and wetlands would be preserved in the SPA, including most of Alder Creek.

In addition to the waters of the U.S. that would be avoided, preserved, and protected (described above) in the open space areas, additional acreage of wetland habitat would be created within the open space areas as compensatory mitigation for impacts elsewhere in the SPA.

The open space designation includes oak woodlands, riparian corridors, landscape parkways 30 feet in width or greater, slope areas, and wetland and stream and drainage channel habitats. Buffers of at least 75 feet are included in the open space design to protect preserved habitats from adjacent development. No grading, trails, or improvements would be allowed within the first 25 feet of buffer, but temporary disturbance associated with contour grading, mitigation planting, trails, benches, and other passive recreational amenities may occur in the outer 50 feet of buffer. Allowed uses within designated open space are designed to be consistent with the preservation and enhancement of natural open space and habitat features. These uses include passive outdoor recreation, such as hiking, walking, horseback riding, and bicycling on designated walkways and trails. Trailheads, restroom facilities, educational and interpretive signage, and similar facilities to enhance public enjoyment of the open space would also be allowed, as well as maintenance of stormwater systems and other utilities.

Wetland Preserve Mitigation and Monitoring Plan

A draft mitigation and monitoring plan (MMP) for the wetland preserve and additional mitigation areas has been developed by ECORP Consulting, Inc. (ECORP) on behalf of the project applicant(s) and is attached as Appendix N. An operations and management plan (O&M plan) is also being prepared for the project by ECORP on behalf of the project applicant(s). Both the MMP and the O&M plan would need to be reviewed and approved by USACE before implementation or work in waters of the U.S. The MMP outlines the monitoring methods and success criteria of compensatory wetland and riparian habitat while the O&M plan lists the responsibilities of the Preserve Steward, as well as the tasks required to ensure the long-term viability of the functions and values of the preserve.

Schools

The Proposed Project Alternative also includes approximately 130.6 acres designated for schools, including five elementary school sites, and one middle and high school site. Each elementary school site consists of 10.0 acres, with 79.0 acres for the middle and high school site. In addition to the public school sites, an approximately 50-acre parcel is planned for either a private or public school.

All of the public school sites would be part of the Folsom Cordova Unified School District (FCUSD). The proposed schools, along with adjacent community parks, would be jointly used by FCUSD and the Folsom Parks and Recreation Department. Funding would be provided through state bonds and local bonds and developer fees.

Buildout of the Folsom South of 50 Specific Plan development would generate approximately 4,999 pupils in grades K–12. Of this total, 2,807 pupils would be in grades K–5; 1,017 would be in grades 6–8; and 1,073 would be in grades 9–12 and continuation high school. An additional 102 pupils in grades K–12 would be enrolled in special education programs. FCUSD based these projections on the proposed land use designations and yield rates generated from similar types of development.

The timeline for construction of the proposed schools would coincide with the project applicant(s)' buildout schedule, which is dependent upon market trends for new homes.

Public Utilities and Services

Public services, utilities, and other infrastructure improvements would be needed to support the Proposed Project Alternative as outlined in the proposed specific plan. The project applicant(s) have initiated coordination with the various service providers regarding provision of these services on an as-needed basis. Table 2-3 provides details on the necessary off-site improvements.

Table 2-3
Folsom South of U.S. 50 Specific Plan Off-site Infrastructure Improvements

Improvement	Approved/Existing CEQA Coverage?
Off-site water conveyance	No
Sewer force main connection underground from SPA to interceptor on Iron Point Road North of U.S. 50	No
EID Sewer connections to existing facilities in El Dorado Hills	No
Detention basin (west of Prairie City Road)	No
Prairie City Road improvements	No
White Rock Road improvements	No
Prairie City Road/U.S. 50 Interchange improvements (North of U.S. 50)	Yes
Oak Avenue/U.S. 50 Interchange	No
Rowberry Drive Overcrossing	No
Scott Road/U.S. 50 Interchange improvements (North of U.S. 50)	Yes
Empire Ranch Road/U.S. 50 Interchange improvements (North of U.S. 50)	Yes
Roadway connections from Folsom Heights property into El Dorado Hills	No
Sewer force main connections within roadway connections from Folsom Heights property into El Dorado Hills	No

Sources: MacKay & Somps 2008; data compiled by AECOM in 2009

A municipal services facility is proposed for the SPA. This facility would provide a range of services to residents of the SPA and of the City of Folsom as a whole, including "city hall" type facilities such as meeting rooms and offices, and could also provide space for a branch library facility. Two fire stations are also proposed in the SPA.

Fire and Police Protection

Fire protection services would be provided by the City of Folsom's Fire Department. The majority of the SPA is currently in the jurisdiction of the Sacramento Metro Fire District, but the City would seek detachment from the District in conjunction with its annexation proposal. An approximately 178-acre area in the northeastern portion of the SPA is currently served by the El Dorado Hills Fire Department. The City of Folsom and the El Dorado Hills Fire Department are negotiating whether this area will be transferred to the jurisdiction of the Folsom Fire Department. Two fire stations are included as part of the Proposed Project Alternative. The final size and location of these fire stations will be determined following response time analysis studies, but the conceptual locations for these facilities are near the intersection of Oak Avenue and Street "A," and east of the intersection of Scott Road and Street "B." A fire training facility may be paired with one of the two fire stations; the size and location of these facilities would be determined during the development phase of the project. (See Exhibit 2-3.)

Police protection would be handled by the City's Police Department. The facilities needs for law enforcement and protection would be determined by that department. An on-site police station is conceptually located north of Street "B" and east of Scott Road, with a conceptual police service center in the regional mall. (See Exhibit 2-3.)

On-site Water

The City of Folsom Utilities Department, Water Division would provide water service to the majority of the SPA. In the EID service area (illustrated in Exhibit 2-6), EID would provide water service. No water infrastructure is currently present in the SPA; a conceptual diagram of water distribution infrastructure is presented on Exhibit 2-7. Under the terms of Measure W, adopted by Folsom voters in 2004 and incorporated into the City's Charter as Section 7.08, a new water source for the project area must be identified and provided at no cost to existing Folsom residents, so that the existing water supply currently serving users to the north of U.S. 50 is not reduced. Sections 2.12 through 2.15 below provide a detailed description of the "Water" portion of the project, including information on the source of the water, and off-site conveyance improvements.

The Proposed Project Alternative includes installation of a non-potable water distribution system ("purple pipe" system). This system would be used to route non-potable water to parks and landscaped areas, reducing the use of drinking water for irrigation in the SPA. There currently is no recycled water supply to use within the SPA, but installation of the distribution system would expedite implementation of such a supply when it is available.

The project would conform to the 2007 requirements of Best Management Practices (BMPs) from the California Urban Water Conservation Memorandum of Understanding (or later edition if applicable). These BMPs could include: performing site-specific landscape and interior water surveys; conducting public information campaigns and school education programs; adopting a water waste ordinance; and identifying opportunities for installation of dedicated irrigation meters, monitoring progress through billing, and providing site-specific assistance for accounts 20% over budget. The California Urban Water Conservation BMPs would have a long-term affect on the City's ability to manage water use throughout the SPA. To the extent that the City requires installation of dedicated irrigation meters in the SPA, a monitoring and survey program would provide an opportunity to ensure that landscape water demands are achieving desired water conservation targets. The City's water conservation coordinator would be assigned to manage water conservation programs and City staff will be authorized to enforce the water waste ordinance. Through targeted outreach, the City can encourage continued customer use of highly efficient appliances and irrigation systems, emphasize the need to retain efficient landscape plantings, and minimize otherwise wasteful uses.

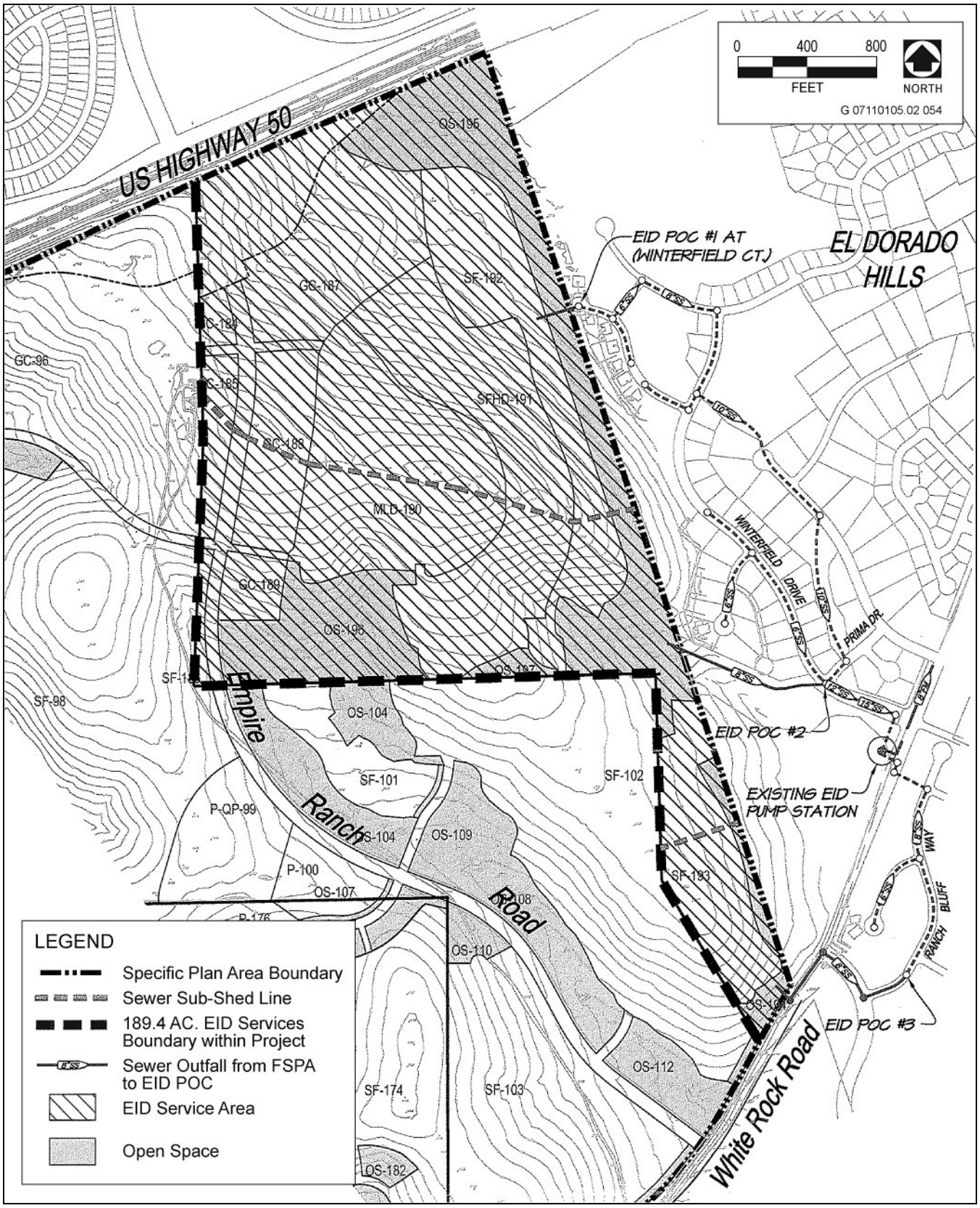
Sewer

Sanitary sewer service for the SPA would be provided by the City of Folsom Wastewater Division.
The Wastewater Division discharges its wastewater into County systems; Sacramento Regional County Sanitation District (SRCSD) and County Sanitation District No. 1 (CSD-1) for conveyance and treatment at SRCSD regional facility. An approximately 189-acre portion of the SPA east of Empire Ranch Road is in the El Dorado Irrigation District (EID) service area. Sanitary sewer service in this area would be provided by EID, through connection with the existing EID system in El Dorado Hills, with wastewater being conveyed to the El Dorado Hills WWTP. Exhibit 2-6 illustrates the location of the EID service area.

No sanitary sewer facilities are currently present in the SPA. Exhibit 2-8 presents a conceptual diagram of on-site sewer facilities. Sewer facilities would include both gravity-fed mains and force-mains, as well as several pump stations. Connection to the City's existing wastewater system would proceed off-site along Oak Avenue, joining the existing system on Iron Point Road west of Oak Avenue.

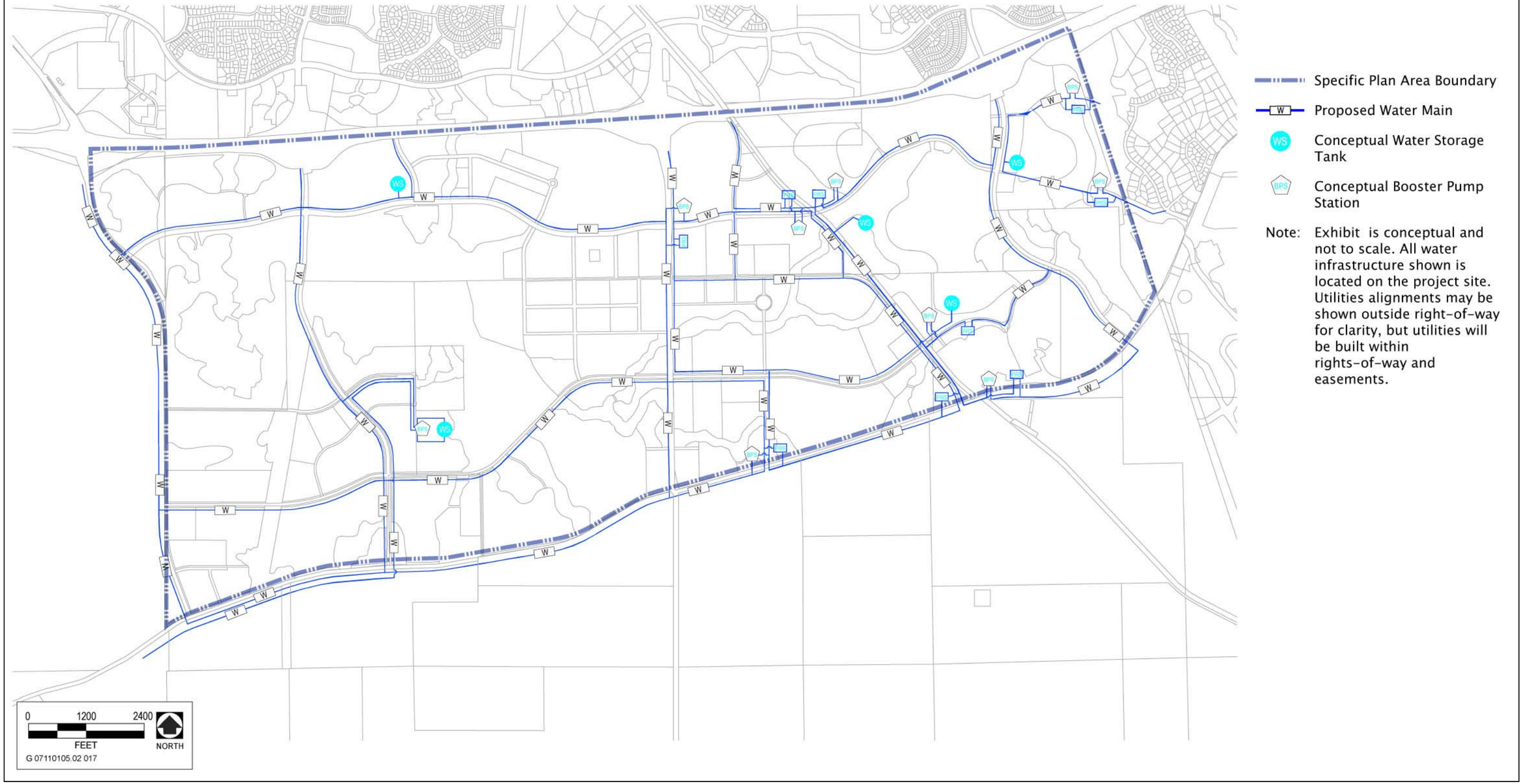
Electricity

Electrical service would be provided by Sacramento Municipal Utility District (SMUD). All electrical lines under 69 kilovolts (kV) would be routed underground within the rights-of-way of streets in the SPA. SMUD has



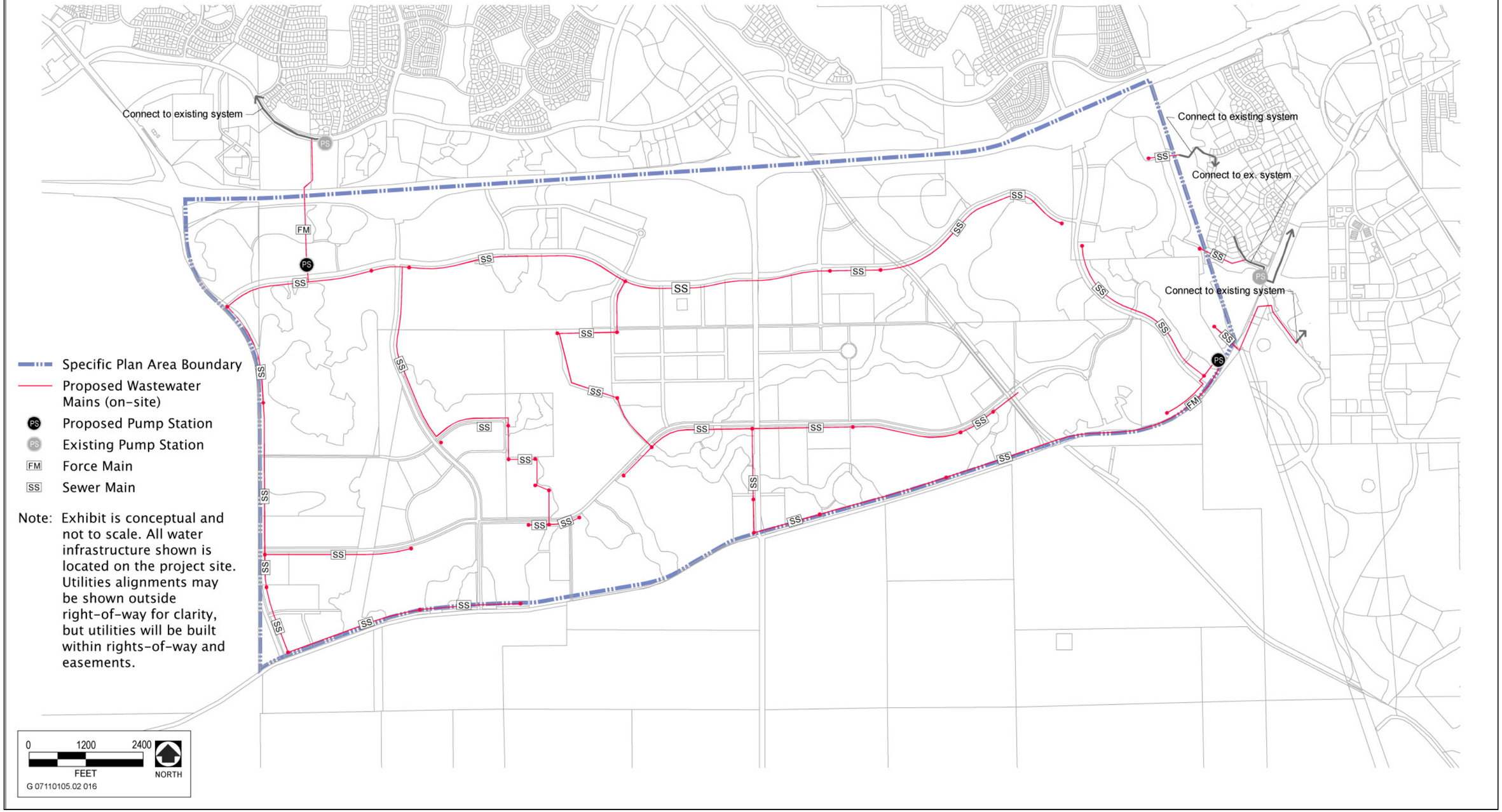
Source: MacKay & Somps 2008

El Dorado Irrigation District Service Area and Conceptual Off-site Sewer Facilities **Exhibit 2-6**



Source: RRM Design Group 2008, MacKay & Somps 2009

Conceptual On-site Water Conveyance **Exhibit 2-7**



Source: RRM Design Group 2008, MacKay & Somps 2009

Conceptual Wastewater Diagram **Exhibit 2-8**

indicated that backbone electrical improvements necessary to support the project would include construction of three electric substations. The exact locations for these substations have not been defined; however, the approximate locations would be near the intersection of Easton Valley Parkway and Rowberry Drive, near the intersection of White Rock and Scott Roads, and along Placerville Road north of Easton Valley Parkway. These substations would be served by extensions of existing 69-kV overhead lines.

The project applicant(s) are currently working with SMUD to develop detailed design plans for electrical service to the SPA.

Natural Gas

Natural gas service would be provided by Pacific Gas & Electric Company (PG&E), and would be routed underground within the rights-of-way of streets in the SPA. The project applicant(s) is currently working with PG&E to develop detailed design plans for natural-gas service to the SPA, but one or more transmission pipelines and two natural gas regulator stations would be constructed in the SPA to serve buildout of the project.

Telephone

AT&T has existing underground and overhead telephone service in the vicinity of the SPA. AT&T would extend lines and construct facilities to serve the SPA concurrently with development phases.

Solid Waste Disposal

The City's Solid Waste Division would provide pickup and disposal of solid waste in the SPA.

Circulation Improvements

As shown in Exhibit 2-9, the Proposed Project Alternative includes the development of an estimated 171.6 acres of major roadways and associated landscaping within the SPA. Access and circulation within the SPA would be provided through the construction of the following primary roadways:

White Rock Road is a regional connector which forms the southern boundary of the SPA, and provides an alternative travel route parallel to U.S. 50. White Rock Road would be a 5-lane roadway with a 28-foot wide median to accommodate a future sixth traffic lane, if needed. A 50-foot-wide landscape parkway (including a 12-foot Class I bicycle trail) would buffer development in the SPA from White Rock Road.

- Easton Valley Parkway would be a regional roadway and transit corridor parallel to U.S. 50. The street section for Easton Valley Parkway would vary from two- to six-lanes, with a median of 16 to 38 feet. Four lanes (with Class II bicycle lanes on both sides of the road, a 6-foot wide meandering sidewalk on the south side of the street, and a Class I bike path on the north side of the street. No sidewalk will be provided on the north side of Easton Valley Parkway from Rowberry Road to Prairie City Road) are proposed from Prairie City Road to the western end of the proposed Regional Commercial center. Six lanes are proposed from the Regional Commercial center to Placerville Road (with eight-foot sidewalks on each side of the road), and two lanes east of Placerville Road (with 5-foot wide Class II bicycle lanes on both sides of the road, a separate 12-foot-wide class I bike path on the south side of the road, and a six-foot sidewalk on the north side). A Class II bicycle lane would run the length of Easton Valley Parkway in the SPA. Right of way for two lanes is reserved for dedicated transit service at the level of bus rapid transit, and eventually for light rail when demand justifies the service.

- Prairie City Road is a local arterial connecting U.S. 50 and White Rock Road along the western boundary of the SPA. Prairie City Road would be a 4 to 6 lane major arterial with 16-foot-wide center median. Class II bicycle lanes would be provided in each direction, with six-foot-wide sidewalks along both sides of the

roadway. Six lanes are proposed from U.S. 50 to Easton Valley Parkway, with a four-lane roadway continuing from Easton Valley Parkway to White Rock Road. Empire Ranch Road would be extended from U.S. 50 to White Rock Road on the eastern portion of the SPA. Six lanes are proposed from U.S. 50 to Easton Valley Parkway, with four lanes proposed from Easton Valley Parkway to White Rock Road. The Empire Ranch Road corridor would include Class II bicycle lanes in each direction, and six-foot sidewalks on both sides of the road.

- Oak Avenue would extend from U.S. 50 to White Rock Road, providing an alternative to existing north-south routes. Four lanes are proposed for Oak Avenue, with a 16-foot-wide center median. Class II bicycle lanes are proposed in each direction, with six-foot-wide sidewalks proposed on both sides of the road.

- Scott Road would be extended from U.S. 50 south to White Rock Road. Six lanes are proposed between U.S. 50 and Street B, with four lanes proposed between Street B and White Rock Road. Class II bicycle lanes and six-foot-wide sidewalks are proposed in each direction.

- Street B would connect Placerville Road to White Rock Road with two travel lanes, Class II bicycle lanes in each direction, and 15-foot-wide sidewalks on each side of the road. The corridor would contain a 38-foot-wide center median for limited left-turn movements and future transit use east of Scott Road.

- Placerville Road would extend from a U.S. 50 undercrossing to White Rock Road. The roadway would range from two to four lanes, with Class II bicycle lanes in each direction. A 38-foot-wide median is proposed from Easton Valley Parkway to Street B to accommodate future transit use. Sidewalk widths would be 15-feet south of Easton Valley Parkway, with six-foot sidewalk and 12-foot wide Class I bike paths constructed on other portions of the route.

- Rowberry Drive would extend from a U.S. 50 overpass to Easton Valley Parkway, with four travel lanes, Class II bicycle lanes in both directions, and six-foot-wide sidewalks on both sides of the road.

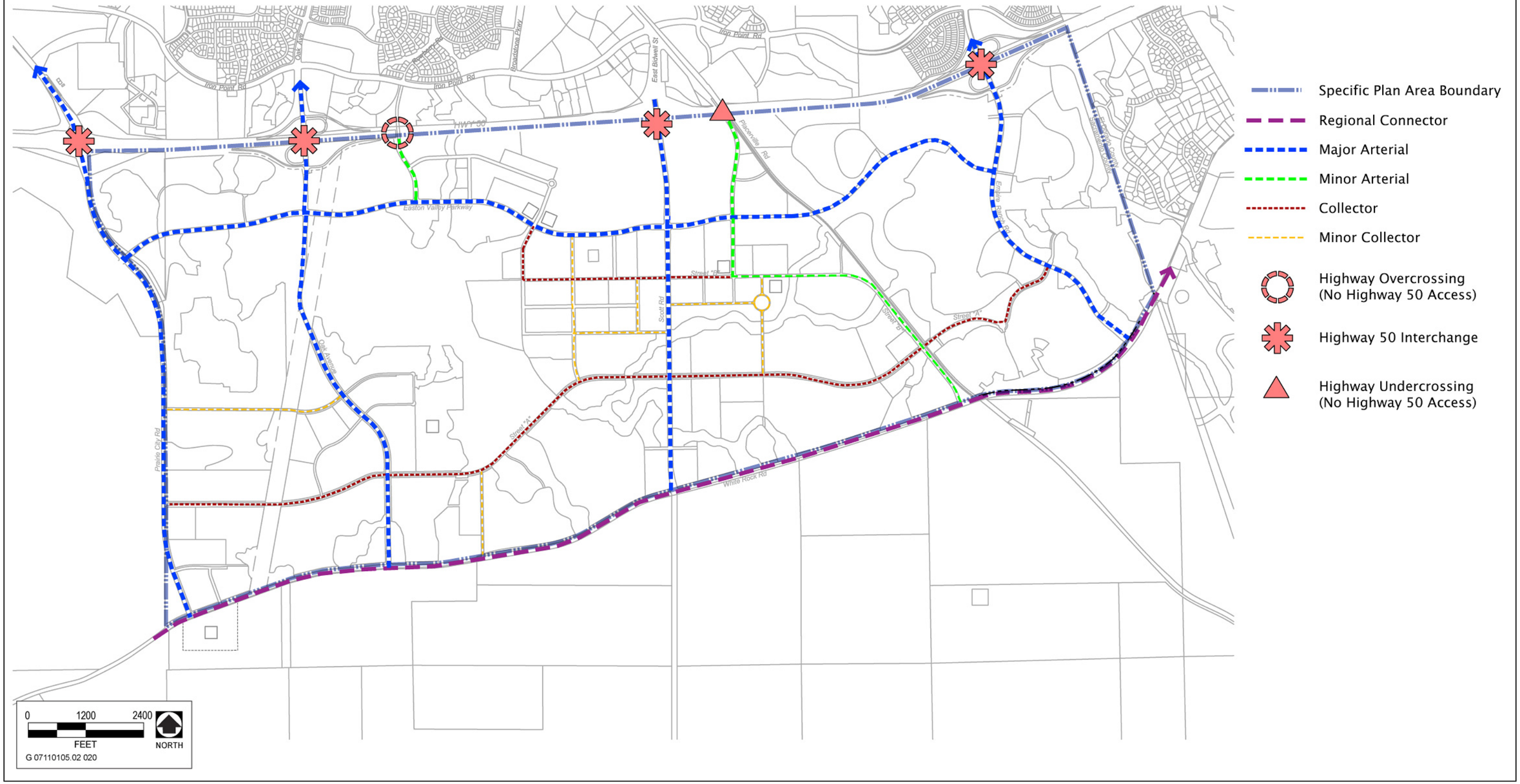
- Street A would connect Prairie City Road on the west with Empire Ranch Road on the east. Two travel lanes, with Class II bicycle lanes in both directions, six-foot-wide sidewalks on both sides of the road are proposed for Street A.

In addition to the principal roadways, a number of different types of local roadways are proposed. In the Town Center area, roads would be two-lanes with either parallel or angle parking on both sides and 10-foot-wide sidewalks. Alleys in the Town Center would be 20 feet wide, with no parking permitted.

In residential areas, entry roads would include two travel lanes, Class II bicycle lanes in both directions, and 5-foot-wide sidewalks. Internal roadways would have two travel lanes, with 5-foot-wide parking lanes on both sides, and five foot sidewalks on both sides. In hillside neighborhoods, local streets would have two travel lanes, with no parking or sidewalks. One-way roads with one travel lane and a parking lane and sidewalk on one side may be permitted in hillside neighborhoods.

In addition to on-site transportation improvements, the project applicant(s) would be required to pay their fair share of various regional and local roadway improvements, which are discussed in Chapter 3A.15, “Traffic and Transportation – Land.”

As shown in Exhibit 2-10, the Proposed Project Alternative would include the development of bicycle and pedestrian trails within the SPA. In addition to sidewalks and recreational trails in the open space areas, Class I paved off-street bike paths would be provided along White Rock Road, and 5-foot-wide Class II bicycle lanes would be provided on major roadways as described above. 12-foot-wide multi-use trails would be provided along portions of several roadways, including Easton Valley Parkway, Prairie City Road, Oak Avenue, and Street A.



Source: RRM Design Group 2008

Conceptual Circulation Diagram **Exhibit 2-9**

The Proposed Project Alternative would also include a proposed "transit corridor," which would connect with proposed Bus Rapid Transit (BRT) service to the west of the SPA along Easton Valley Parkway. As shown on Exhibit 2-10, the proposed transit corridor would extend from the western project boundary along Easton Valley Parkway, turning south on Placerville Road, and then turning east and south onto Street B, terminating at White Rock Road. Proposed roadways along this transit corridor would include 38-foot-wide medians to permit later addition of dedicated bus lanes.

OFF-SITE "LAND" IMPROVEMENTS

Several off-site land development improvements (in addition to the off-site water facilities discussed in Sections 2.10 through 2.12 of this chapter) would be necessary to serve development in the SPA under the Proposed Project. These improvements would include:

- a sewer pipeline connection extending from the SPA to an existing SRCSD pump station on Iron Point Road;
- improvements to the existing interchange at U.S. 50 and Prairie City Road (improvements for traffic from the south only);
- a new interchange at U.S. 50 and Oak Avenue (Proposed Project includes improvements for traffic from the south only);
- a new overcrossing of U.S. 50 at Rowberry Drive;
- improvements to the existing interchange at U.S. 50 and Scott Road/East Bidwell Street (improvements for traffic from the south only);
- a new interchange at U.S. 50 and Empire Ranch Road (improvements for traffic from the south only); and
- Construction of a detention basin on the west side of Prairie City Road.

Exhibit 2-11 illustrates the locations of proposed off-site land development improvements associated with development of the SPA. Analysis of these improvements is addressed under "On-site and Off-site Elements" in the impact discussions contained within the 3A "Land" sections of Chapter 3, "Affected Environment, Environmental Consequences, and Mitigation Measures" of this EIR/EIS.

PROJECT PHASING

As discussed above in Section 1.2, both LAFCo Resolution 1196 and the City's Measure W require the SPA project applicants to develop phasing plans for certain improvements. In conjunction with their development of those plans, the SPA project applicants have developed an estimate of a schedule on which units within the SPA would be developed. This estimated schedule has five increments of units is discussed in the Public Facilities Financing Plan and the enclosed water supply assessment. While that schedule is currently the project applicants' best estimate of the pace of development within the SPA, that schedule is subject to change depending on market conditions and individual applicants' preferences for how to develop their respective properties.

This estimated schedule of development, however, does not indicate where specific units will be developed geographically at specific times. As Exhibit 2-12 illustrates, the SPA project applicants have developed a generalized geographic depiction of four phases of construction (north, east, south and west). At the time of writing of this EIR/EIS, however, information on the order in which development of these geographic phases of SPA would occur was not available. It therefore would be speculative for this EIR/EIS to analyze development of any particular phase of the SPA as occurring before or separate from any other particular phase.

2.3.2 No Project Alternative

Under this alternative, the project as a whole would not be developed or implemented—meaning that none of the development proposed for the SPA would be constructed, and no off-site water facilities would be constructed. However, the No Project Alternative assumes that existing land uses in the SPA would continue, including 80-acre agricultural development as permitted under the adopted Sacramento County General Plan designations and zoning, which would permit the construction of up to 44 individual rural residences on 80-acre parcels zoned for agricultural use. This analysis uses existing site conditions at the time that the NOP was published (September 2008) as the "existing conditions" portion of the "no project" scenario (see State CEQA

Guidelines Section 15126.6[e][2]) to allow consideration of a full range of alternatives. Remediation of contaminated soil and groundwater on the Aerojet General Corporation parcel along the western property boundary is a separate action that will continue either with or without project implementation.

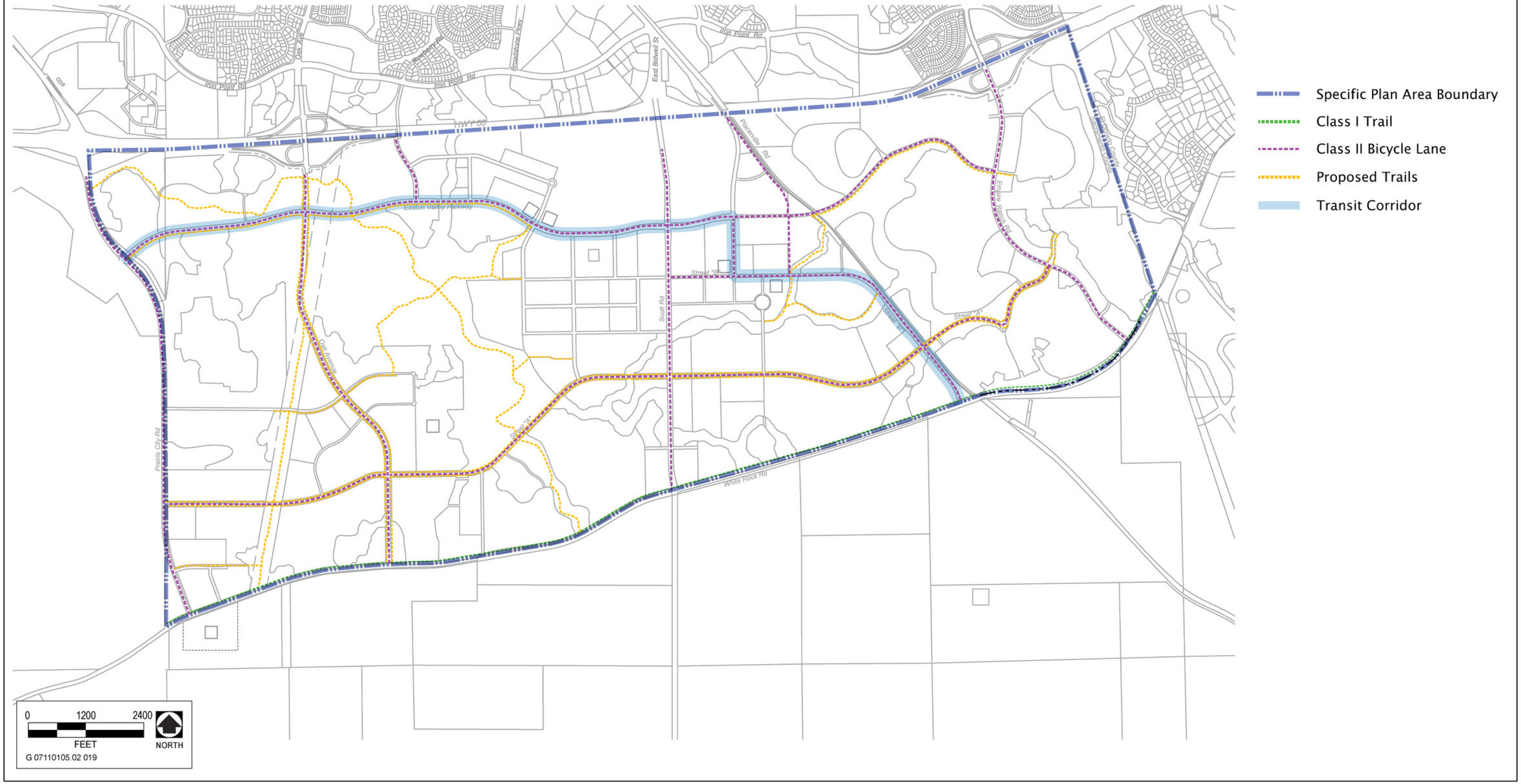
Under the No Project Alternative, the SPA would not be annexed into the City of Folsom. Instead, it would remain within and under the jurisdiction of, Sacramento County. Although Chapter 3.0, "Affected Environment, Environmental Consequences, and Mitigation Measures," discusses the impacts related to the No Project Alternative, it is not appropriate in this EIR/EIS to propose mitigation measures for the No Project Alternative, because the City of Folsom has no authority or jurisdiction over any actions which would occur in the SPA under this alternative. In addition, this alternative would result in no impacts to wetlands or other waters of the U.S. (as compared to a total of 39.5 acres filled for the "Land" portion of the project and 6.8 acres filled for the "Water" portion of the project for a grand total of 46.3 acres filled by the project as a whole). Because no impacts would occur, the USACE would have no authority over any actions that would occur in the SPA under this alternative.

Although the Sacramento County General Plan contains goals and policies intended to protect many sensitive resources, such as cultural and biological resources, most of those goals and policies do not apply to land that is zoned and designated for agricultural use, because continued agricultural activities and agricultural land is a valuable resource in and of itself that is encouraged and protected by Sacramento County. The goal of Sacramento County's Agricultural Element as stated in its General Plan is to "maintain the County's agricultural lands, and (their) agricultural productivity…" and "disruption of one resource value for another is an historic pattern of land development in the County," which the County is now trying to avoid. As further discussed in the Sacramento County General Plan, the County recognizes that while all resources are valuable, it is not always possible to achieve a balance between protecting agricultural land owners' right to farm, and protecting other sensitive resources. The analysis of the No Project/No Action Alternative in this EIR/EIS assumes that "normal agricultural activities" would continue in the SPA; based on the soil types in the SPA, those activities would consist of dryland farming (i.e., livestock grazing), which is consistent with the historic use of the SPA over the last 100 years.

Consistent with CEQA requirements, this No Project Alternative is evaluated in this EIR/EIS. The No Project Alternative would not meet the CEQA project purpose, need, or objectives of the proposed Folsom South of Highway 50 Specific Plan project as described in Chapter 1, "Introduction and Statement of Purpose and Need."

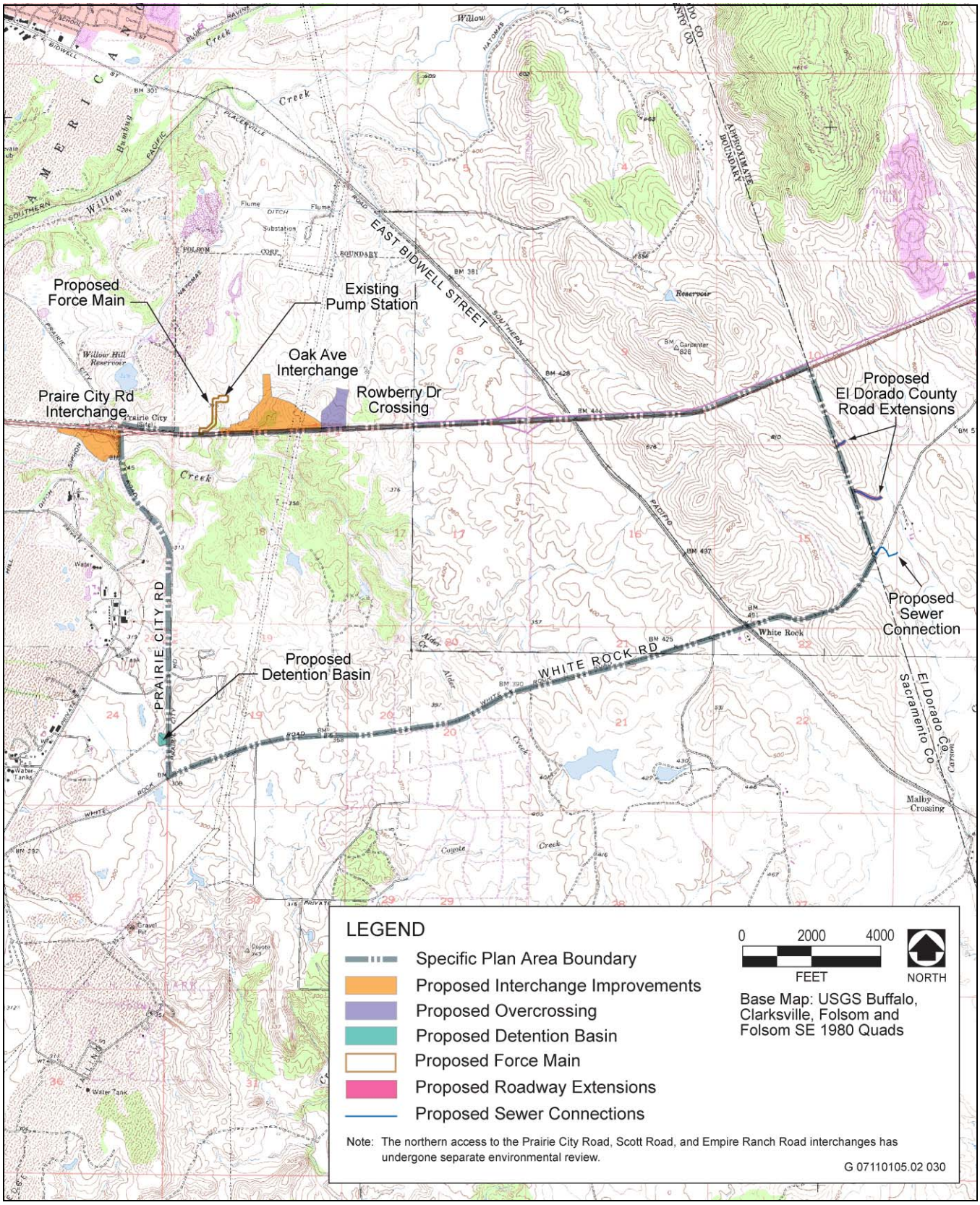
2.3.3 No USACE Permit Alternative

This alternative was designed to avoid the placement of dredged or fill material into waters of the U.S. (including wetlands) from both the "Land" and "Water" portions of the project, thus eliminating the need for a USACE Section 404 CWA permit. As a result, there would be no fill of waters of the U.S. under this alternative, compared to 46.3 combined acres of fill under the total Proposed Project (i.e., including both land development and off-site water facilities). This alternative, however, would likely still require that the applicants consult with the USFWS and the National Marine Fisheries Service (NMFS) to ensure compliance with Section 9 of the ESA. A conceptual land use map showing development areas and jurisdictional wetlands



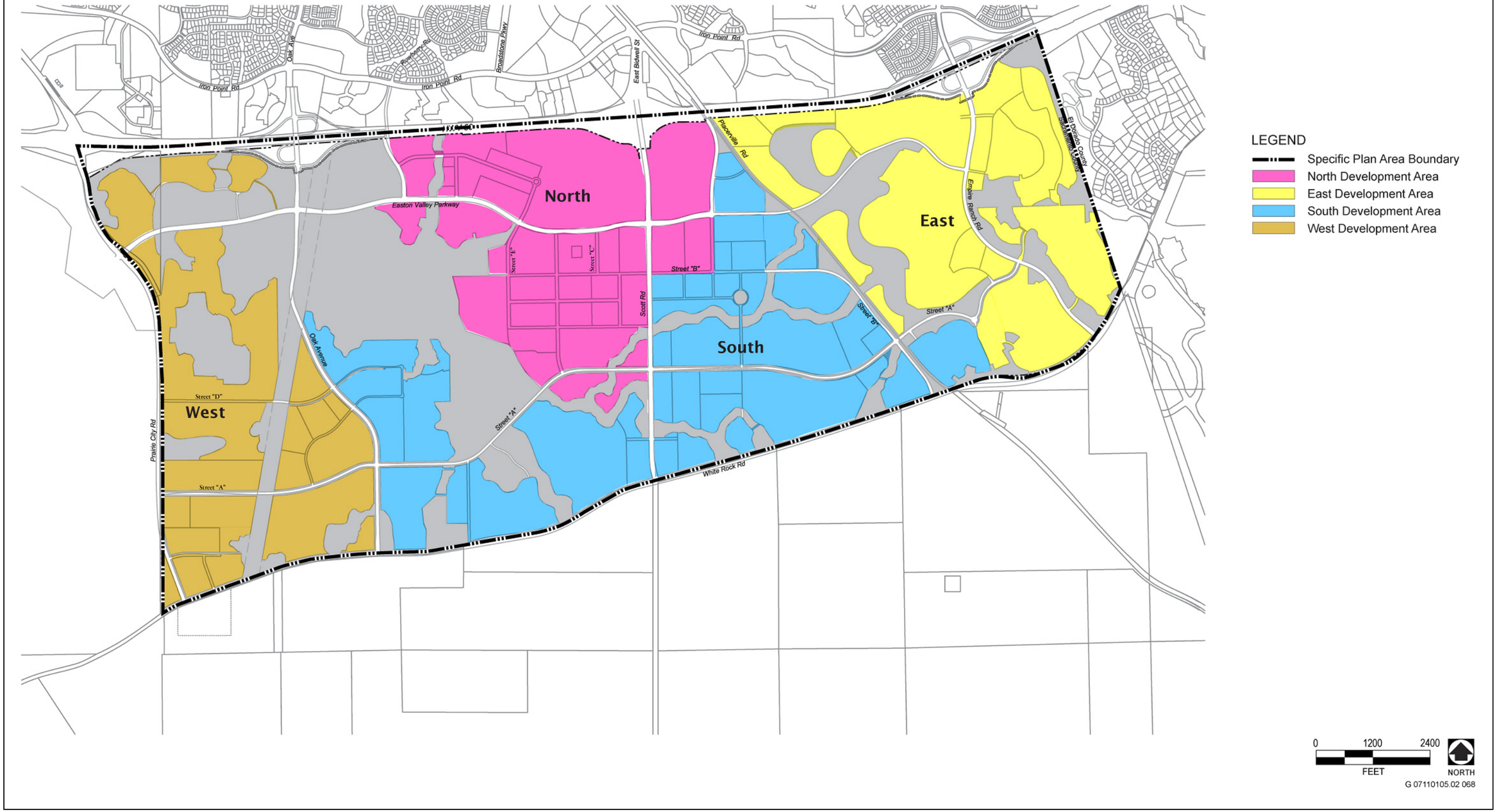
Source: RRM Design Group 2008

Conceptual Pedestrian, Bicycle, and Transit Corridors **Exhibit 2-10**



Source: MacKay & Somps 2008, RRM Design Group 2008, Adapted by AECOM in 2009

Proposed Off-site Land Development Improvements Exhibit **2-11**



Source: Torrence Planning 2009

Conceptual Project Phasing Plan **Exhibit 2-12**

with a 50-foot-wide avoidance buffer in the SPA is provided in Exhibit 2-13. Proposed backbone infrastructure improvements in this alternative are illustrated in Exhibit 2-14. Under this alternative, 1,506.1 acres of the SPA would be designated as open space, compared to 1,057 acres under the Proposed Project Alternative. This alternative also would require more expensive/time-consuming, methods of construction for roadways and utilities. Under this alternative, approximately 3,837 fewer residential housing units would be constructed, and approximately 131 fewer acres would be used for commercial/industrial development, than under the Proposed Project Alternative. The acreage proposed for park use is reduced to 84.8 acres in this alternative. Tables 2-4 and 2-5 list the total estimated residential, commercial, and industrial development under this alternative. The off-site water facilities in this alternative would avoid fill of waters of the U.S. by using horizontal directional drilling (i.e., jack-and-bore) construction methods along the pipeline alignment and by siting the water treatment plant in a location that would avoid fill of waters of the U.S.

Table 2-4
Summary Comparison of Residential Development under the No USACE Permit Alternative and the Proposed Project Alternative

Land Use Type	No USACE Permit Alternative			Proposed Project Alternative		
	Acres	du/ac[1]	Units	Acres	du/ac[1]	Units
Single Family	795.8	3	2,388	560.7	3	1,687
Single Family High Density	204.9	5.5	1,127	531.2	5.5	2,933
Multi-Family Low Density	147.0	9	1,323	268.5	9	2,434
Multi-Family Medium Density	54.5	18	981	66.9	18	1,224
Multi-Family High Density	8.4	25	210	49.9	25	1,251
Mixed Use	28.7	12	344	59.1	12	681
Total	**1,239.3**		**6,373**	**1,536.3**		**10,210**

[1] du/ac = dwelling units per acre
Source: MacKay & Somps 2008

Table 2-5
Summary Comparison of Commercial and Industrial Development under the No USACE Permit Alternative and the Proposed Project Alternative

Land Use Type	No USACE Permit Alternative Acres	Proposed Project Alternative Acres
Office Park	73.9	20
Community Commercial	7.2	133
General Commercial	177.6	86
Regional Commercial	131.7	282
Total	**390.4**	**521**

Source: MacKay & Somps 2008

2.3.4 RESOURCE IMPACT MINIMIZATION ALTERNATIVE

This alternative would include additional areas of high-quality biological habitat in the proposed preserve area, and would also preserve all of the on-site cultural resources that would be eligible for listing on the California Register of Historical Resources/National Register of Historic Places. Exhibit 2-15 illustrates the conceptual land use plan for the Resource Impact Minimization Alternative, and Exhibit 2-16 illustrates proposed backbone

infrastructure improvements. A summary comparison of the long-term environmental benefits to be gained, or adverse impacts to be avoided, among all alternatives is provided at the end of this chapter; detailed comparisons are provided within each section of Chapter 3, "Affected Environment, Environmental Consequences, and Mitigation Measures."

Under the Resource Impact Minimization Alternative, project components would be reconfigured to avoid many of the impacts on waters of the U.S., including wetlands and high-quality biological habitat, and the level of residential development would be decreased to reduce the amount of project-generated traffic, air quality emissions, and noise. A permit for wetland fill would still be required under this alternative; 26.47 acres of waters of the U.S. would be filled, 13.03 fewer acres than would be filled by the Proposed Project Alternative. An additional 375 acres of land across the SPA would be designated as open space.

A total of 1,429 acres, approximately 40% of the SPA, would become a protected wetland preserve. Areas of the SPA with higher concentrations of cultural resources, including areas on the northwestern portion of the SPA would also remain in open space in this alternative. The total acreage of residential development would be reduced by approximately 205 acres and approximately 2,245 fewer residential units would be constructed. Overall density would decrease (average density across the residentially designated area would be approximately 6 du/ac, compared to 6.65 du/ac under the Proposed Project Alternative). Commercial and industrial development sites would be reduced by approximately 113 acres. Development of park land would be reduced to 105.7 acres. The types of land uses and general on- and off-site infrastructure improvements would remain the same as under the Proposed Project Alternative. Tables 2-6 and 2-7 list the total estimated residential, commercial, and industrial development under this alternative.

Table 2-6
Summary Comparison of Residential Development under the Resource Impact Minimization Alternative and the Proposed Project Alternative

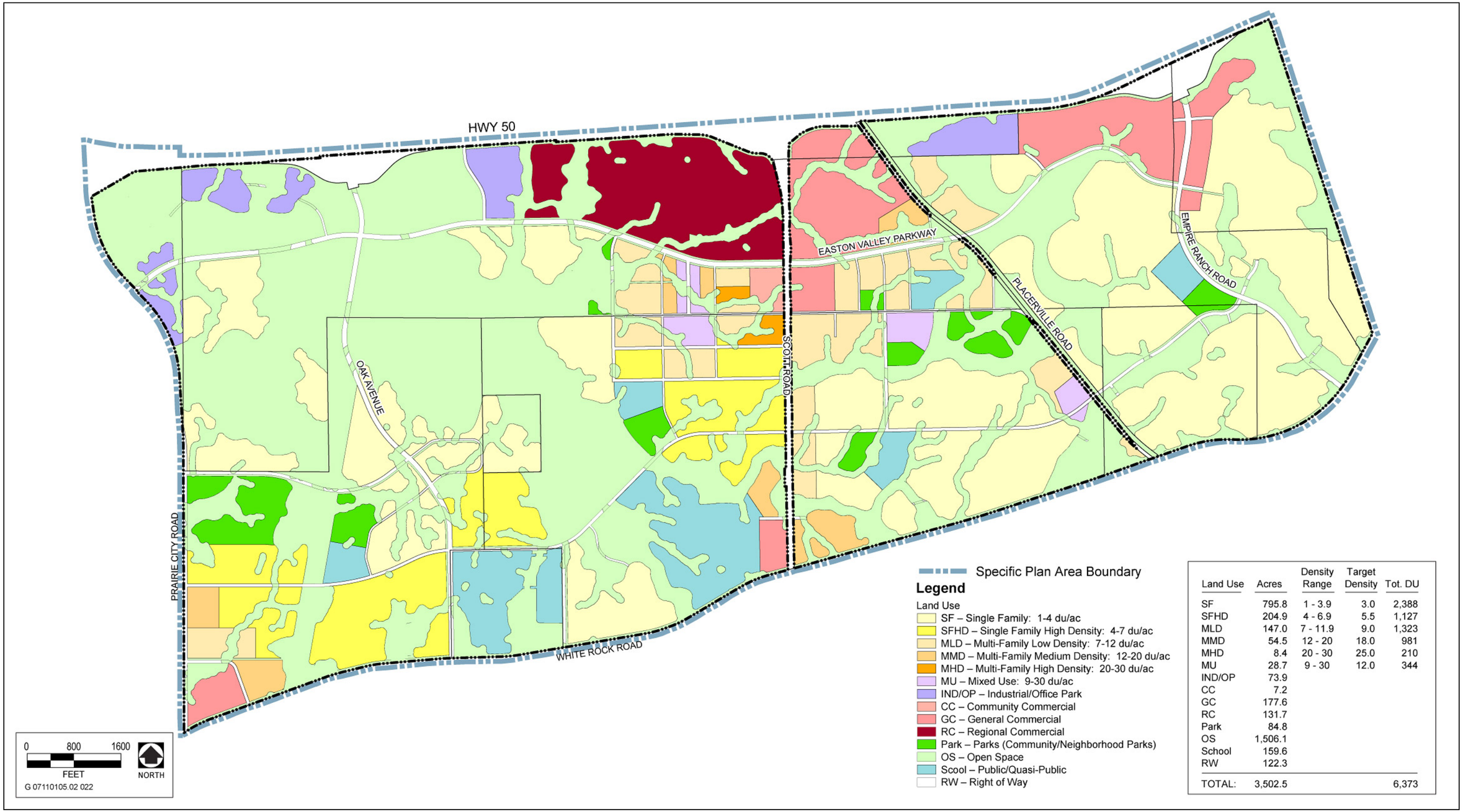
Land Use Type	Resource Impact Minimization Alternative			Proposed Project Alternative		
	Acres	du/ac[1]	Units	Acres	du/ac[1]	Units
Single Family	504.5	3	1,513	560.7	3	1,687
Single Family High Density	491.5	5.5	2,703	531.2	5.5	2,933
Multi-Family Low Density	245.9	9	2,213	268.5	9	2,434
Multi-Family Medium Density	52.3	18	942	66.9	18	1,224
Multi-Family High Density	11.5	25	287	49.9	25	1,251
Mixed Use	25.6	12	307	59.1	12	681
Total	**1,331.3**		**7,965**	**1,536.3**		**10,210**

Note:
[1] du/ac = dwelling units per acre
Sources: MacKay & Somps 2008

Table 2-7
Summary Comparison of Commercial and Industrial Development under the Resource Impact Minimization Alternative and the Proposed Project Alternative

Land Use Type	Resource Impact Minimization Alternative Acres	Proposed Project Alternative Acres
Office Park	52.1	89.2
Community Commercial	15.4	38.9
General Commercial	161.3	213.1
Regional Commercial	110.7	110.8
Total	**339.5**	**452**

Source: MacKay & Somps 2008



Land Use	Acres	Density Range	Target Density	Tot. DU
SF	795.8	1 - 3.9	3.0	2,388
SFHD	204.9	4 - 6.9	5.5	1,127
MLD	147.0	7 - 11.9	9.0	1,323
MMD	54.5	12 - 20	18.0	981
MHD	8.4	20 - 30	25.0	210
MU	28.7	9 - 30	12.0	344
IND/OP	73.9			
CC	7.2			
GC	177.6			
RC	131.7			
Park	84.8			
OS	1,506.1			
School	159.6			
RW	122.3			
TOTAL:	3,502.5			6,373

Source: MacKay & Somps 2008

No USACE Permit Alternative

Exhibit 2-13

Specific Plan Area Boundary

INFRASTRUCTURE ABBREVIATIONS

WTP	Water Treatment Plan
BPS	Booster Pump Station
PRS	Pressure Reducing Station
SD	Storm Drain
SS	Sanitary Sewer
W	Water
RW	Raw Water
FM	Force Main
DB	Detention Basin
WQB	Water Quality Basin

INFRASTRUCTURE LEGEND

- SIGNALIZED INTERSECTION
- ROADWAYS
- STORM DRAIN SYSTEM
- SANITARY SEWER SYSTEM
- WATER SYSTEM

NOTE:
Utilities alignments are shown outside of right-of-way for clarity. Utilities will be built within the right-of-ways and easements.

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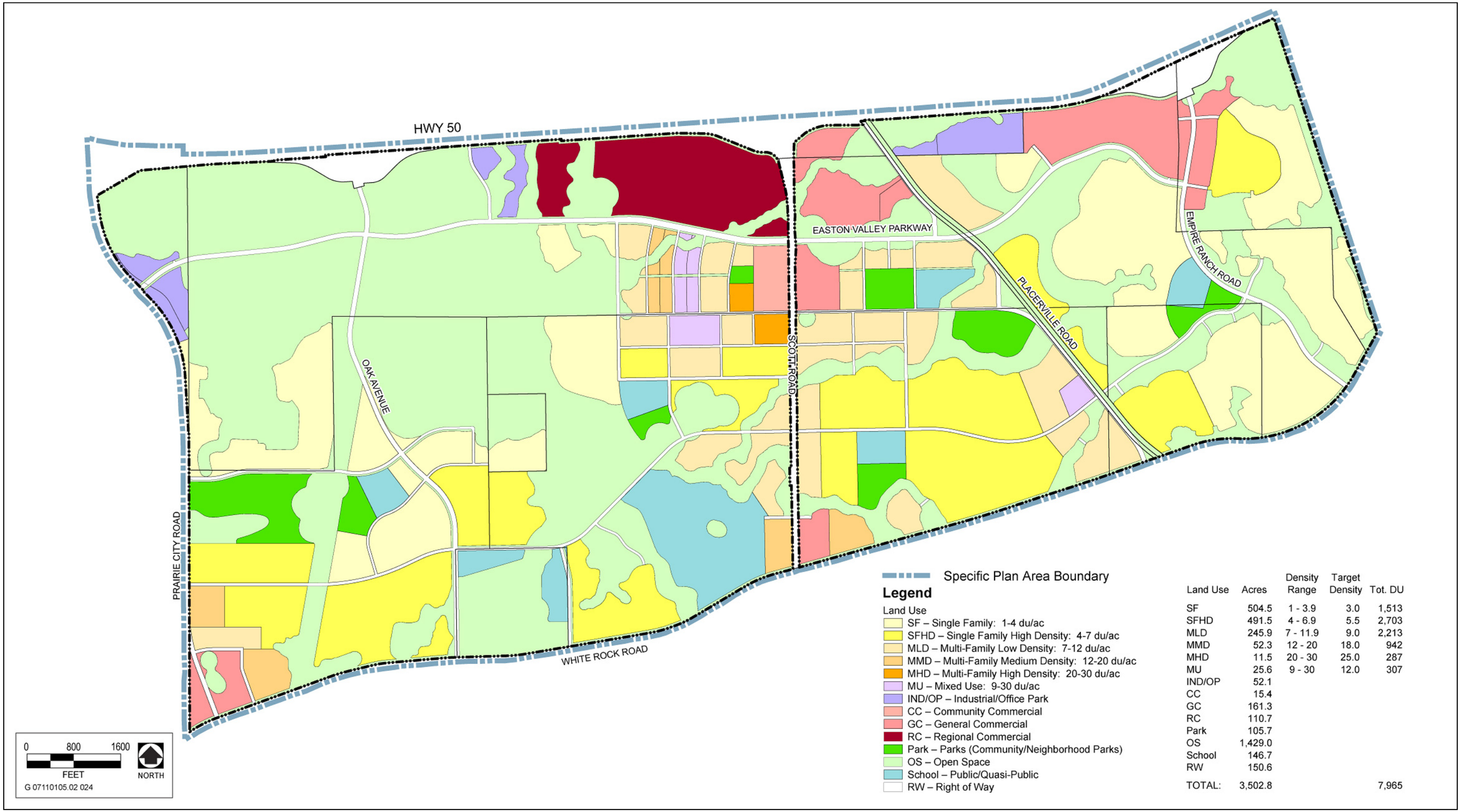
Source: MacKay & Somps 2008

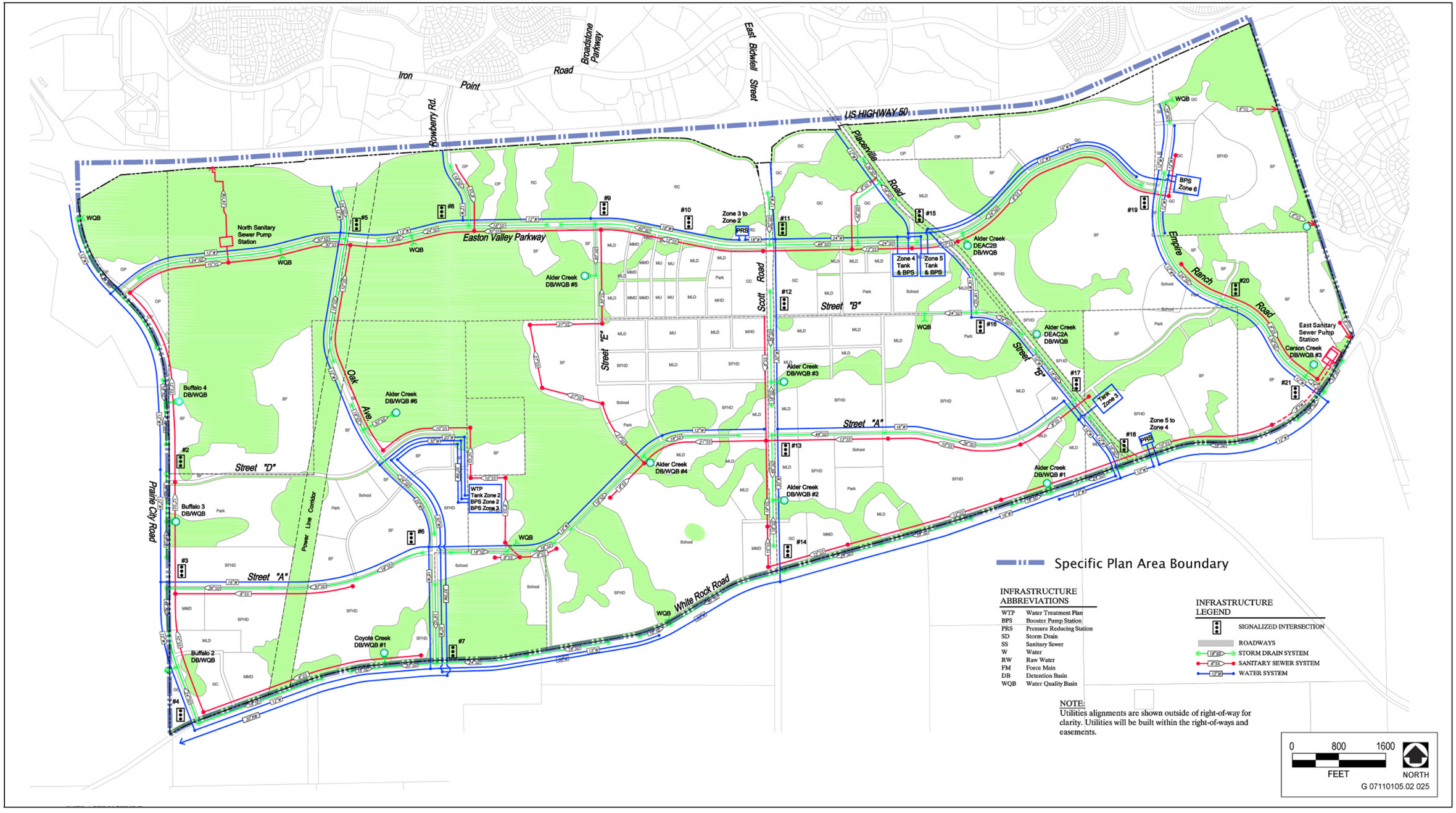
No USACE Permit Alternative Backbone Infrastructure **Exhibit 2-14**



Land Use	Acres	Density Range	Target Density	Tot. DU
SF	504.5	1 - 3.9	3.0	1,513
SFHD	491.5	4 - 6.9	5.5	2,703
MLD	245.9	7 - 11.9	9.0	2,213
MMD	52.3	12 - 20	18.0	942
MHD	11.5	20 - 30	25.0	287
MU	25.6	9 - 30	12.0	307
IND/OP	52.1			
CC	15.4			
GC	161.3			
RC	110.7			
Park	105.7			
OS	1,429.0			
School	146.7			
RW	150.6			
TOTAL:	3,502.8			7,965

Source: MacKay & Somps 2008

Resource Impact Minimization Alternative **Exhibit 2-15**



Source: MacKay & Somps 2008

Resource Impact Minimization Alternative Backbone Infrastructure **Exhibit 2-16**

2.3.5 CENTRALIZED DEVELOPMENT ALTERNATIVE

This alternative would preserve approximately 75% of the eastern part of the SPA, which lies within the Sierra Nevada foothills, in its current undeveloped state. Commercial development would still occur along the south side of U.S. 50 within the foothills. It would also entail about 1,000 fewer equivalent dwelling units (EDUs) than the Proposed Project Alternative. This alternative was developed to reduce potential impacts to biological, cultural, and visual resources. Exhibit 2-17 illustrates the conceptual land use plan for the Centralized Development Alternative, and Exhibit 2-18 illustrates proposed backbone infrastructure improvements. This alternative would fill 37.06 acres of waters of the U.S., 2.48 acres fewer than would be filled under the Proposed Project Alternative.

The Centralized Development Alternative envisions a higher density of residential development on a smaller footprint compared to the Proposed Project Alternative, resulting in more dwelling units per acre. The total acreage of residential development would be reduced by approximately 387 acres, but total number of residential units would be reduced by only 1,186, resulting in a higher overall density per acre (7.85 du/ac in the Centralized Development Alternative compared to 6.65 du/ac in the Proposed Project Alternative). The acreage of commercial and industrial development would be similar in this alternative compared to the Proposed Project Alternative. The acreage proposed for park use is reduced to 118.7 acres in this alternative, including local parks which are included in acreage totals for residential and mixed-use designations. The types of land uses and general on- and off-site infrastructure improvements under the Centralized Development Alternative would remain the same as under the Proposed Project Alternative. A 1,464.4-acre area would be dedicated to open space (approximately 407 acres more than under the Proposed Action Alternative) is also designated under the Centralized Development Alternative. Tables 2-8 and 2-9 list the total estimated development under this alternative.

Table 2-8
Summary Comparison of Residential Development under the Centralized Development Alternative and the Proposed Project Alternative

Land Use Type	Centralized Development Alternative			Proposed Project Alternative		
	Acres	du/ac[1]	Units	Acres	du/ac[1]	Units
Single Family	213.7	3	641	560.7	3	1,687
Single Family High Density	473.1	5.5	2,602	531.2	5.5	2,933
Multi-Family Low Density	282.4	9	2,542	268.5	9	2,434
Multi-Family Medium Density	113.6	18	2,044	66.9	18	1,224
Multi-Family High Density	30.5	25	764	49.9	25	1,251
Mixed Use	36.1	12	433	59.1	12	681
Total	**1,149.4**		**9,026**	**1,536.3**		**10,210**

Note:
[1] du/ac = dwelling units per acre
Source: MacKay & Somps 2008

2.3.6 REDUCED HILLSIDE DEVELOPMENT ALTERNATIVE

This alternative would reduce the developed area on the eastern portion of the SPA, which lies within the Sierra Nevada foothills, leaving more of this area in its current undeveloped state for aesthetic, biological, and cultural resource purposes. It would also entail about 1,343 additional EDUs compared to the Proposed Project Alternative, with a much higher density of development within the central portion of the SPA, thus reducing potential impacts related to traffic and air quality. Exhibit 2-19 illustrates the proposed land use plan for the Reduced Hillside Development Alternative, and proposed backbone infrastructure improvements are illustrated

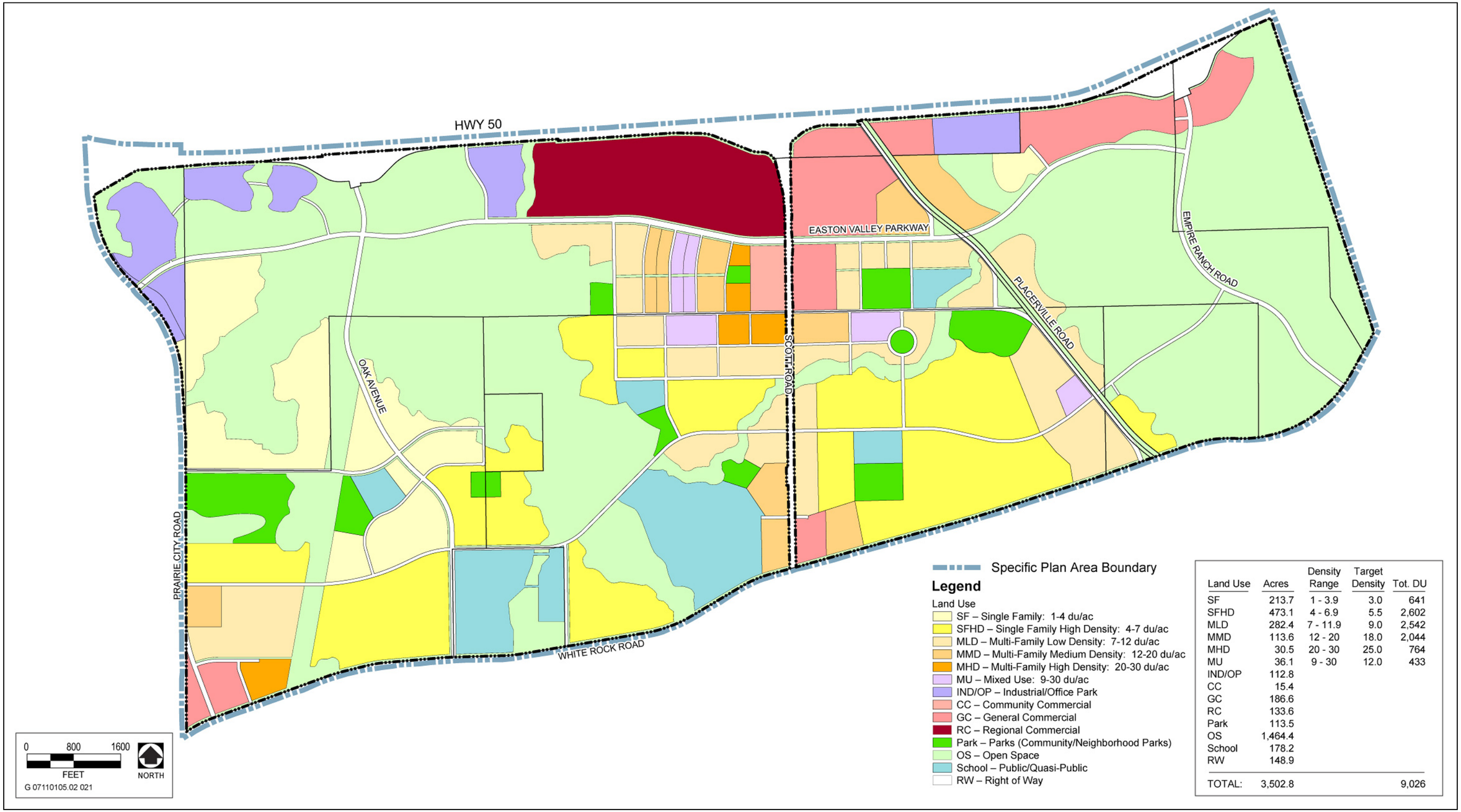
Table 2-9 Summary Comparison of Commercial and Industrial Development under the Centralized Development Alternative and the Proposed Project Alternative		
Land Use Type	Centralized Development Alternative Acres	Proposed Project Alternative Acres
Office Park	112.8	89.2
Community Commercial	15.4	38.9
General Commercial	186.6	213.1
Regional Commercial	133.6	110.8
Total	**448.4**	**452**
Source: MacKay & Somps 2008		

in Exhibit 2-20. The Reduced Hillside Development Alternative would fill 42.69 acres of waters of the U.S., 3.19 acres more than would be filled under the Proposed Project Alternative.

Although low density on a particular property may reduce the levels of impacts occurring on or emanating from the property, low densities can be considered an inefficient use of finite land resources. In areas with growing populations, low-density development coupled with increasing market demand can result in development being pushed outward toward other areas on the urban periphery, with the long-term consequence of more overall loss of habitat, open space, and farmland. In this alternative, the land use mix includes more residential areas at higher densities, and relatively less low-density single-family residential development. Although these higher densities may result in greater localized impacts on resources, the overall area of disturbance is reduced by concentrating development in particular locations. Sacramento County has experienced demographic pressure reflecting an increasing statewide population and intrastate migration from the San Francisco Bay Area and southern California, and the City is interested in furthering its goals and objectives of providing a mix of affordable housing and new jobs to its residents; therefore, developing the site with a higher density, centralized land use pattern would focus market demand for development into an area near existing development, infrastructure, and services while increasing the amount of land which remains as open space. Traffic modeling also shows that higher density development results in a reduction in vehicle miles traveled and associated greenhouse gas emissions.

The Reduced Hillside Development Alternative envisions a greater density of residential development on a slightly smaller footprint compared to the Proposed Project Alternative, resulting in more dwelling units per acre. The total acreage of residential development would be reduced by approximately 64 acres, but the density would be increased such that approximately 1,343 additional residential units would be constructed. The acreage of commercial and industrial development would be increased by less than 20 acres. The acreage proposed for park use (including local parks which are included in acreage totals for residential and mixed-use designations) is increased to 170.9 acres in this alternative. The types of land uses and general on- and off-site infrastructure improvements under the Reduced Hillside Development Alternative would remain the same as under the Proposed Project Alternative. A 1,057-acre area would be dedicated to open space (the same size as under the Proposed Project Alternative) is also designated under the Reduced Hillside Development Alternative. Tables 2-10 and 2-11 list the total estimated development under this alternative.

This alternative would include policies to reduce water use, including indoor water use and reduced-water landscapes. The other “Land” alternatives already assume water use reductions near the state of the art. The additional water conservation policies in this alternative are feasible because the increased number of units in this alternative generate more funding and fees for water conservation improvements. Fewer landscaped areas would be irrigated, and more native plantings and low-water demand plantings (including natural non-irrigated groundcover) would be used. A 50% reduction in irrigated landscape area would be required compared to the Proposed Project.



Land Use	Acres	Density Range	Target Density	Tot. DU
SF	213.7	1 - 3.9	3.0	641
SFHD	473.1	4 - 6.9	5.5	2,602
MLD	282.4	7 - 11.9	9.0	2,542
MMD	113.6	12 - 20	18.0	2,044
MHD	30.5	20 - 30	25.0	764
MU	36.1	9 - 30	12.0	433
IND/OP	112.8			
CC	15.4			
GC	186.6			
RC	133.6			
Park	113.5			
OS	1,464.4			
School	178.2			
RW	148.9			
TOTAL:	3,502.8			9,026

Source: MacKay & Somps 2008

Centralized Development Alternative **Exhibit 2-17**

Specific Plan Area Boundary

INFRASTRUCTURE ABBREVIATIONS

WTP	Water Treatment Plan
BPS	Booster Pump Station
PRS	Pressure Reducing Station
SD	Storm Drain
SS	Sanitary Sewer
W	Water
RW	Raw Water
FM	Force Main
DB	Detention Basin
WQB	Water Quality Basin

INFRASTRUCTURE LEGEND

- SIGNALIZED INTERSECTION
- ROADWAYS
- STORM DRAIN SYSTEM
- SANITARY SEWER SYSTEM
- WATER SYSTEM

NOTE:
Utilities alignments are shown outside of right-of-way for clarity. Utilities will be built within the right-of-ways and easements.

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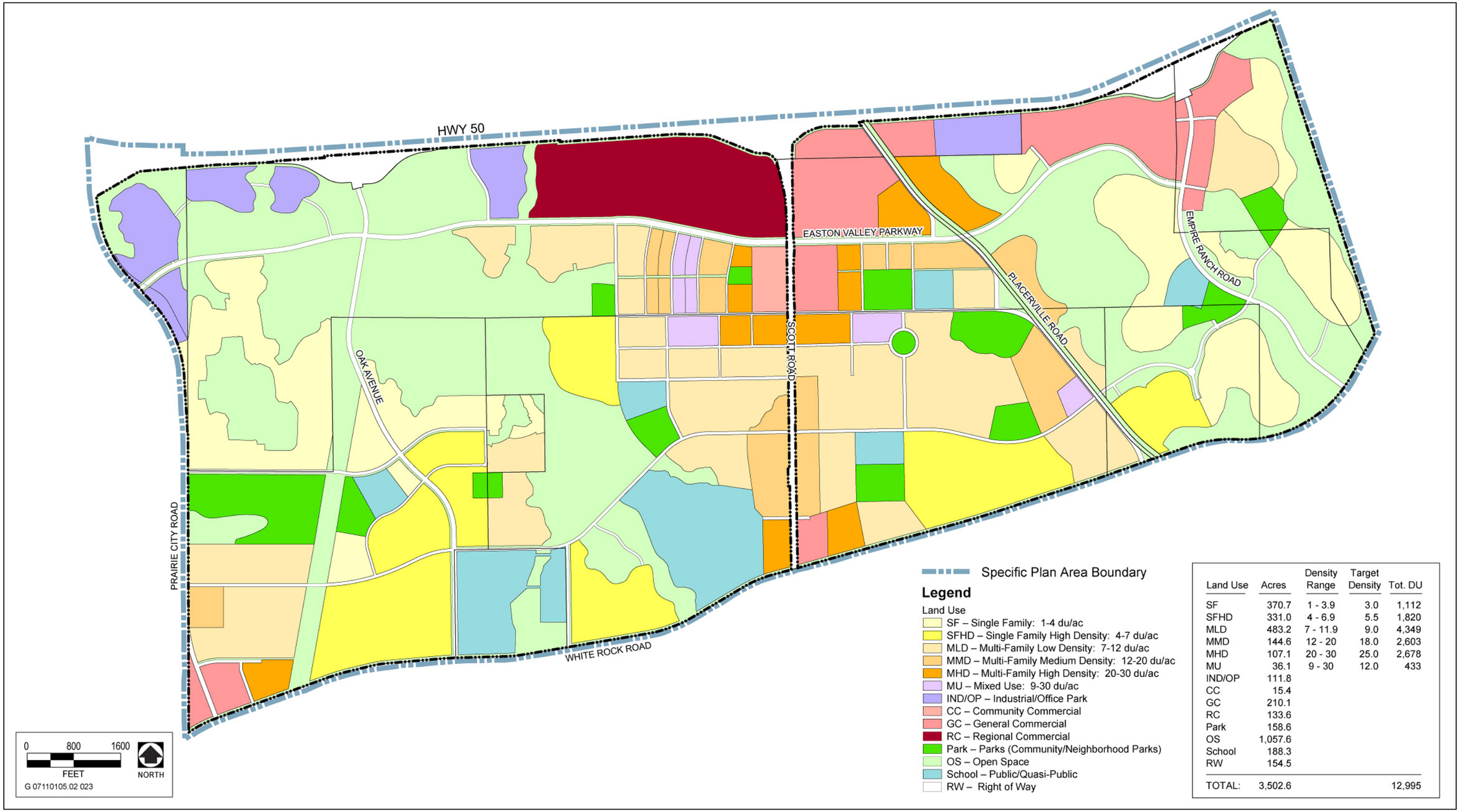
Source: MacKay & Somps 2008

Centralized Development Alternative Backbone Infrastructure **Exhibit 2-18**



Land Use	Acres	Density Range	Target Density	Tot. DU
SF	370.7	1 - 3.9	3.0	1,112
SFHD	331.0	4 - 6.9	5.5	1,820
MLD	483.2	7 - 11.9	9.0	4,349
MMD	144.6	12 - 20	18.0	2,603
MHD	107.1	20 - 30	25.0	2,678
MU	36.1	9 - 30	12.0	433
IND/OP	111.8			
CC	15.4			
GC	210.1			
RC	133.6			
Park	158.6			
OS	1,057.6			
School	188.3			
RW	154.5			
TOTAL:	3,502.6			12,995

Source: MacKay & Somps 2008

Reduced Hillside Development Alternative **Exhibit 2-19**

Specific Plan Area Boundary

INFRASTRUCTURE ABBREVIATIONS

WTP	Water Treatment Plan
BPS	Booster Pump Station
PRS	Pressure Reducing Station
SD	Storm Drain
SS	Sanitary Sewer
W	Water
RW	Raw Water
FM	Force Main
DB	Detention Basin
WQB	Water Quality Basin

INFRASTRUCTURE LEGEND

- SIGNALIZED INTERSECTION
- ROADWAYS
- STORM DRAIN SYSTEM
- SANITARY SEWER SYSTEM
- WATER SYSTEM

NOTE:
Utilities alignments are shown outside of right-of-way for clarity. Utilities will be built within the right-of-ways and easements.

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Source: MacKay & Somps 2008

Reduced Hillside Development Alternative Backbone Infrastructure

Exhibit 2-20

Table 2-10
Summary Comparison of Residential Development under the Reduced Hillside Development Alternative and the Proposed Project Alternative

Land Use Type	Reduced Hillside Development Alternative			Proposed Project Alternative		
	Acres	du/ac[1]	Units	Acres	du/ac[1]	Units
Single Family	370.7	2.7	989	560.7	3	1,687
Single Family High Density	331.0	4.9	1,619	531.2	5.5	2,933
Multi-Family Low Density	483.2	8	3,866	268.5	9	2,434
Multi-Family Medium Density	144.6	16	2,314	66.9	18	1,224
Multi-Family High Density	107.1	22.2	2,380	49.9	25	1,251
Mixed Use	36.1	10.7	385	59.1	12	681
Total	**1,472.7**		**11,553**	**1,536.3**		**10,210**

Note:
[1] du/ac = dwelling units per acre
Source: MacKay & Somps 2008

Table 2-11
Summary Comparison of Commercial and Industrial Development under the Reduced Hillside Development Alternative and the Proposed Project Alternative

Land Use Type	Reduced Hillside Development Alternative Acres	Proposed Project Alternative Acres
Office Park	111.8	89.2
Community Commercial	15.4	38.9
General Commercial	210.1	213.1
Regional Commercial	133.6	110.8
Total	**470.9**	**452**

Source: MacKay & Somps 2008

2.3.7 "LAND" ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER CONSIDERATION

Alternatives which were considered and eliminated from further consideration in this EIR/EIS for detailed review include alternatives rejected as part of the Section 404(b)(1) alternatives information (attached to this EIR/EIS in Appendix L) and an off-site alternative.

The Section 404(b)(1) on-site alternatives information includes six additional on-site alternatives. These alternatives are all based on the Proposed Project Alternative, with each of the six alternatives adding additional areas of avoidance of waters of the U.S., including wetlands. The Additional Avoidance Alternative includes all of the proposed additional avoidance areas; the remaining alternatives each include a smaller portion of the proposed additional avoidance areas from the Additional Avoidance Alternative. Section 404(b)(1) alternatives which were considered but not carried forward for further analysis in this EIR/EIS are described in greater detail below.

ADDITIONAL AVOIDANCE ALTERNATIVE

The Additional Avoidance Alternative would include the following additional areas where waters of the U.S., including wetlands, would be avoided:

- an intermittent drainage in the southwest portion of the SPA, in Community Commercial, Multi-Family Low Density, and Single Family High Density areas between the existing electrical transmission line easement and Prairie City Road;

- an intermittent drainage and seasonal swale on the north-central portion of the SPA, in Regional Commercial, General Commercial, and Single Family High Density areas on both sides of Scott Road at Easton Valley Parkway;

- an artificial-made ditch on the western portion of the SPA, in a Single Family area south of Easton Valley Parkway and west of the electrical transmission line easement; and

- an intermittent drainage in an Open Space area near the northeast corner of the SPA.

Implementation of the Additional Avoidance Alternative would reduce the acreage of impacted waters of the U.S., including wetlands, by 4.26 acres. However, this alternative would also remove the frontage for the Regional Commercial parcel along both Scott Road and Easton Valley Parkway. The loss of street frontage and the changes to the shape of the parcel would render the primary retail component of the project infeasible. Without a feasible regional commercial project component, this alternative would not meet Objective 7 (provide neighborhood- and regional-serving retail areas within the SPA) and potentially would not meet Objective 11 (generate positive fiscal impacts for the City through development within the SPA).

Implementation of this alternative would require construction of additional bridges, parking garages and utilization horizontal directional drilling methods, which would substantially increase costs of this alternative. In addition, this alternative would remove the frontage for the Regional Commercial parcel along both Scott Road and Easton Valley Parkway. The loss of street frontage and the changes to the shape of the parcel due to a wide wetland corridor would reduce the development by 26.6 acres. The proposed Regional Commercial site was designed in coordination with Regional Mall developers to determine the most efficient dimensions and site configuration for development. The applicants have provided evidence from several regional mall developers that construction of the wetland corridor would make development of a regional mall infeasible. Without a feasible regional commercial project component, this alternative would not meet Objective 7 (provide neighborhood- and regional-serving retail areas within the SPA) and potentially would not meet Objective 11 (generate positive fiscal impacts for the City through development within the SPA).

Because development of this alternative would not be reasonable or practicable due to costs and logistics, this alternative was rejected from consideration under NEPA ((please refer to Appendix L, which contains the Section 404(b)(1) Alternatives Information, for a more detailed description of the practicality of this alternative)

CARPENTER RANCH AVOIDANCE ALTERNATIVE

The Carpenter Ranch Avoidance Alternative would include the following additional area where wetlands would be avoided:

- an intermittent drainage and seasonal swale on the north-central portion of the SPA, in Regional Commercial, General Commercial, and Single Family High Density areas on both sides of Scott Road at Easton Valley Parkway.

Implementation of the Carpenter Ranch Avoidance Alternative would reduce the acreage of impacted wetlands and waters by 2.88 acres. In addition, implementation of this alternative would result in similar cost and logistic constraints as the Additional Avoidance Alternative, as described above. Without a feasible regional commercial project component, this alternative would not meet Objective 7 (provide neighborhood- and regional-serving retail areas within the SPA) and potentially would not meet Objective 11 (generate positive fiscal impacts for the City through development within the SPA).

Because development of this alternative would not be reasonable or practicable due to costs and logistics, this alternative was rejected from consideration under NEPA ((please refer to Appendix L, which contains the Section 404(b)(1) Alternatives Information, for a more detailed description of the practicality of this alternative). It was eliminated from further detailed study under CEQA because it would not achieve the key CEQA project objectives (listed in Chapter 1, "Introduction and Statement of Purpose and Need").

REGIONAL COMMERCIAL AVOIDANCE ALTERNATIVE

The Regional Commercial Avoidance Alternative would include the following additional area where wetlands would be avoided:

- a seasonal swale on the north-central portion of the SPA, in Regional Commercial and Single Family High Density areas on both sides of Scott Road at Easton Valley Parkway.

Implementation of the Regional Commercial Avoidance Alternative would reduce the acreage of impacted wetlands and waters by 2.50 acres. In addition, implementation of this alternative would result in similar cost and logistic constraints as the Additional Avoidance Alternative, as described above. Without a feasible regional commercial project component, this alternative would not meet Objective 7 (provide neighborhood- and regional-serving retail areas within the SPA) and potentially would not meet Objective 11 (generate positive fiscal impacts for the City through development within the SPA).

Because development of this alternative would not be reasonable or practicable due to costs and logistics, this alternative was rejected from consideration under NEPA ((please refer to Appendix L, which contains the Section 404(b)(1) Alternatives Information, for a more detailed description of the practicality of this alternative). It was eliminated from further detailed study under CEQA because it would not achieve the key CEQA project objectives (listed in Chapter 1, "Introduction and Statement of Purpose and Need").

WESTERN RESIDENTIAL AVOIDANCE ALTERNATIVE

The Western Residential Avoidance Alternative would include the following additional area where wetlands would be avoided:

- an artificial-made ditch on the western portion of the SPA, in a Single Family area south of Easton Valley Parkway and west of the electrical transmission line easement.

Implementation of the Western Residential Avoidance Alternative would reduce the acreage of impacted wetlands and waters by 0.31 acres, and reduce the developable area by 14.3 acres. Due to the hilly terrain of the site, implementation of this alternative would result in the creation of an isolated portion of the development which would require the construction of a sanitary sewer pump station and force main. Construction of a pump station would increase costs and would increase potential environmental impacts that may result from a pump system failure. This alternative would require the construction of an additional street access to allow for a connection to Oak Aveny Parkway, as at least two points of access to a development area for emergency vehicle and evacuation routes are required by City Ordinance. Construction of this additional street would impact the open space area and result in the removal of oak woodland habitat. In addition, under this alternative, the construction of homes surrounded by a preserve area would result in adverse impacts to the preserved waters, reducing and potentially eliminating the functions of the surrounding waters.

Because implementation of this project would result in additional impacts to sensitive oak woodland habitat while only preserving 0.311 acres of man-made ditch and intermittent stream which would still be indirectly impacted, this alternative was, rejected from consideration under NEPA ((please refer to Appendix L, which contains the Section 404(b)(1) Alternatives Information, for a more detailed description of the practicality of this alternative).

It was eliminated from further detailed study under CEQA because it would not achieve the key CEQA project objectives (listed in Chapter 1, "Introduction and Statement of Purpose and Need").

OFF-SITE "LAND" ALTERNATIVES

Off-site alternatives are usually considered in environmental documents when one of the means to avoid or eliminate the significant impacts of a project is to develop it in a different available location. To be considered feasible by the City, development on potential off-site locations must be able to fulfill the project purpose and attain most of the basic objectives of the Folsom South of U.S. Highway 50 project. To satisfy the project applicant(s)' and the City's project objectives under CEQA, a large undeveloped site within the City of Folsom, or within the City's sphere of influence, would be needed. To satisfy USACE's project purpose under NEPA, a large undeveloped site elsewhere in eastern Sacramento County would be needed that could be reasonably obtained, used, or expanded.

Policy LU 81 of the Sacramento County General Plan provides very limited conditions under which the County can expand the Urban Service Boundary (USB), which would be necessary if the Proposed Project Alternative were constructed in an off-site location anywhere other than on lands south of Jackson Highway/State Route 16 or west of Grant Line Road. When considering such a proposal, the County must make several findings, including a finding that there is insufficient land within the USB to accommodate the project's 20-year demand for urban uses. If all of the criteria are not met, the County Board of Supervisors must approve moving the USB by a 4/5 vote. Since enactment of this policy in 1993, the board has never approved an application for any project of even a moderate size outside the USB.

The identification of off-site alternative land development locations was limited to those locations that could satisfy certain criteria. First, as discussed above, the geographic area for off-site alternatives was limited to areas within the Sacramento County USB. In addition to the policy reasons discussed above, the USB was chosen as an appropriate geographic boundary because locating the project outside of the existing USB would require massive expansion of infrastructure that is not currently planned.

Next, proximity of off-site alternatives to major transportation corridors was a consideration of site selection. This criterion was established to implement key project needs and objectives, including a large retail center. A location along a major arterial, preferably adjacent to a freeway, is preferable for a retail project of this size; however, suitable available sites meeting this criterion were not identified because no undeveloped, uncommitted sites are currently available that meet this criterion. However, other off-site locations not meeting this criterion have been identified, although not preferable.

Areas encompassing a size similar to the proposed development footprint of the SPA (2,500 acres) were considered preferable to provide similar residential and commercial use capacities. Although the SPA is approximately 3,500 acres, approximately 1,050 acres would be set aside as open space and therefore project development would occur on approximately 2,450 acres. However, to satisfy the NEPA objectives, smaller sites in eastern Sacramento County were considered as long as they were deemed appropriate to accommodate a "large-scale" mixed-use development including both residential and commercial components. Although smaller sites (as small as 1,500 acres) were considered, these sites would not be preferred because they would not accommodate the same volume and density of residential and commercial uses as the proposed development footprint. Furthermore, while these smaller sites might meet the USACE's NEPA purpose and need, they would not meet the City of Folsom's CEQA purpose and need.

The primary obstacle in identifying an off-site land development alternative that otherwise satisfies the primary criteria discussed above is aggregating enough parcels to create a project of an adequate size. It is infeasible to aggregate numerous small parcels to create a project of sufficient size and of a contiguous nature. Furthermore, all of the undeveloped parcels within the City of Folsom combined do not amount to more than 100 acres of developable land. Therefore, the only available uncommitted land that is of sufficient size to accommodate the

proposed development is located outside of the City of Folsom's current boundaries or sphere of influence and, therefore does not meet the City's project objectives. Identifying parcels in eastern Sacramento County would be logistically challenging for the City of Folsom because those parcels would be outside of the City's Sphere of Influence area.

The majority of undeveloped land in eastern Sacramento County and within the USB is within the City of Rancho Cordova and unincorporated portions of Sacramento County east of Grant line Road. Several large, undeveloped tracts of land were identified in these areas but were ultimately eliminated as potential off-site alternative locations because they are currently undergoing project-level planning for separate projects (e.g., Sunrise Douglas Community Plan area, Mather Field Redevelopment, Easton Planning Area, SunCreek Specific Plan area). These projects include Arboretum, Cordova Hills, Excelsior Estates, Glenborough at Easton and Easton Place, Mather East and Mather Field, Rio del Oro, the Ranch at Sunridge, and Vineyard Springs, all of which currently have (or will soon have [i.e., reasonably foreseeable] development applications filed with the applicable jurisdiction. A complete list of the projects planned on the undeveloped parcels initially identified as potential off-site alternative land development locations, as well as their existing acreage of waters of the U.S., is provided in Table 4-5, page 4-32 of Chapter 4, "Other Statutory Requirements" as part of the cumulative impacts discussion for biological resources. The locations of these planned projects are shown in Exhibit 2-21.

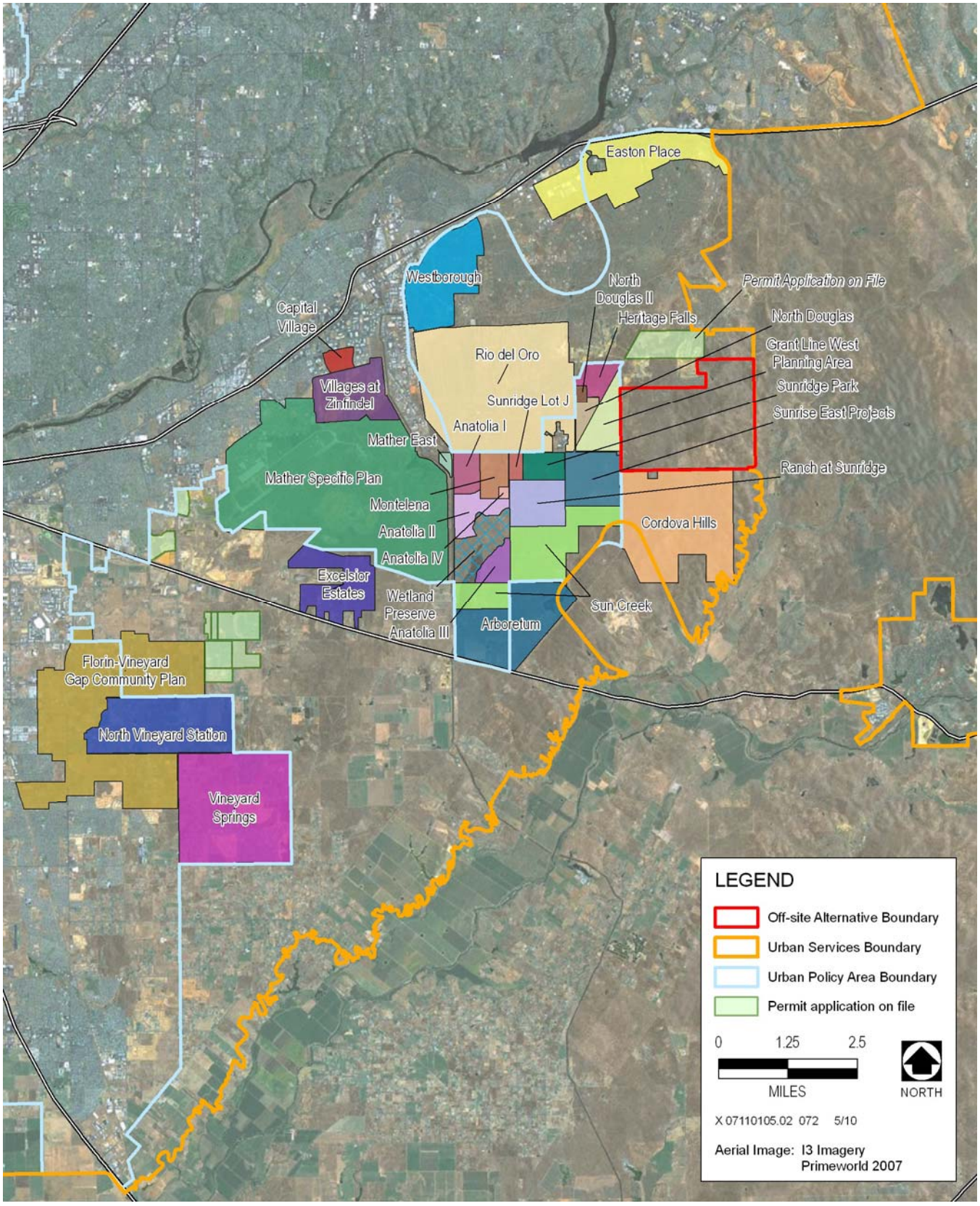
The Folsom South of U.S. 50 Specific Plan SPA represents the only available major undeveloped land area in Folsom's sphere of influence that is capable of providing substantial job opportunities and a mix of uses, and that would fulfill the project applicant(s)' and the City's project purpose and attain most of the basic project objectives. The majority of undeveloped land in the project vicinity is currently undergoing project-level planning for separate projects (e.g., Sunrise Douglas Community Plan area, Mather Field Redevelopment, Easton Planning Area, SunCreek Specific Plan area). These areas are not available to accommodate the project because they are committed to future development, are outside the City's jurisdictional boundaries, and thus unavailable to the City of Folsom. However, there is one area within the USB in eastern Sacramento County that could potentially meet the project's purpose under NEPA, but would not meet the City project purpose because it would be located outside of the City's jurisdictional boundaries. However, because this site may meet the USACE defined purpose and need, it was further evaluated to determine if the site is practicable for development, would impact fewer acres of waters of the U.S. than the Proposed Project, and if it is available.

Qualitative Impact Assessment of Off-site Land Development Alternative

For biological resources, the screening analysis of the off-site location was based on:

- searches of the California Native Plant Society's (CNPS's) electronic database and the California Natural Diversity Database (CNDDB),
- review and interpretation of aerial photographs of the sites,
- AECOM biologists' knowledge of biological resources occurring in the vicinity of the SPA, and
- review of relevant literature.

Exhibit 2-22 shows the location of natural communities at the off-site alternative location. Habitats were initially mapped on aerial photographs at a scale of 1 inch = 400 feet, then digitized and quantified using ArcGIS. Table 2-12 shows the approximate acreage of natural communities present at the off-site alternative location.



Source: Information compiled by AECOM in 2010

Location of Planned Projects Related to Biological Resources **Exhibit 2-21**

Table 2-12
Natural Community Types at the Off-Site Land Development Alternative

Community Type	Acreage[1]
Vernal pool grassland[2]	2,379.1
Vernal pool complex[3]	28.0
Vernal Pool	9.1
Vernal Swales	17.3
Orchard	34.7
Disturbed	32.6
Seasonal wetland	8.1
Low density development	55.4
Cottonwood woodland	7.7
Streams/Creeks (seasonal drainages)	8.70
Pond	5.9
Total	**2,586.6**

Notes:
[1] Acreages are not exact because the numbers have been rounded to the nearest tenth of an acre.
[2] No delineation of waters of the U.S. that would enable quantification of an exact acreage of vernal pools in the study area for the off-site alternative location was conducted for this analysis. There are likely additional vernal pools and swales within this grassland area that were not visible on the aerial imagery.
[3] Vernal pool complexes are systems of interconnected vernal pools and vernal swales.
Source: Data compiled by AECOM in 2010

Summary

The off-site land development alternative location consists of 15 parcels comprising approximately 2,587 acres located southwest of the SPA and east of the City of Rancho Cordova in unincorporated Sacramento County. The site is located just west of the eastern Sacramento County USB line and Scott Road and is bounded by Grant Line Road on the west. The site is accessible via Douglas Road to Grant Line Road. No other improved roads exist on or provide access to the off-site alternative location.

The off-site alternative location is characterized primarily by vernal pool grassland habitat. All of the vernal pool grassland cover contains scattered vernal pools, or vernal pool complexes (i.e., systems of interconnected vernal pools and swales), interspersed within a grassland matrix (Exhibit 2-22). The western portion of the off-site alternative location has the highest concentration of vernal pools and swales visible on the aerial imagery. Because it is not possible to determine the full extent of vernal pools present from aerial photography alone, the information presented herein regarding vernal pools and swales is considered a rough estimate. Seasonal tributaries to Coyote Creek, Carson Creek, and Deer Creek are also present. All of the drainage channels on the site are seasonal and appear to be unvegetated. In the northwest portion of the site there is a disturbed area that was used to store mine tailings (cobble). The cobble piles have been removed from the site, but rows of cottonwood trees are still present in the basins that existed between the piles of cobble. The ground formerly occupied by cobble mine tailings is currently barren and disturbed. One pond, created from impoundment of a Coyote Creek tributary, and one pond created from impoundment of a Carson Creek tributary are also present on the site. There are four rural residential in holdings, or low density developments, on the site and some orchards near the northwest boundary.

Sensitive Natural Communities

The vernal pools and vernal swales scattered throughout the vernal pool grassland habitat, as well as the seasonal drainage channels, seasonal wetlands, ponds, streams, and cottonwood woodland would all be considered sensitive natural communities, some of which are subject to USACE jurisdiction under Section 404 of the CWA, Central Valley Regional Water Quality Board jurisdiction under the Porter-Cologne Act, and/or California Department of Fish and Game jurisdiction under Section 1602 of the California Fish and Game Code.

Special-Status Species

The off-site alternative location is situated within the Buffalo Creek Quadrangle, which was included in the database search for the Proposed Project Alternative, as were seven out of the eight surrounding quadrangles. To account for species documented in all surrounding quadrangles, AECOM biologists also conducted CNDDB and CNPS electronic database searches for the Carbondale Quadrangle. Results of the database searches were then used to compare the potential for special-status species to occur at the off-site alternative site locations with the potential for them to occur in the SPA. The results are discussed below.

Special-Status Plant Species

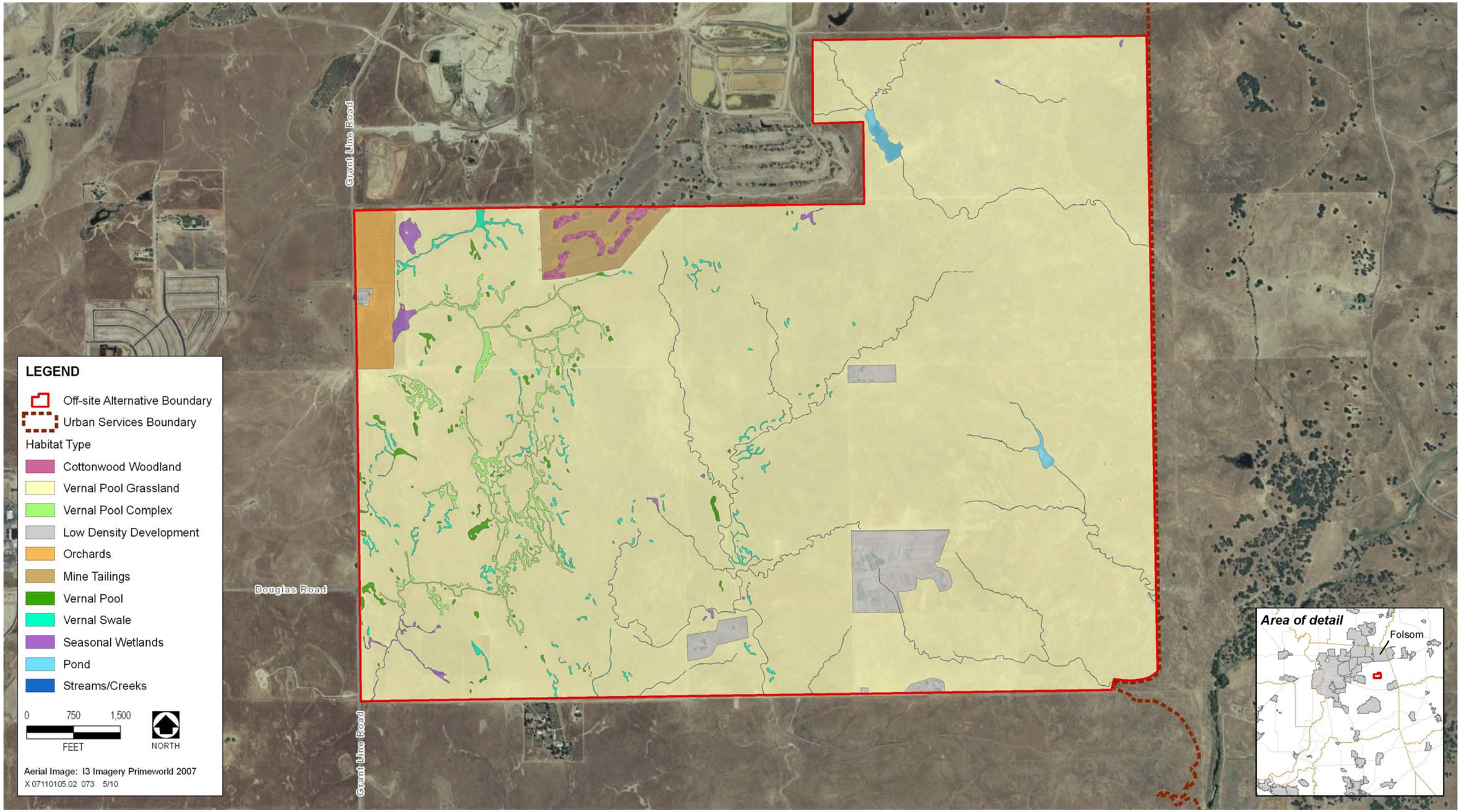
All of the same special-status plant species that are known from or have potential to occur in the SPA (see Table 3A.4-1 in Section 3A.4 “Biological Resources – Land” of this EIR/EIS) also have potential to occur on the off-site alternative location because habitat for these species is present at both locations.

Special-Status Wildlife Species

The off-site alternative location contains vernal pool grassland and could potentially support the same vernal pool invertebrates as the SPA (see Table 3A.4-2 in Section 3A.4, “Biological Resources – Land,” of this EIR/EIS). Because the analysis of the off-site location is based on interpretation of aerial photographs, it is unknown whether elderberry shrubs are present that could support valley elderberry longhorn beetle. However, elderberry shrubs could be present in the cottonwood woodland or in other stands of trees and shrubs found on the site. All of the special-status species associated with grassland and wetland habitats that are known from or have potential to occur in the SPA also could occur at the off-site alternative location because the same grassland and wetland habitat types are present. Although oak woodland and riparian habitats are not present at the off-site alternative, there are isolated and small stands of oak trees and patches of cottonwood woodland that provide potential nest sites for raptors, and burrowing owls could nest in the grassland habitat.

Impacts

Development of the off-site alternative location would be expected to result in significant adverse impacts on common and sensitive natural communities and special-status species. Species and communities affected would be similar to those affected in the SPA; however, the acreages affected by community differ and no oak woodland would be affected because it does not exist at the off-site location (see Table 2-12 and Exhibit 2-22). A total of 77.1 acres of potential waters of the U.S. were mapped on the off-site land alternative location from aerial photograph interpretation. Because vernal pools and swales and other waters of the U.S. are dispersed throughout the off-site location, it would not be possible to avoid impacts on all these aquatic resources and still meet the project purpose and need of a large-scale development similar to the Proposed Project Alternative. Therefore, it is estimated that development of a substantially similar size at the off-site location would result in direct fill of at least 75% of the wetlands and other waters of the U.S. present and indirect impacts to the remaining wetlands. Waters of the U.S. likely to be filled as a result of developing the off-site alternative location include 40.8 acres of vernal pools and swales, 6.1 acres of seasonal wetland, and 6.5 acres of seasonal drainage channels. Therefore, the low-end estimate of direct impacts on waters of the U.S. is approximately 53 acres—14 acres more than would be filled as a result of development in the SPA. Other habitats that would be removed at the off-site alternative



Source: Sacramento Area Council of Governments 2004, Sacramento County 2008, AECOM 2009

Off-site Land Development Alternative – Natural Communities

Exhibit 2-22

location include 7.7 acres of cottonwood woodland and 2,379 acres of vernal pool grassland habitat that likely includes additional vernal pools and swales that were not visible on the aerial imagery.

In addition, development at the off-site land development location of substantially similar size within the County USB would be expected to result in other environmental impacts (related to traffic, air quality, noise) similar to those of the Proposed Project Alternative. Undeveloped areas in the region are used primarily for agriculture, the region is experiencing substantial growth in traffic, and it is in nonattainment of air quality standards. Consequently, any major development in Sacramento County would be expected to generate significant agricultural, traffic, and air quality impacts, and any development that adds significant levels of traffic to regional roadways would contribute to a substantial increase in noise levels. Although the Folsom SPA contains sensitive biological resources (including vernal pools and oak woodland), the alternative site also contains protected wetlands and other waters of the U.S.; thus, similar impacts on biological resources would result on the off-site alternative location. While the off-site alternative location does not support oak woodland, it is expected to contain far greater acreage of vernal pools since nearly the entire site is covered with vernal pool grassland. In addition, the alternative site would be more distant than the Folsom SPA from freeways and urban areas, requiring construction of additional on- and off-site utility and transportation infrastructure to serve the alternative site.

Given that there are no feasible alternative sites that can meet the Folsom South of U.S. 50 CEQA project objectives, and that the only off-site land development alternative available for NEPA project objectives would have substantially greater impacts to wetlands (including vernal pools) as compared to the Proposed Project Alternative, an off-site land development alternative is not evaluated further in this EIR/EIS.

2.4 "WATER" PORTION OF THE PROJECT

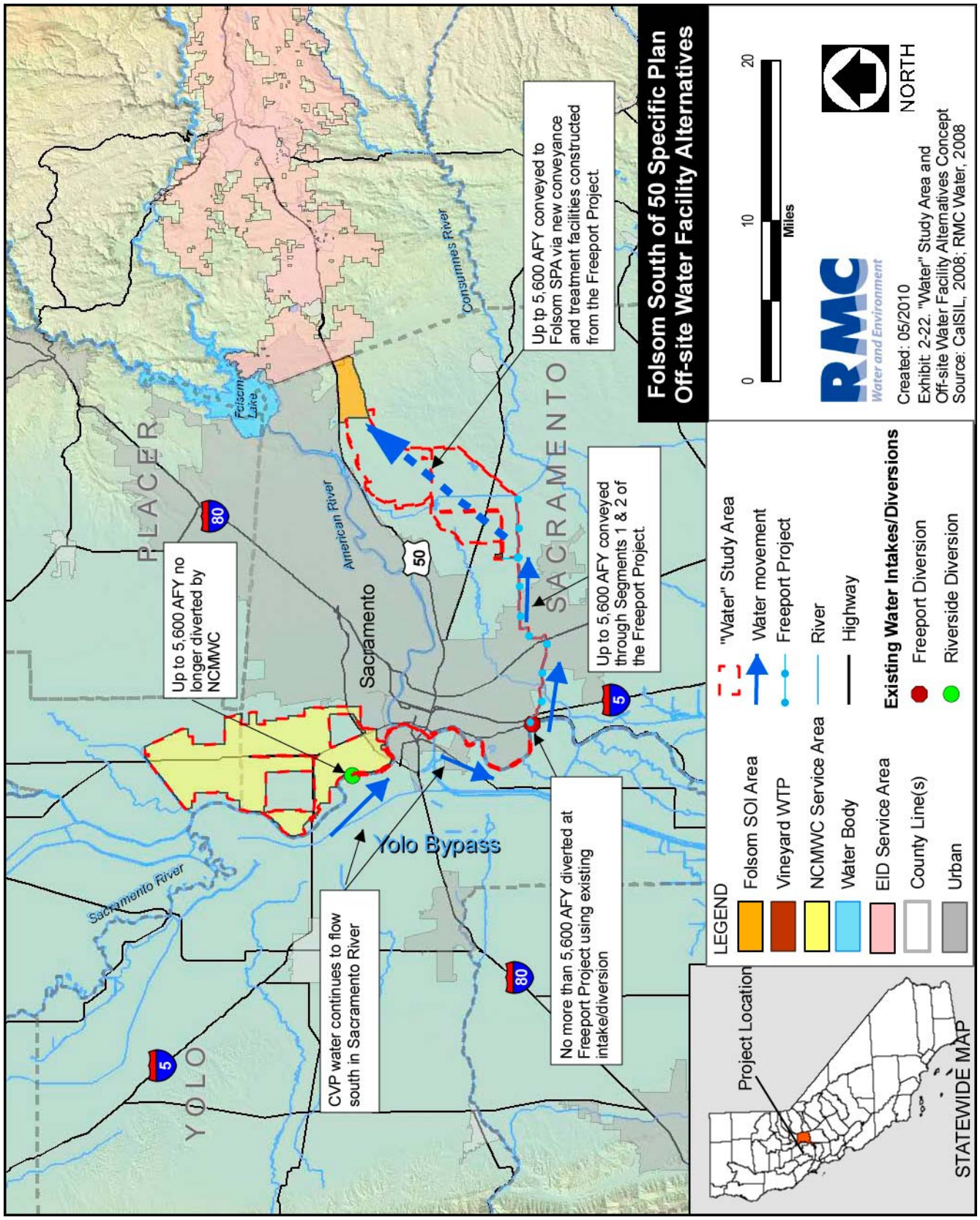
All of the "Water" alternatives considered in this EIR/EIS involve construction and operation of new off-site conveyance and/or treatment infrastructure within east-central portions of Sacramento County to support new development within the SPA. The City has formulated a series of "Water" alternatives, referred to in the EIR/EIS as Off-site Water Facility Alternatives, which would involve the connection of this new water infrastructure to the Freeport Regional Water Project (Freeport Project) to enable for diversion of Central Valley Project (CVP) water at the Sacramento River.

To capture all the components associated with the Off-site Water Facility Alternatives, the "Water" Study Area encompasses approximately 40,000-acres within the lower Sacramento Valley, east of the Sacramento River (see Exhibit 2-23). As shown in Exhibit 2-23 and 2-24, the Natomas Central Mutual Water Company (NCMWC) service area is located east of the Sacramento River and north of the City of Sacramento in the northern section of the "Water" Study Area. The City and Folsom Specific Plan Area are located along U.S. 50 and situated near the eastern Sacramento County line, approximately 25 miles east of the Sacramento River, and within the eastern-most portion of the "Water" Study Area (see Exhibits 2-24 and 2-25).

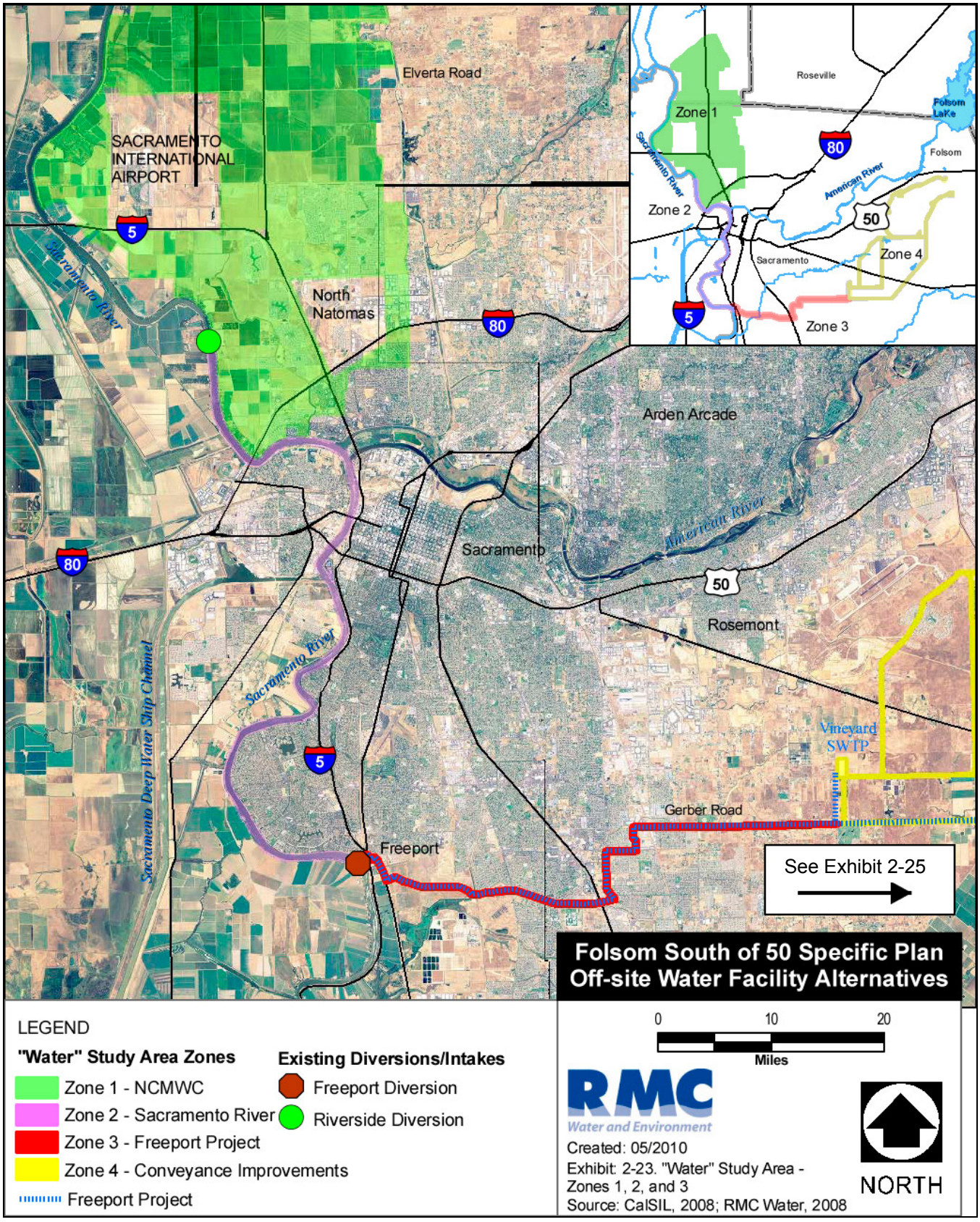
Exhibits 2-23 and 2-24 illustrate the western and eastern portions of the "Water" Study Area, respectively, which for the purposes of discussion in this EIR/EIS analysis, is divided into four smaller zones. Each of these four zones are described below:

- **Zone 1** includes the approximately 37,160-acre NCMWC service area, which depicts the northern extent of the "Water" Study Area. Zone 1 is included in the "Water" Study Area to cover potential operational changes within NCMWC's service area. No facility improvements are proposed in Zone 1 as part of the Off-site Water Facility Alternatives.

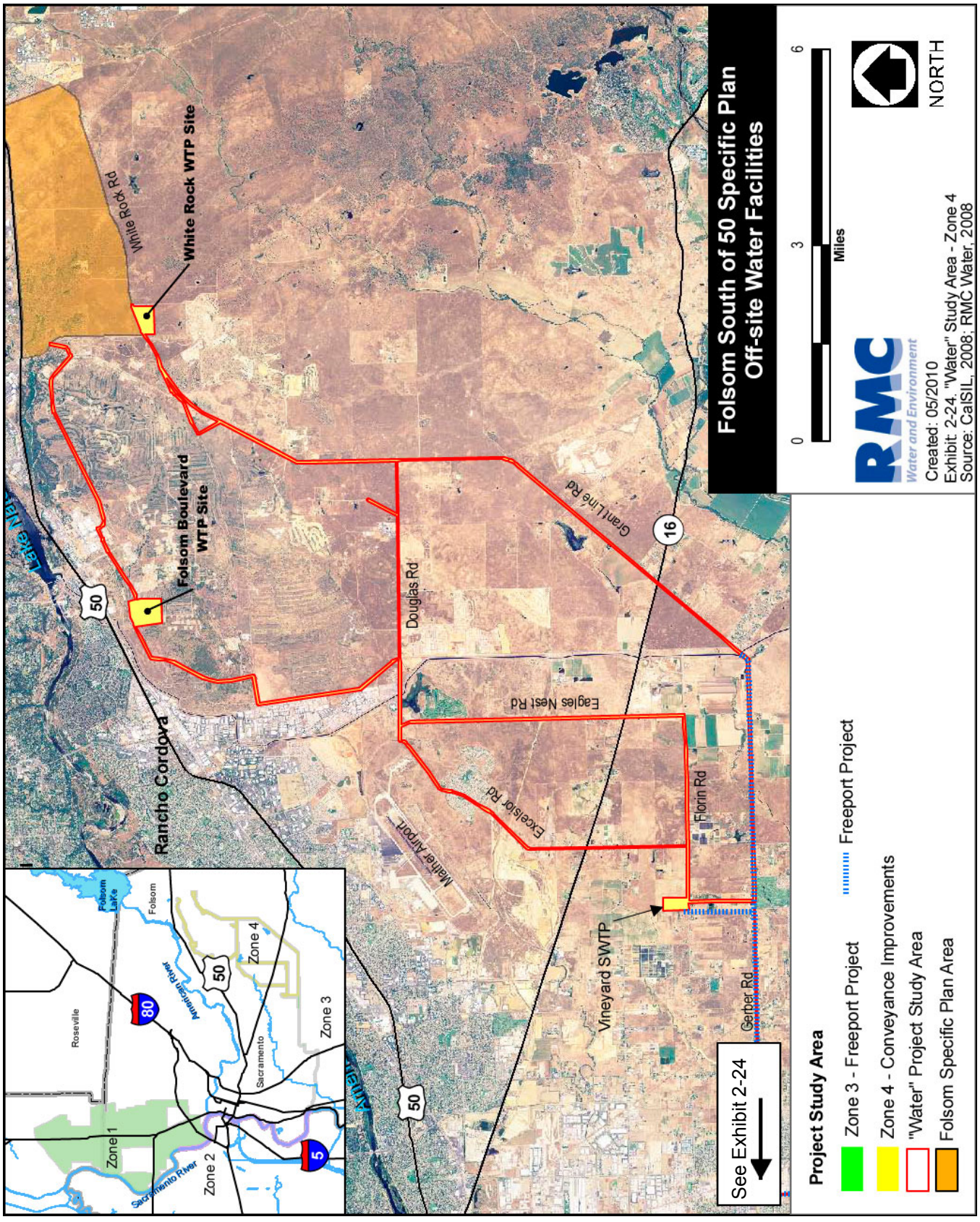
- **Zone 2** is the section of the Sacramento River between River Miles 48 and 66; an approximately 1,200-acre area. Under the "Water" project alternatives, surface water would not be diverted by the NCMWC and rather would continue to flow south along this section of the river prior to diversion at the Freeport Project intake



Regional Map and "Water" Project Concept **Exhibit 2-23**



"Water" Study Area – Zones 1, 2, and 3 **Exhibit 2-24**



"Water" Study Area – Zone 4 **Exhibit 2-25**

facility. Zone 2 is included in the "Water" Study Area to cover changes in river hydrology as a result of the Off-site Water Facility Alternatives. No facility improvements are proposed in Zone 2 as part of the Off-site Water Facility Alternatives.

- **Zone 3** corresponds with the existing Freeport Project, which encompasses an approximately 155-acre linear area. The Freeport Project begins on the eastern bank of the Sacramento River, near the Town of Freeport. As shown in Exhibit 2-25, the western extent of the Freeport Project starts in the Town of Freeport, west of Interstate 5 (I-5) and extends from the intake facility to the north on Freeport Boulevard and then east/ southeast on Meadowview Road. At the Mack/Power Inn Road intersection, the Freeport Project continues east on Elsie Road for a short distance and then north on Wilbur to the Gerber Road/Wilbur Way intersection. At Gerber Road, the Freeport Project extends east to the Folsom South Canal (FSC). Zone 3 of the "Water" Study Area is included to cover potential operational changes to the Freeport Project as a result of the Off-site Water Facility alternatives. No physical changes to Zone 3 are contemplated.

- **Zone 4** contains the new conveyance facilities that would be constructed as part of the Off-site Water Facility Alternatives, and extends from at or near the Freeport Project's bifurcation[1] point at an area that roughly corresponds with the intersection of Vineyard Road and Gerber Road on the southwest (Latitude–38° 28' 53.94" N, Longitude 121° 18' 57.82" W) to the northeast to the intersection of White Rock and Prairie City Roads on the northeast (Latitude–38° 36' 52.71" N, Longitude–121° 8' 57.97" W) (see Exhibit 2-26). Zone 4 covers a total area of approximately 1,377-acres. The "Water" Alternative conveyance routes or Off-site Water Facility Alternatives are described below in Section 2.13 of this chapter.

2.5 EXISTING AND FUTURE WATER DEMAND

Development proposed for the SPA would include up to 10,210 mixed-density residential homes (11,553 in the Reduced Hillside Development Alternative), approximately 7.4 million square feet of retail and office uses, and supporting public facilities (e.g., schools, fire stations). These uses are projected to generate a population of up to 26,544 and result in a total projected water demand estimated at 5,543 acre-feet per year (AFY), rounded up to 5,600 AFY (Tully and Young 2009). Table 2-13 provides a summary of the proposed water use within the SPA. A complete breakdown of water-unit demands and the factors used in their determination is provided Water Supply Assessment for the Folsom Specific Plan in Appendix M1.

Table 2-13
Folsom Specific Plan Estimated Water Demands

Land Use ID	Area (acres)	Dwelling Units	Indoor (Potable) – Annual Demand (AF)	Outdoor (Non-Potable) – Annual Demand (AF)	Total Demands – Annual Demand (AF)
Folsom Specific Plan Area Totals					
Total Residential	**1,510**	**10,210 (11,553)**	**1,958**	**1,610**	**3,648**
Total Nonresidential	**2,013**	--	**398**	**1,428**	**1,898**
Total	**3,510**	**10,210 (11,553)**	**2,315**	**3,038**	**5,546 (5,600)**

Notes: ID = Identification; AF = acre-feet; AFY = acre-feet per year

Complete breakdown of water demand is provided in Appendix M1.

[1] Demands are based on normal-year rainfall conditions.

[2] Normal-year demand rounded up to 5,600 AFY to account for dry-year demands (5%)

[3] 11,553 units would only be included in the Reduced Hillside Development Alternative with a corresponding reduction in outdoor water use.

Source: Tully & Young 2009

[1] The Freeport Regional Water Project provides water to both the Sacramento County Water Agency (SCWA) and East Bay Municipal Utility District (EBMUD). "Bifurcation" refers to the point in the Freeport Project where the joint facilities end and SCWA's dedicated pipeline and EBMUD's dedicated pipeline begin.

As shown in Table 2-13 the SPA includes a small area within the El Dorado Irrigation District's (EID) service area. The "Water" portion of the project includes sufficient water supplies to serve the less than 300 AFY demand within EID's service area in the SPA. In this context, this EIR/EIS assumes that the City would provide treated water to EID for service within its portion within the SPA. Further, this EIR/EIS does not address any off-site improvements required by EID to facilitate its own and separate plans for future water service within portions of the SPA that fall within EID's service area. Such facilitates could require separate environmental analyses and review once such details are available.

As part of developing the SPA's projected annual water demands, the City has also determined an average daily demand of 6.5 million gallons per day (mgd). Using a maximum-day peaking factor of 1.9 as described in Appendix M1, buildout within the SPA would result in a maximum daily demand of 9.5 mgd. A capacity of 10 mgd is assumed for the purposes of this EIR/EIS analysis to provide a conservative estimation (e.g., high) of infrastructure requirements. Based on current estimates, the City expects that peak-water demands would be experienced for a limited duration of approximately 5 days or fewer annually.

2.6 "WATER" ALTERNATIVES

The "Water" project would entail the construction and operation of one of the Off-site Water Facility Alternatives described in this section. It is important to note that each of the Off-site Water Facility Alternatives would provide a reliable long-term supply and conveyance system for any one of the "Land" alternatives. Detailed below are the descriptions of the Off-site Water Facility Alternatives that are being evaluated at an equal level of detail in this EIR/EIS, as required by NEPA. A complete listing and screening process for other water supply and conveyance alternatives considered in this EIR/EIS, but not carried forward for equal-level analysis, is described in Section 2.15 below.

Each of the Off-site Water Facility Alternatives would consist of the acquisition of not more than 8,000 AFY of CVP contract entitlement water from the NCMWC, permanent assignment of the CVP contract entitlement water to the City, and diversion of the CVP water from the Sacramento River using the existing Freeport Project intake/diversion and conveyance facilities. The City would then construct a new pipeline that would convey water from the Freeport Project to the SPA. The capacity requirements for the "Water" portion of the project assume that all demands would be met with potable water. Although non-potable water infrastructure would be required for development within the SPA, to date, a reliable source of non-potable water has not been sufficiently developed to include in this EIR/EIS analysis. Therefore, for purposes of this EIR/EIS, it is assumed that all demands within the SPA would be served with potable water until a viable non-potable source is identified and secured. As a result, additional, separate environmental analyses would be required for the implementation of a non-potable water supply program within the SPA and extension of related infrastructure, when such a supply is known and available.

2.6.1 COMPONENTS COMMON TO ALL "WATER" ALTERNATIVES

This section describes the conveyance facilities and water supply components that are common to all the Off-site Water Facility Alternatives analyzed in this EIR/EIS. These common components include the source water supply from NCMWC, integration with the Freeport Project, the need for new pumping facilities, and the provision of sufficient water treatment capacity and distribution facilities within the SPA. Additionally, each of Off-site Water Facility Alternatives assumes the absence of any non-potable supplies. These topics are described in further below.

SOURCE WATER

The City is proposing to acquire not more than 8,000 AFY of CVP contract entitlement water from the NCMWC, which would be put to beneficial use within the SPA. This water supply consists of a long-term, CVP water entitlement from the NCMWC under Contract No. 14-06-200-885A-R-1 (NCMWC CVP Contract) with the U.S.

Bureau of Reclamation (Reclamation). The City is an existing CVP contractor within the American River Unit and, upon annexation into the City, the SPA would be within the CVP water rights place of use (POU). NCMWC's CVP contract supply originates from the Shasta/Trinity River Division of the CVP and is currently diverted and applied to agricultural lands in northern Sacramento County and southern Sutter County. The project applicant(s) are proposing to enter into an agreement with the NCMWC whereby the CVP contract entitlement water would be permanently assigned to the City and this water supply would be provided by Reclamation for diversion from the Sacramento River. NCMWC's current CVP contract provides surface water during the months of July and August and includes a shortage provision of up to 25% during critically-dry years.

The City is proposing to modify the existing delivery schedule with Reclamation to a year-round municipal and industrial (M&I) schedule to allow for a more consistent diversion of 6,000 AFY of the 8,000 AFY over the course of a given year. The contract water would be made available by NCMWC reducing its surface water diversions/pumping during the irrigation season by approximately 33 to 465 cubic feet per second (cfs) at the Riverside Pumping Plant. This water supply would then remain in the Sacramento River and flow approximately 20 miles downstream for diversion by the City at the existing Freeport Project diversion facility, which is described below. This overall concept is illustrated in Exhibit 2-22.

The CVP contract supplies acquired by the City as part of the Off-site Water Facility Alternatives would more than meet demands associated with all phases of development within the SPA during normal and dry years (for information on project phasing, please refer to Section 2.3.1). This higher quantity of water is required to factor in the 25% reduction that could occur in dry years thereby reducing the quantity delivered to 6,000 AFY. This shortage provision could leave a margin of only 400 AFY between the demands of the SPA at build-out and the available surface water supply. In recognition of this surplus, which ranges from 400 AFY in dry years up to 2,400 AFY, the City intends to make these supplies available to the NCMWC for diversion for irrigation. Any additional water not required by NCMWC would be put to beneficial use according to the provisions of the CVP water service contract and Central Valley Project Improvement Act (CVPIA), House Resolution (HR) 429, Public Law 102-575.

Natomas Central Mutual Water Company

NCMWC currently serves about 33,200 acres in Sacramento and Sutter Counties. Exhibit 2-22 illustrates the boundaries of the NCMWC service area. NCMWC maintains appropriative water rights to the Sacramento River pursuant to Water Right Licenses 1050, 2814, 3109, 3110, and 9794 and Permit 19400. NCMWC and Reclamation signed Settlement Contract No. 14-06-200-885A-R-1 to address the CVP's effect on those licenses and that permit under that contract. NCMWC diverts base supply[2] and CVP water[3] from the Sacramento River. This contract is effective through March 31, 2045. This contract obligates Reclamation to deliver the base supply of 98,000 AFY and "Project Water" supply of 22,000 AFY for a combined total of 120,200 AFY.

NCMWC's Renewal Contract, among many other CVP contracts, was recently challenged in *Natural Resources Defense Council v. Kempthorne*, Case No. 05-CV-01207 (Eastern District of California). In that case, the U.S. District Court for the Eastern District of California (United States District Court) upheld NCMWC's Renewal Contract and found that Reclamation had no discretion to reduce NCMWC's water supplies in executing the Renewal Contract. NCMWC's current contract includes a shortage provision of up to 25%[4]. Given that the NCMWC's renewed CVP contract contains an up to 25% shortage provision during dry years and the fact that

[2] Base supply means the amount of water Reclamation delivers to the NCMWC, a Settlement Contractor, during the period of April through October each year, free of charge in recognition of their unquantified water rights, which existed prior to the construction of the CVP.

[3] CVP Water is subject to all requirements of the Federal Reclamation Law, including pricing regulations.

[4] The Sacramento River Index is the sum of the unimpaired runoff of four rivers: the Sacramento River above Bend Bridge near Red Bluff (Station SBB), Feather River inflow to Oroville Reservoir (station FTO), Yuba River at Smartville (Station YRS) and American River inflow to Folsom reservoir (Wtation AMF). In applying the Sacramento Valley 40-30-30 Index, a water-year with an Index equal to or less than 5.4 MAF is classified as "critical."

these supplies would be diverted north of the Sacramento-San Joaquin Delta (Delta), the City has assumed that no additional reductions in the amount of water delivered would occur even with factoring in climate change. A study prepared by Wagner and Bonsignore (2007) indicates that based on existing 2007 cropping patterns within NCMWC's service area, NCMWC has sufficient surface water supplies to transfer up to 8,000 AFY without adversely affecting NCMWC's ability to meet irrigation demands with surface water. Based on this finding, it is reasonable to expect that no supplemental groundwater pumping would be required by landowners within the NCMWC to augment the surface supplies assigned to the City. The complete Wagner and Bonsignore report is included in Appendix M2 of this EIR/EIS for further reference.

Integration with Freeport Project Facilities

The City has identified the existing Freeport Project as the proposed point of diversion (POD) on the Sacramento River for the Off-site Water Facility Alternatives. The Freeport Project is a facility jointly owned by Sacramento County Water Agency (SCWA) and the East Bay Municipal Utilities District (EBMUD) and is permitted to divert and convey up to 185 mgd of surface water to their respective service areas. SCWA has a dedicated capacity within the Freeport Project of 85 mgd with EBMUD owning the remaining 100 mgd of capacity. The City and SCWA have entered into a MOU (See Appendix M3) for the City to acquire the right to use 6.5 mgd on average of dedicated capacity in the SCWA's 85 mgd portion of the Freeport Project. This MOU would also allow for additional capacity to accommodate limited peaking conditions. To provide a basis for the assessment of worst-case conditions, the analysis provided in this EIR/EIS assumes peaking operations of up to 10 mgd.

As part of the Off-site Water Facility Alternatives and pursuant to Section 4.3 of the Second Amended Joint Exercise of Powers Agreement Concerning the Freeport Regional Water Authority, the City would enter into an Agreement for Delivery of Water (Delivery Agreement) with SCWA for the right to use up to an average of 6.5 mgd of SCWA's Freeport Project dedicated capacity. Under the Delivery Agreement, SCWA would wheel[5] the NCMWC's CVP contract supplies from the Sacramento River through the Freeport Project and to the bifurcation point where SCWA's and EBMUD's joint facilities end. Of the Freeport Project's major facilities, the Off-site Water Facility Alternatives would use capacity within one or more of the following:

- Freeport Intake Facility – The intake facility is located near the Town of Freeport. It includes a pumping plant that contains eight separate pumps capable of diverting water from a well located behind a 180-foot long fish screen, designed to comply with criteria developed by the California Department of Fish and Game (DFG) and NMFS in order to allow migrating Delta smelt, Chinook salmon, steelhead, and other native fish species to pass by the intake diversion without the risk of entrainment. The intake facility connects to a pipeline that conveys water to SCWA and EBMUD; and

- Raw Water Pipelines – Raw water pipelines carrying water from the intake facility to the Vineyard Surface WTP (SWTP) or FSC:

    - Pipeline Segments 1 and 2, 185 mgd capacity (84-inch) pipelines from the intake facility to the turnout to the Zone 40 Surface WTP or bifurcation,

    - Pipeline Segment 4, an 85 mgd capacity (66-inch) pipeline from the bifurcation to the Vineyard SWTP.

The EIR/EIS for the Freeport Project (see Section 1.9) analyzed impacts associated with the construction and operation of the Sacramento River diversion/intake structure and associated raw or untreated water conveyance pipelines. The Freeport Project EIR/EIS is incorporated by reference into this EIR/EIS (see Section 1.9) and documents the environmental effects of diverting of up to 185 mgd (or 568 AF) of surface water from the Sacramento River during all river hydraulic conditions. Pursuant to State Water Resources Control Board (SWRCB) Application No. 30454, SCWA's total diversions at Freeport are permitted for up to 286 cfs, but not to exceed 71,000 AFY. On average, however, SCWA's diversions are initially estimated more on the order of

[5] "Wheeling" is the transmission of water owned by one entity through the facilities owned by another.

21,700 AFY in 2010. The Off-site Water Facilities would operate within SCWA's permitted diversion rates and would not require any increase in the Freeport Project's currently permitted diversion capacity. For this reason, no physical changes to the Freeport Project's diversion and pump structure and conveyance pipeline are contemplated as part of the "Water" portion of the project.

Pump Station

One raw or treated-water booster pumping station would need to be constructed at the City's Off-site Water Facility's connection with the Freeport Project to provide sufficient operating pressure within the transmission main. Under a treated-water transmission main scenario, the connection point would occur at the Vineyard SWTP, some point along SCWA's proposed North Service Area (NSA) pipeline, or the existing Douglas Treated-Water Storage Tanks (Douglas Tanks) within the North Douglas II development. The pumping station would consist of a concrete facility that would operate via electricity. The ultimate horsepower (HP) requirements are currently estimated at 1700 HP for the longest routes. The number and type of pumps will depend on detailed design criteria, which is currently unavailable. At times, the pumps may operate 24-hours a day, seven days a week. The pump station structure(s) would be designed so that additional pumps can be installed. A standby generator would be installed in an enclosure to operate up to two pumps during a power outage. At this time, a precise location for the pump station has not been selected. However, the City anticipates that this facility would be in close proximity to the associated connection point to the Freeport Project facilities under of the Off-site Water Facility Alternatives.

Water Treatment and Treated-Water Transmission Facilities

Water treatment would be provided for the Off-site Water Facilities through the construction of a new Water Treatment Plant (WTP) or the purchasing of capacity within SCWA's Vineyard SWTP. Details regarding these water treatment options are provided under the respective Off-site Water Facility Alternatives for which they would be developed. In relation to the construction of new water treatment facilities, two alternative site locations have been identified outside the SPA as part of the City's preliminary investigation and analyzed in separate alternatives. In addition to these two off-site locations, there continues to be a potential for the WTP to be constructed within the SPA. If located within the SPA, the On-site WTP would be constructed at a location immediately northeast of the intersection of Oak Avenue and Street "A" (see Exhibit 2-7). Environmental effects resulting from new development within the SPA are analyzed in the "Land" sections of Chapter 3 of this EIR/EIS. At the time of writing this EIR/EIS, the City is considering a range of treatment options ranging from conventional to advanced treatment. Additionally, the exact placement of the WTP on each of the off-site properties under consideration has not been determined and, therefore, the City has considered full-build-out of either WTP site as part of its analysis.

Depending on the conveyance alignment and WTP site location ultimately chosen, the Off-site Water Facilities would enter the SPA along Prairie City Road either from White Rock Road to the south or from an unnamed, dirt road that bisects the northern section of the Aerojet property, immediately west of the SPA and south of U.S. 50. This existing dirt roadway corresponds with the planned alignment for the Easton Valley Parkway. The treated-water transmission infrastructure proposed for areas within the SPA is described in the "Land" sections of this EIR/EIS.

Non-Potable Water Facilities

The proposed Folsom Specific Plan includes policies that encourage the installation of non-potable water infrastructure for new development within the SPA (see Section 12.5). In conjunction with the "Water" portion of the project, the City is actively seeking sources of non-potable water supplies for use in non-potable applications (i.e., landscape irrigation) within the SPA. Potential sources of non-potable water include local groundwater, recycled water from EID, and/or treated groundwater from Aerojet, among others. However, at the time of the preparation of this EIR/EIS, details regarding these sources and any associated facilities are insufficient to

facilitate analysis within this EIR/EIS. The City expects to prepare separate, subsequent environmental documentation for actions and improvements associated with future non-potable water improvements for the SPA.

2.6.2 Proposed Off-site Water Facility Alternative – Gerber/Grant Line Road Alignment and On-site WTP

Under the Proposed Off-site Water Facility Alternative, the City would integrate its water supply conveyance facilities with SCWA by purchasing an average of 6.5 mgd, plus an appropriate peaking factor, of dedicated capacity within the Freeport Project and wheeling raw water through Pipeline Segments 1 and 2 of the Freeport Project. As previously indicated and for purposes of analyses, the City has assumed that this capacity could be temporarily increased up to 10 mgd to accommodate periods of peak demands.

Under the Proposed Off-site Water Facility Alternative, the City would construct a new 30-inch, raw-water conveyance pipeline that would connect with the pump station located in an area just northeast of the bifurcation. As shown in Exhibit 2-25, the raw-water pipeline would extend northeast approximately 16.5 miles from the bifurcation to the SPA. This pipeline length would result in a corridor under consideration of approximately 401-acres. An exact alignment has not been selected and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-26. In reality, a temporary construction easement would be more on the order of 60 feet with a permanent easement of approximately 10 feet to facilitate access by maintenance vehicles. Construction of the pipeline may involve two methods of pipeline construction: open-cut trenching and trenchless construction. Trenchless construction could be used to traverse creeks or waterways, drainages, major roadway intersections, or railroad rights-of-way.

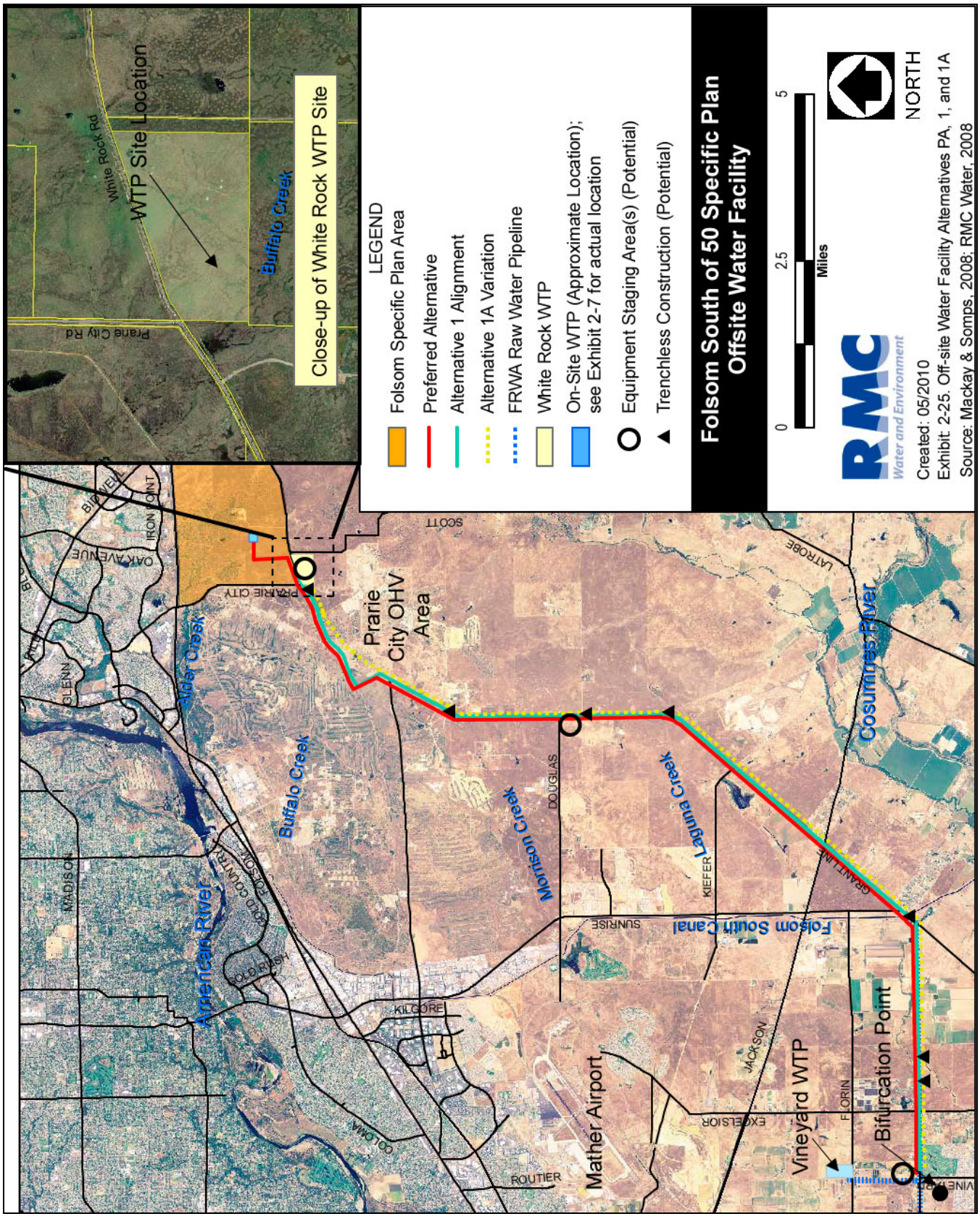
Near the bifurcation, at the intersection of Vineyard and Gerber Roads, the City would construct a 10-mgd capacity, raw water pump station to create the necessary operating pressure within the conveyance pipeline. As previously indicated, the pump station would operate on electricity with a total rated capacity of 1,700 HP. From the pump station, the conveyance pipeline under this alternative would parallel Pipeline Segment 4 of the Freeport Project along Gerber Road to Excelsior Road and from there traverse cross country to the FSC. The pipeline would then cross the FSC where it would intersect with Grant Line Road. The method of crossing the FSC will be determined in coordination with Reclamation. At Grant Line Road, the conveyance pipeline would transition to the north before intersecting White Rock Road. Once on White Rock Road, the alignment follows the roadway east to a newly constructed extension of Oak Avenue. At Oak Avenue, the conveyance pipeline would extend into the SPA to a new, approximately 10-acre On-site WTP.

The On-site WTP would be constructed within the SPA at the approximate location shown in Exhibits 2-7 and 2-26. A treated-water main would be constructed from the On-site WTP to connect with the backbone water infrastructure within the SPA. Under this alternative, the On-site WTP would have an ultimate capacity of approximately 10 mgd.

Water Treatment Processes. The WTP would use conventional and/or advanced treatment technologies to treat water supplies from the Sacramento River that meet the drinking water quality objectives specified in Title 22 of the California Code of Regulations. These regulations specify drinking water quality standards (e.g., maximum contaminant levels (MCLs) for biological contaminants, disinfection by-products, lead, copper, radioactivity, and inorganic and organic chemicals (e.g., pesticides and herbicides). In addition, a residual disinfectant level would be maintained in the water supply to insure that the water remains free of pathogens. The residual disinfection level would be maintained in compliance with applicable drinking water regulations.

The following components may be used at the WTP:

- chemical oxidation system;
- rapid mixing system;



Proposed Off-site Water Facility and Off-site Water Facility Alternatives 1 and 1A **Exhibit 2-26**

- pre-treatment system (flocculation/sedimentation);
- filtration system;
- chemical storage and feed systems;
- filter backwash water supply system;
- wash-water recovery and sludge thickening system;
- sludge dewatering system;
- operations and maintenance building;
- site electrical and control systems improvements; and
- site/civil improvements.

Exhibit 2-27 shows a conceptual layout of the On-site WTP facility, including anticipated major physical features. The WTP facilities would be constructed of concrete and the exterior painted. The grit basins, flow split, flocculation and sedimentation basins, filters, equalization basins, and backwash clarification would be open-water areas. Membrane filtration may be considered as an alternative to the conventional treatment process. The administration/operations building, maintenance building, chemical building, electrical building, and treated water pump station(s) would be enclosed structures, constructed of concrete masonry units or steel. Buildings would be faced with materials such as stucco or split-face block. Steel structures would be painted to blend with the existing environment.

Most WTP staff would be on site during typical working hours, 7:00 am to 5:00 pm. Staffing levels and operator qualifications would comply with applicable regulatory requirements.

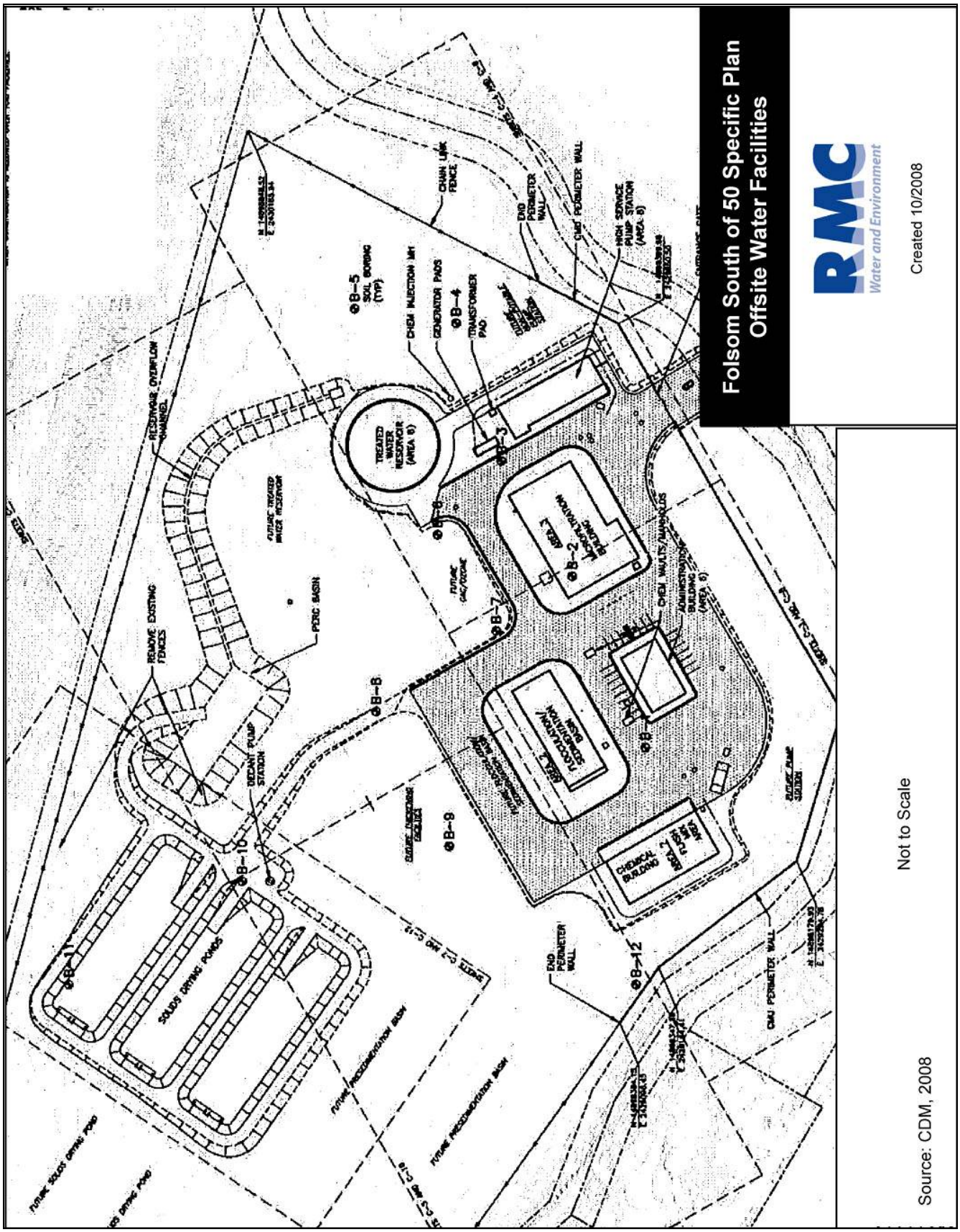
Waste from the water treatment process would include grit from the grit basins, sludge removed from the sedimentation basins, filter backwash water, filter-to-waste water, sampling water, and sludge lagoon decant water. This waste would be treated with a polymer and then stored in an equalization basin. Solids from the grit and equalization basins and sludge from the sedimentation basin would be sent to sludge lagoons for drying. Lagoons would be constructed to allow for cycling and settling periods. Dried sludge would be transported to a locally-certified landfill or other suitable location for ultimate disposal. The lagoons would be routinely cleaned, and the dried sludge removed as needed.

Chemicals anticipated that would be stored and used at the WTP are identified in Table 2-15.

Table 2-15
Water Treatment Chemical Use and Storage

Chemical	Purpose	Form	Estimated Storage Quantity
Aluminum sulfate (Alum)	Coagulation	Liquid	< 20,000 gallons
Cationic polymer	Coagulation aid	Liquid	< 300 gallons
Sodium hydroxide	Neutralizing agent	Liquid	< 3,000 gallons
Anionic polymer/ non-Ionic polymer	Flocculation aid and filter aid	Solid or Liquid	< 6,000 pounds
Activated carbon	Taste and odor, organic control	Solid	< 40,000 pounds
32+ 1 Sodium hypochlorite	Disinfection residual	Liquid	< 10,000 gallons
Citric acid	Membrane cleaning	Liquid	< 400 gallons
Sodium bisulfite	Membrane cleaning	Liquid	< 100 gallons
Oxygen		Liquid	< 5,000 gallons

Source: RMC Water and Environment 2010



Conceptual Water Treatment Plant Layout **Exhibit 2-27**

2.6.3 No USACE Permit Off-Site Water Facility Alternative

The No USACE Permit Off-site Water Facility Alternative would involve the same facilities described under the Proposed Off-site Water Facility Alternative above, and the conveyance pipeline would follow a similar route. However, the No USACE Permit Off-site Water Facility Alternative would avoid all direct impacts (i.e., fill) of waters of the U.S., which include wetlands, through the incorporation of trenchless construction technologies. Construction staging areas and the entry/exits for all trenchless construction activities would also be sited within non-sensitive areas and a minimum of 50 feet from waters of the U.S. At each location where trenchless construction would occur, the City would use a single or combination of trenchless technologies, including but not limited to, microtunneling, horizontal directional drilling (HDD), or jack-in-bore, to avoid these jurisdictional features. The new water treatment plant, regardless of its location, would not be placed within 50 feet of any waters of the U.S., including wetlands. Similar to the other "Water" Alternatives, all construction activities would occur within the 200-foot corridor under consideration for northeastern portions of Zone 4 of the "Water" Study Area.

2.6.4 Off-site Water Facility Alternative 1. Raw Water Conveyance – Gerber/Grant Line Road Alignment and White Rock WTP

Under Off-site Water Facility Alternative 1, the City would construct facilities similar to those proposed under the Proposed Off-site Water Facility Alternative and described in Section 2.13.3. The City would integrate its water supply conveyance facilities with the Freeport Project and wheel raw water through Pipeline Segments 1 and 2 of the Freeport Project. Under Off-site Water Facility Alternative 1, the City would construct a new 30-inch, raw-water conveyance pipeline that would connect with the pump station located in an area just northeast of the bifurcation. As shown in Exhibit 2-26, the raw-water pipeline would extend northeast approximately 15.3 miles from the bifurcation to a new WTP south of the SPA. This pipeline length would result in a corridor under consideration of approximately 372 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-26.

Similar to the Proposed Off-site Water Facility Alternative, a 10-mgd capacity, raw water pump station would be constructed near the Freeport Project bifurcation and would include a rated horsepower of 1,700 HP. From the pump station, the conveyance pipeline under this alternative would follow the same alignment as the Preferred Alternative up to a new WTP located southeast of the intersection of White Rock Road and Prairie City Road, at a City-proposed Corporation Yard. The White Rock WTP would be constructed on a 10-acre portion of a 68-acre parcel, Assessor's Parcel Number (APN) 072-006-0052, and to the south of the City's proposed Corporation Yard. A treated-water main would be constructed from the White Rock WTP to connect with the backbone water infrastructure within the SPA. Under this alternative, the White Rock WTP would have an ultimate capacity of approximately 10 mgd.

Treatment process and facilities under this alternative would be similar to those described for the Proposed Off-site Water Facility Alternative. At this time, the City has not determined whether it would annex the WTP site into its jurisdiction or whether it would seek development entitlements through Sacramento County and, therefore, the environmental analysis considers both options.

2.6.5 Off-site Water Facility Alternative 1A. Raw Water Conveyance – Gerber/Grant Line Road Alignment Variation and White Rock WTP

Off-site Water Facility Alternative 1A consists of a variation in the conveyance pipeline alignment for Off-site Water Facility Alternative 1. All other features of this alternative, including the WTP and pump station, would be similar to that of Off-site Water Facility Alternative 1. As shown in Exhibit 2-26, Off-site Water Facility Alternative 1A would realign the conveyance pipeline alignment so that it deviates from White Rock Road prior

to the first curve north of the intersection of White Rock Road and Grant Line Road (see Exhibit 2-26). The pipeline would travel north-northeast along a property line boundary, prior to re-intersecting with the Off-site Water Facility Alternative 1 alignment on the current White Rock Road right-of-way. Off-site Water Facility Alternative 1A would reduce the length of pipeline by approximately a quarter of a mile when compared to Off-site Water Facility Alternative 1. This pipeline length of 15.2 miles would result in a corridor under consideration of approximately 364 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-26.

2.6.6 Off-site Water Facility Alternative 2. Treated Water Conveyance – Douglas Road Alignment and Vineyard SWTP

Under Off-site Water Facility Alternative 2, the City would purchase 6.5 mgd, on average, of capacity within the Freeport Project and Vineyard SWTP[6]. This capacity would be augmented with additional peaking capacity of up to 10 mgd within the Freeport Project and Vineyard SWTP, which is located on an 80-acre site on Florin Road between Bradshaw and Excelsior Roads, instead of constructing a new WTP. SCWA is nearing the completion of the Vineyard SWTP, which is initially designed to treat up to 50 mgd for SCWA's Zone 40 Northern Service Area, and expected to start operation in fall 2011.

In addition to purchasing capacity within the Vineyard SWTP, this alternative would involve the construction of a new pumping facility and treated-water conveyance pipeline approximately 17.4 miles in length. This pipeline length results in a corridor under consideration of approximately 423 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-28. The pumping facility would be constructed according to the parameters identified for the Proposed Off-site Water Facility Alternative and located on-site at the Vineyard SWTP. The electrical load requirements for the pumping facility under this alternative would be slightly less than Off-site Water Facility Alternative 1 and are currently estimated at 1,670 HP.

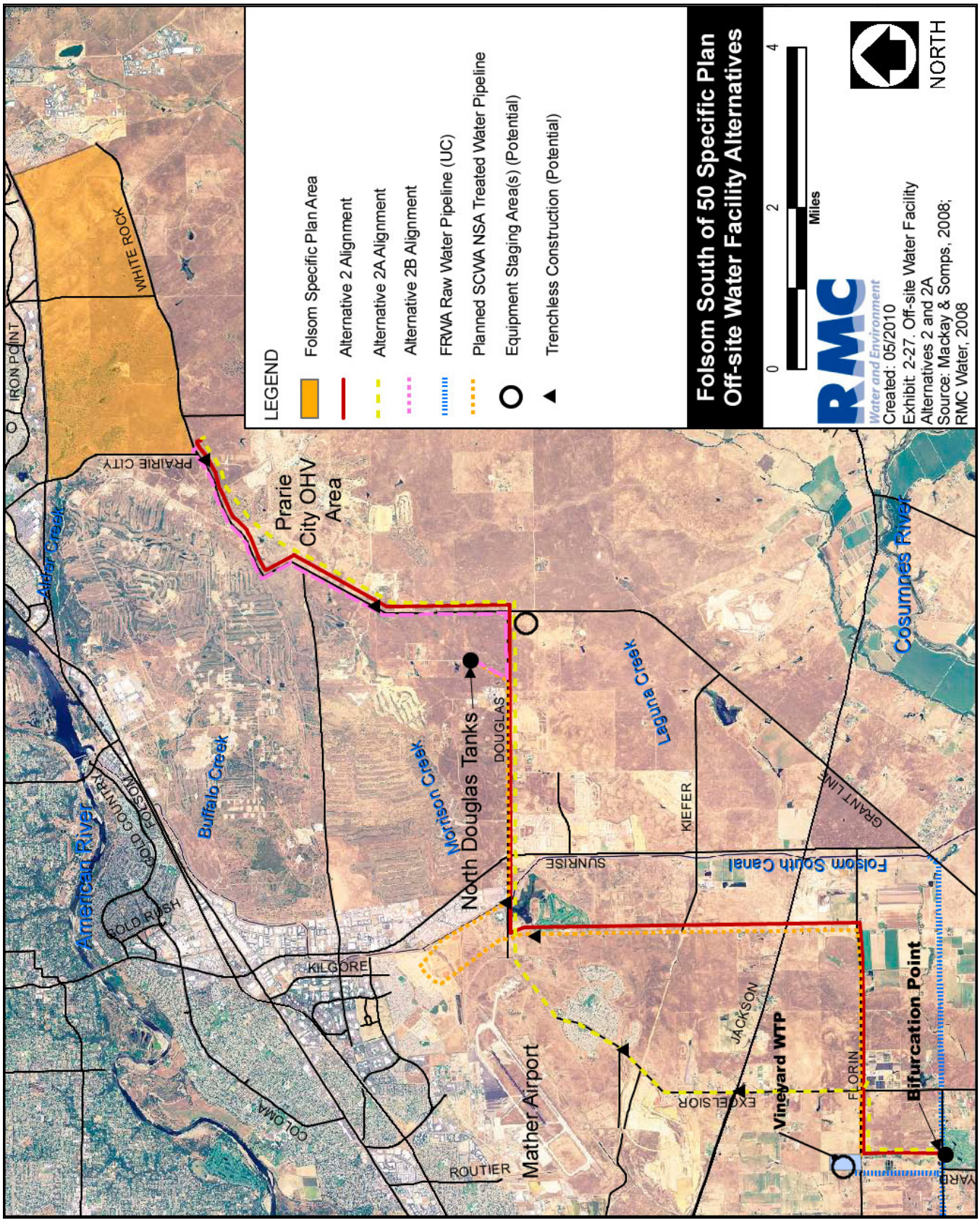
From the Vineyard SWTP, the alignment would extend from Florin Road east to Eagles Nest Road, at which point, the alignment would extend north to Douglas Road (see Exhibit 2-28). Once at Grant Line road, the alignment would follow the same route as Off-site Water Facility Alternative 1. At the terminus of the conveyance alignment, this alternative would connect to new equalization facilities sited within the SPA instead of a new WTP as described for Off-site Water Facility Alternative 1. The equalization facilities are described below.

Equalization Facilities

As part of Off-site Water Facility Alternative 2, the City may construct a 4-million-gallon (MG) ground-based storage tank within the SPA and an associated pumping station on approximately 1-acre. The equalization tanks would be sited with the storage tanks identified to the northeast of the intersection of Road A and Oak Avenue within the SPA (see Exhibit 2-7) and would consist of pre-stressed concrete similar to existing City-owned tanks. The tank height would be no more than three stories or approximately 30 feet.

Pumping and backup power generation would be part of the on-site water distribution infrastructure constructed in conjunction with new development within the SPA. Chemical re-treatment facilities may also be constructed, if determined necessary. To achieve the tank foundation elevation, the existing ground surface at the site may

[6] For the purposes of differentiating between the City's proposed WTP under several of the Off-site Water Facility Alternatives and SCWA's existing Vineyard SWTP, separate acronyms are used to clearly distinguish between these facilities.



Off-site Water Facility Alternatives 2, 2A, and 2B **Exhibit 2-28**

require excavations of up to 10 feet beneath the ground surface. The exterior wall facing would be painted or other architectural treatment administered as desired for aesthetic purposes.

2.6.7 Off-site Water Facility Alternative 2A. Treated Water Conveyance – Excelsior Road Alignment Variation and Vineyard SWTP

Off-site Water Facility Alternative 2A involves a variation in the conveyance route alignment for Off-site Water Facility Alternative 2 (see Exhibit 2-28). All other features associated within this alternative would be the same as Off-site Water Facility Alternative 2. Under Off-site Water Facility Alternative 2A, the conveyance pipeline alignment would deviate from the Off-site Water Facility Alternative 2 route at the intersection of Florin and Excelsior Roads and travel north along Excelsior Road to Mather Boulevard. At the intersection with Douglas Road, this alignment would travel back to the east and follow the Off-site Water Facility Alternative 2 alignment east to Grant Line Road where it would then travel north to White Rock Road. Unlike Off-site Water Facility Alternative 2, this alternative would follow the Off-site Water Facility Alternative 1A alignment north of the intersection of Grant Line Road and White Rock Road and follow it to the SPA where it would directly connect with the equalization facility. The length of this alignment would be approximately 16.3 miles thereby resulting in a corridor under consideration of approximately 390 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-28.

Equalization facilities constructed under this alternative would be similar to those described for Off-site Water Facility Alternative 2.

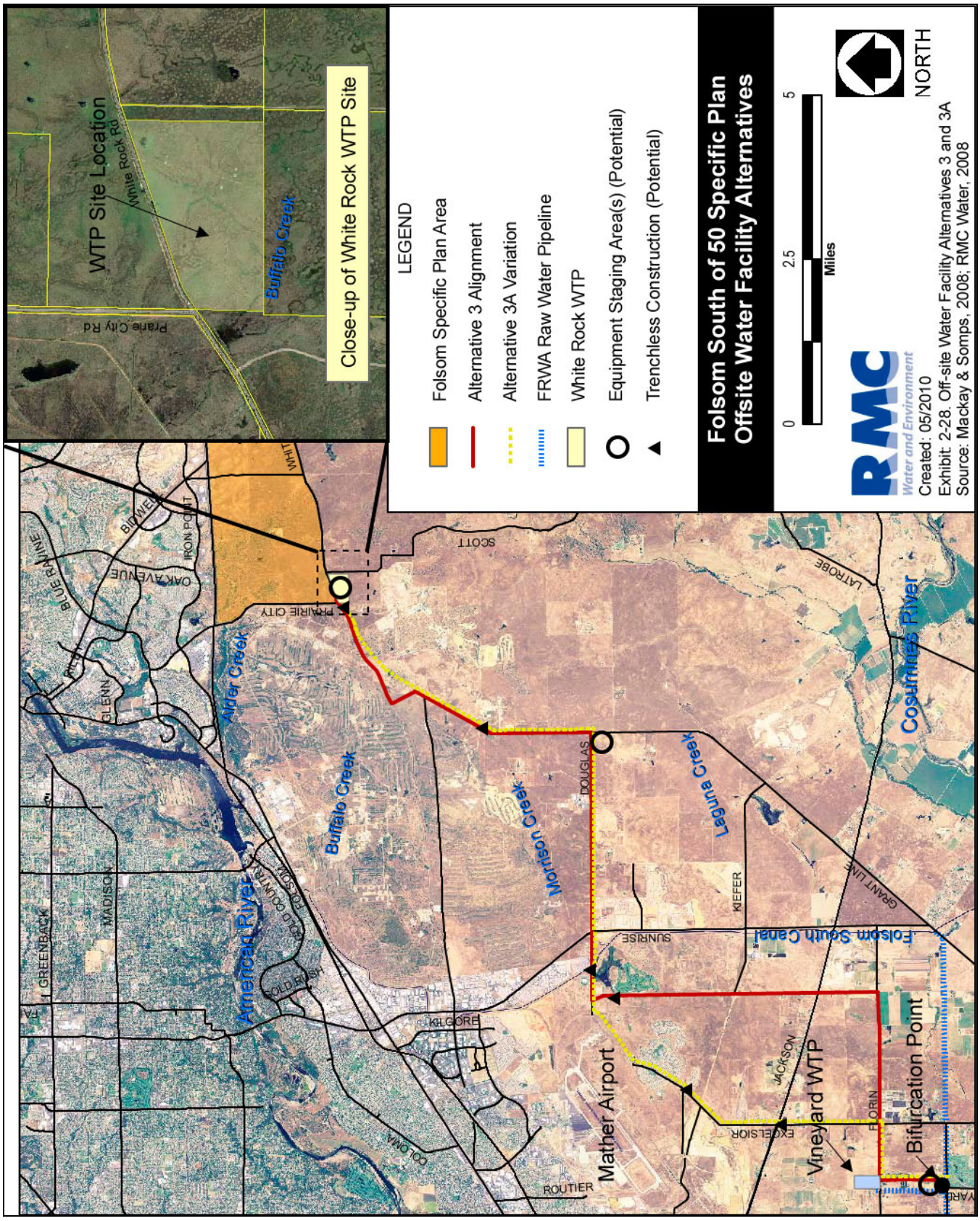
2.6.8 Off-site Water Facility Alternative 2B. Treated Water Conveyance – North Douglas Tanks Variation and Vineyard SWTP

Off-site Water Facility Alternative 2B involves a shortened variation in the conveyance alignment as described for Off-site Water Facility Alternative 2 and would connect to the North Douglas Water Tanks (North Douglas Tanks), which were constructed by SCWA to serve areas within Sunrise Douglas Community Plan area, and extend south along Ivan Way to Douglas Road (see Exhibit 2-28). The alignment would then follow the same route as Off-site Water Facility Alternative 2 to the SPA. All other features associated with this alternative would be the similar to those described for Off-site Water Facility Alternative 2 with treatment provided at the Vineyard SWTP and equalization facilities within the SPA. By constructing the conveyance alignment from the North Douglas Tanks, the length of the pipeline is reduced to approximately 6 miles, thereby resulting in a corridor under consideration of approximately 157 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-28.

Under this alternative, construction of the pumping facility would occur according to the parameters identified for Off-site Water Facility Alternative 1 and located on the existing North Douglas Tanks site. The electrical load requirements for the pumping facility under this alternative are currently estimated at 1,100 HP. Similar to Off-site Water Facility Alternative 2, the conveyance alignment under this alternative would directly connect with the Equalization Tanks within the specific land area.

2.6.9 Off-site Water Facility Alternative 3. Treated Water Conveyance – North Douglas Tanks Variation and Vineyard SWTP

Off-site Water Facility Alternative 3 involves the construction of a raw-water conveyance pipeline from the bifurcation point to the White Rock WTP site south of the intersection of White Rock and Prairie City Roads. As shown in Exhibit 2-29, the Off-site Water Facility Alternative 3 raw water conveyance alignment would



Off-site Water Facility Alternatives 3 and 3A **Exhibit 2-29**

follow the same alignment as described for the treated-water pipeline in Off-site Water Facility Alternative 2. This would result in a pipeline length of 17.4 miles and a corridor under consideration of approximately 423 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-29.

The pump station would be constructed at the same site location and according to the same parameters as identified for Off-site Water Facility Alternative 1. The main difference under Off-site Water Facility Alternative 3 would be that, rather than connecting directly to the equalization facilities within the SPA, this alternative would involve the construction of a new, 10-acre White Rock WTP at the same location as described in Off-site Water Facility Alternative 1. The treatment process under this alternative would be the same as those described for Off-site Water Facility Alternative 1. In addition, similar to Off-site Water Facility Alternative 1, a new treated water pipeline would be constructed from the WTP, which would connect with water backbone infrastructure within the SPA.

2.6.10 Off-site Water Facility Alternative 3A. Raw Water Conveyance – Excelsior Road Alignment Variation and White Rock WTP

Off-site Water Facility Alternative 3A is only differentiated from Off-site Water Facility Alternative 3 by an alternate raw-water conveyance alignment (see Exhibit 2-29). The main difference under this alternative would be that the raw water conveyance alignment would follow the same alignment as described for Off-site Water Facility Alternative 2A. Under this alternative, the City would construct a new, 10-acre White Rock WTP, similar to that described for Off-site Water Facility Alternative 1. This would result in a pipeline length of 16.3 miles and a corridor under consideration of approximately 389 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-29.

2.6.11 Off-site Water Facility Alternative 4. Raw Water Conveyance – Easton Valley Parkway Alignment and Folsom Boulevard WTP

Off-site Water Facility Alternative 4 would entail the construction of a raw water conveyance pipeline from the bifurcation pump station north to a new WTP located south of Folsom Boulevard – or the Folsom Boulevard WTP – and east of Sunrise Boulevard (see Exhibit 2-30). The raw-water pump station would be constructed according to the same parameters as described for the Proposed Off-site Water Facility Alternative. This would result in a total pipeline length of 19.4 miles and a corridor under consideration of approximately 469.6 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-30.

The raw water pipeline would follow the same alignment as Off-site Water Facility Alternative 3 alignment north to Douglas Road and travel east. Along Douglas Road, the Off-site Water Facility Alternative 4 alignment would deviate from Off-site Water Facility Alternative 3 and transition back to the north at Sunrise Boulevard. From Sunrise Boulevard, the alignment extends north in a cross-country alignment along the western boundary of the Rio del Oro Specific Plan area to White Rock Road. At White Rock Road, the alignment would travel east for a short distance to the southwestern corner of the Aerojet Property (see Exhibit 2-30). The alignment is currently planned to conform to the planned Rancho Cordova Parkway, which will serve as main arterial roadway through the proposed Westborough at Easton project.

Just south of the FSC, the raw water conveyance pipeline would turn back to the east along an existing dirt road to the Folsom Boulevard WTP. Under this alternative, the City would construct the Folsom Boulevard WTP with an

Off-site Water Facility Alternatives 4 and 4A **Exhibit 2-30**

ultimate capacity of approximately 10 mgd on a 10-acre portion of a 118-acre parcel (APN 072-025-1075) south of Folsom Boulevard. Water treatment processes proposed under this alternative would be the same as those described for the Proposed Off-site Water Facility Alternative and illustrated in Exhibit 2-27. At this time, the City has not determined whether it would annex the WTP site into its jurisdiction or whether it would seek development entitlements through the City of Rancho Cordova or Sacramento County depending on timing and, therefore, the environmental analysis considers both options.

From the Folsom Boulevard WTP, the City would construct a new treated-water conveyance pipeline that would travel east along an existing dirt road south of Folsom Boulevard (see Exhibit 2-30). The treated water alignment would follow the existing dirt road, which parallels U.S. 50 to the south, to Prairie City Road. At Prairie City Road, the treated-water alignment would connect with an equalization facility or directly with water backbone infrastructure within the SPA. The existing direct road conforms to the planned roadway alignment for the Easton Valley Parkway.

2.6.12 Off-site Water Facility Alternative 4A. Raw Water Conveyance – Easton Valley Parkway Alignment Variation and Folsom Boulevard WTP

Alternative 4A would include a minor variation to the raw-water pipeline route described for Off-site Water Facility Alternative 4 (see Exhibit 2-30). Similar to Off-site Water Facility Alternative 3A, this alternative would deviate from the Off-site Water Facility Alternative 4 route at the intersection of Florin and Excelsior Roads and travel north along Excelsior Road and Mather Boulevard. At the intersection with Douglas Road, this alignment would travel back to the east and rejoin the Off-site Water Facility Alternative 4 raw-water alignment east of Eagles Nest Road. The remainder of this alignment and the associated facilities would be identical to those described for Off-site Water Facility Alternative 4. This would result in a total pipeline length of 18.3 miles and a corridor under consideration of approximately 444 acres. Similar to the Proposed Off-site Water Facility Alternative, an exact alignment has not been selected for this alternative and, therefore, this alternative considers a 200-foot-wide corridor or a 100-foot-wide buffer off the roadway centerline along the alignment as shown in Exhibit 2-30.

2.7 Construction of Off-site Water Facility Alternatives

Construction of the selected Off-site Water Facility Alternative would begin in early 2011 (assuming receipt of all environmental clearances, permits, and approvals) with construction of the water treatment facilities starting shortly thereafter. Pipeline construction rates would vary, but would progress at a rate of approximately 200 to600 feet per day. With the inclusion of a WTP, the duration of construction is anticipated to last up to 30 months or through mid- to late-2013.

2.7.1 Treated and Raw Surface Water Conveyance Pipelines

Excavating and installing the untreated and treated water pipelines would require establishing a temporary construction corridor to provide access for equipment, materials laydown, excavated earth and bedding storage, and pipeline trench earthwork. The new pipeline facilities would be installed in existing and, in limited instances, newly acquired rights-of-way and would be completely buried. Manholes or buried blind flanged tees would be installed at regular intervals (approximately 1/4 to 1/2 mile) to provide access for sampling testing, inspection, maintenance, and repair. A few isolation valves (used to close segments of the pipeline) may be installed at regular intervals to close off segments of the pipeline for maintenance, repair, and emergency in breakage situations.

To consider the worst-case scenario for the analysis, it has been assumed that the maximum pipeline diameter (30 inches) would be constructed. Installation of the pipeline would require a permanent easement and an

additional construction easement. Generally, permanent easements are three times the width of the trench. A temporary construction easement of up to 60 feet wide would be required to permit the movement of construction equipment except for narrower sections to reflect the available right-of-way. The permanent easement for the conveyance pipeline(s) would be approximately 10 feet wide to facilitate access by maintenance vehicles.

Construction of the pipeline may involve two methods of pipeline construction: open-cut trenching and trenchless construction. Trenchless construction would be used to traverse creeks or waterways, major intersections, and railroad rights-of-way. These two methods are described in the following discussion.

CONSTRUCTION EQUIPMENT AND STAGING AREAS

At various locations along the construction route, staging areas would be required to store pipe, construction equipment, and other construction-related material. Staging areas would be established along the pipeline route(s) where space is available. In some cases, staging areas may be used for the duration of the construction of the "Water" portion of the project. In other cases, as pipeline construction moves along the route, the staging area would be moved to minimize hauling distances and avoid disrupting any one area for extended periods of time. Potential staging areas include vacant private and public land and parking lots and are identified for each Off-site Water Facility Alternative in Exhibits 2-2, 2-28, 2-29, and 2-30. Staging areas would not be located in sensitive habitat areas unless they would be permanently lost due to subsequent development or facility siting. For staging areas on private property, temporary easements would be required. For staging areas on public property, encroachment permits could be required.

TRIP GENERATION

It has been assumed for this EIR/EIS that the most intense construction activities would occur during early 2011 through 2012, assuming receipt of all environmental clearances, permits, and approvals. To characterize and analyze potential construction impacts, the City has identified a maximum crew size, truck trips, and worker trips, based on expected excavation volumes and quantities of imported materials. The typical crew size for each construction phase would be 10–20 people, plus inspectors. It is expected that up to 22 people could be present during the most intense construction periods for any one crew. Work hours would be governed by permits issued by regulatory agencies and by the applicable noise ordinance, but these are not expected to be restrictive because the area contains few residences. To the extent feasible, construction would occur in the dry months to minimize environmental effects.

During peak excavation, trenching, and earthwork activities and assuming up to three construction crews working simultaneously, the Off-site Water Facility Alternatives could generate up to 66 round-trip truck trips per day during the height of construction. In addition, daily haul truck trips could range from 20 to 30 round trips per day at the height of construction. Roadways that would be used by construction traffic would be contingent on the alignment ultimately selected.

CONSTRUCTION DEWATERING AND HYDROSTATIC TESTING

All raw- and treated-water conveyance pipelines would undergo hydrostatic testing, prior to operation, using water from locally available sources including: local water districts/agencies (e.g., SCWA) or groundwater. The pipeline(s) would be filled with water and pressurized to 1.5 times the operating pressure and maintained at that pressure for a minimum of eight hours to identify any leaks prior to operation. Water used during hydrostatic testing and, if required, construction dewatering would be disposed of via the following methods in compliance with Central Valley RWQCB requirements:

- discharge into sanitary sewer systems; or

- discharge into detention basins, agricultural fields, and, if necessary storm drains, drainage ditches, creeks, or rivers (carbon filtering or other form of water conditioning may be required).

The method to be used would be determined based on the availability and capacity of the systems in the area, requirements of governing agencies, and the quality of the water following hydrostatic testing and/or dewatering. Water quality would be measured from the water source prior to use and after use during discharge to assure that water quality is not compromised as a result of the test. All hydrostatic testing water and dewatering would be discharged using a flow manifold and energy dissipater to control the rate of discharge and to minimize erosion and turbidity to meet the standards set forth under the terms and conditions of the National Pollutant Discharge Elimination System (NPDES), General Construction Permit, and the General Permit for Dewatering and Other Low Threat Discharges to Surface Waters issued by the Central Valley RWQCB.

EXISTING UTILITIES

The City's contractors would implement an Underground Services Alert to identify existing underground utilities and service connections prior to commencing any excavation work. The exact utility locations would be determined by hand-excavated test pits dug at locations determined and approved by the construction manager (also referred to as pot-holing). Temporary disruption of service may be required to allow for construction. Service on such lines would not be disrupted until prior approval is received from the construction manager and the affected utility service provider.

2.7.2 WATER TREATMENT AND STORAGE FACILITIES

Construction of the City-Owned WTP at the On-site WTP, White Rock WTP, or Folsom Boulevard WTP would begin in late 2011 or early 2012, assuming receipt of all environmental clearances, permits, and approvals. The duration of construction is anticipated to last about 18–24 months. Typical construction activities involved in the construction of the WTP facilities would include: site preparation, excavation and sitework, paving, installation of structural facilities, architectural design and landscaping, electrical/instrumentation, and start-up and testing.

2.8 "WATER" ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER CONSIDERATION

The City has considered numerous potential water supplies and conveyance alternatives as part of the "Water" project to support planned development within the SPA that are consistent with the requirements of Measure W. The State CEQA Guidelines (CCR Section 15126.6[d]) emphasize the selection of a range of reasonable alternatives and an adequate assessment of these alternatives to allow for comparative analysis. The "B," or "Water" sections of Chapter 3 in this EIS/EIR analyze the potential impacts of constructing and operating the "Water" portion of the project under one of ten of the Off-site Water Facility Alternatives at an equal level of detail as required by NEPA. Each of the Off-site Water Facility Alternatives would involve the use of CVP Water purchased from the NCMWC, use of the Freeport Project diversion/intake facility, and conveyance capacity within multiple reaches of the Freeport Project.

In this instance, to meet the requirements of both CEQA and NEPA for the analysis of alternatives, the City has used a three-tiered methodology in its evaluation of numerous of water supply and conveyance alternatives for the Folsom Specific Plan. At the first tier, the City considered a wide range of water supply and conveyance alternatives with the premise that the supply needed to demonstrate a firm yield of 5,600 AFY to meet all water demands within the SPA. Several of these "Water" alternatives were eliminated from further consideration since they were not considered sufficiently developed at the time of the writing of this EIR/EIS. The alternatives were also eliminated from further consideration based on institutional concerns, technical short-comings, and concerns regarding long-term reliability.

"Water" alternatives carried beyond this initial alternatives screening are analyzed in Chapters 3 and 4. The second tier "Water" alternatives are identified as Water Supply Options in this EIR/EIS and specifically discussed in Section 3A.18, "Water Supply – Land." The Water Supply Options considered at this intermediate tier are qualitatively analyzed commensurate with the requirements of CEQA, but were not carried forward for equal-level of analysis as required by NEPA, and are thus, not analyzed in Chapter 3 of this EIR/EIS.

The third tier of alternatives analysis under the City's methodology provides an equal-level of analysis as required under NEPA for the Off-site Water Facility Alternatives. The "B," or "Water" sections of Chapter 3 analyze the potential construction and operational affects of the Off-site Water Facility Alternatives. The primary reasoning for carrying the NCMWC's CVP supply forward into the third tier of analysis is based on the findings of the Water Supply Assessment (WSA), provided in Appendix M1, which identified this supply as the most reliable of the all supplies evaluated.

2.8.1 Screening Process and Results for "Water" Alternatives

The selection of "Water" alternatives, including optional water supply sources, to support the Folsom Specific Plan development was based on several factors including their ability to meet the project objectives identified in Chapter 1, "Introduction," current and projected reliability under a variety of water years, and their proximity to the SPA. The alternatives screening process consisted of two major steps:

Step 1: Define the range of water supplies and conveyance facilities along with their availability to facilitate comparative evaluation under the first tier of the alternatives analysis.

Step 2: Evaluate each alternative water supply in consideration of the following criteria:

- **Technical and Engineering and Feasibility.** An alternative must be technically and physically feasible. An alternative must be based on existing and accepted state-of-the-art engineering concepts and cannot be based on experimental technologies. Also, an alternative must not be dependent upon either the availability or acquisition of site locations that cannot be reasonably assured.

- **Raw-Water Quality.** An alternative must provide a water supply or, have the capability of providing a water supply that protects water quality and meets or exceeds State and Federal water quality standards or other applicable water quality standards associated with its use.

- **Environmental Fatal Flaw.** An alternative cannot have environmental impacts that are so significant as to negate the positive attributes of the alternative or, simply transfer potential environmental impacts from one location to another.

- **Economic Feasibility.** An alternative cannot be economically impractical or infeasible. An alternative should be economically attractive such that the total direct costs to the customers and purveyors are minimized and do not significantly exceed the costs of alternatives with similar benefits. Similarly, an alternative cannot result in excessive operation and maintenance costs.

- **Long-term Reliability.** An alternative must be capable of supplying raw-water reliably year round and on a long-term basis.

- **Public Health and Safety.** An alternative should be able to meet all existing and anticipated future State and Federal health and safety requirements.

- **Timing.** An alternative must be capable of being implemented within a reasonable timeframe such that the benefits and needs of the project are not unduly delayed.

- **Institutional.** An alternative cannot possess significant uncertainty that all permits, licenses, or other logistical requirements can be reasonably obtained.

Beyond the Off-site Water Facility Alternatives, which are described in Section 2.13 and would involve the use of CVP water from NCMWC, ten potential "Water" alternatives were reviewed against the criteria listed under Step 2. The range of other "Water" alternatives considered as part of the first tier of analysis under the City's alternatives analysis methodology included the following:

- Groundwater from the Central Sacramento Groundwater Basin
- Diversion of Un-Appropriated American River Water
- Conservation of Existing Entitlements and Water System Retrofit
- Water Supply and Delivery from the El Dorado Irrigation District
- Other Senior Sacramento River Water Right Holders
- Non-Potable Water Supplies
- Water Supply Exchange with Sacramento Municipal Utilities District
- New Sacramento River Diversion and Water Rights
- Use of East Bay Municipal Utility District's Capacity in Freeport Project
- Higher CVP Allocation From NCMWC

POTENTIAL "WATER" ALTERNATIVES NOT CONSIDERED FURTHER IN THIS EIR/EIS

A number of "Water" alternatives were initially considered but eliminated based on further evaluation in conjunction with Step 2. Those "Water" alternatives that were found to be technically feasible and consistent with the City's objectives were carried forward either as potential Off-site Water Facility Alternatives as described in Section 2.13 or as Water Supply Options, which are described and qualitatively assessed in Section 3B.18, "Water Supply." Those "Water" alternatives eliminated from additional consideration are identified below along with the City's reasons of why the potential alternative was not carried forward for additional analysis in this EIR/EIS.

New Sacramento River Diversion and Water Rights

A new Sacramento River diversion and water rights application was determined to be infeasible based on a number of critical reasons. First and most importantly, a new diversion structure on the Sacramento River would no longer take advantage of the existing Freeport diversion facility thereby resulting in direct impacts to the Sacramento River. Construction of a new diversion facility would result in greater environmental impacts to biological resources along the Sacramento River, fisheries, and water quality within the river as compared to the Off-site Water Facility Alternatives. Additionally, the operation of an additional diversion structure could contribute to greater cumulative impacts to Delta inflows and water quality as compared to the Off-site Water Facility Alternatives. Based on these considerations, the City concluded that this "Water" alternative would result in greater environmental impacts when compared to the Off-site Water Facility Alternatives.

Beyond the operational and physical impacts of a new diversion, a new diversion facility and the additional length of conveyance pipeline(s) would add substantially to the cost of this alternative. Based on the added structural facilities, the additional cost would render the project cost-prohibitive.

Further, the completion of the application process for securing new water rights to the Sacramento River would not guarantee the City a secured water supply within the timeframe required for approval of the Folsom Specific Plan. The water rights application process can take several years to complete and there is no level of certainty in terms of whether the SWRCB would approve the application. Based on these circumstances, a new Sacramento River water right would be less certain when compared to the NCMWC's CVP water supply proposed under the Off-site Water Facility Alternatives. For these collective reasons, this "Water" alternative was not carried forward for additional consideration in this EIR/EIS.

Diversion of Unappropriated American River Water

This "Water" alternative would involve the application to the SWRCB for new a new water right permit to appropriate surface water from the American River for diversion at Lake Natoma using the City's existing turnout on the FSC. This alternative was ultimately determined infeasible for a variety of reasons. First, the level of certainty for acquiring newly appropriated American River water supplies was considered low given other pending applications along the American River which, if approved by the SWRCB, could have priority over any newly filed water rights application under this alternative. With the recent revocation of Reclamation's Water Right Permits 16209 and 16212 for the Auburn-Folsom South Unit of the CVP (or the Auburn Dam Project; SWRCB Order WR 2008–0045), it is reasonable for the City to recognize the possibility of appropriating a fraction of this supply and putting it to beneficial use. Water right permits 16209 for up to 100 cfs and 16212 for up to 900 cfs included municipal supply as a beneficial use. However, even though the water supply required for the SPA represents a fraction of this supply, it would take several years for completion of the application process with SWRCB in order to secure this water supply and, therefore, the availability of this water supply within the timeframe necessary for the overall project is unlikely.

Unlike the Off-site Water Facility Alternatives, this alternative would involve the direct diversion of up to 6,000 AFY of surface water from the Lower American River through the FSC. Although this represents a relatively small proportion of total daily flows within the Lower American River, it is possible that the additional diversion under this option could affect flows within the Lower American River and water temperatures, especially during times of low flow. A number of fish species of primary management concern use the Lower American River during one or more of their life stages and include fall-run Chinook salmon, steelhead, splittail, American shad, and striped bass.

Water temperatures within the Lower American River already exceed regulatory standards during the months of August through October in most years. The biological opinion (BO) for Reclamation's Operations Criteria and Plan (OCAP) for Long-Term CVP/California State Water Project (SWP) Operations indicates that effects on steelhead are pronounced due to the inability to consistently provide suitable temperatures for various life stages and flow-related effects caused by operations. The BO's Reasonable and Prudent Alternative (RPA) prescribes a flow management standard, a temperature management plan, additional technological fixes to temperature control structures, and, in the long term, a passage at Nimbus and Folsom Dams to restore steelhead to native habitat (OCAP BO 2009). However, based on this existing condition combined with the fact that these improvements would likely not be in operation in time for this alternative's operation, it is reasonable to conclude that with incrementally less water, these exceedances could be more severe or last for longer durations under this "Water" alternative.

Given these circumstances combined with the City's voluntarily participation in the Water Forum Agreement (WFA), the City decided not to pursue this "Water" alternative due potential conflicts with the WFA. More specifically, the WFA specifically discourages new diversions along the Lower American River, if an agency can reasonably demonstrate an alternate location. Given that the City has identified the Off-site Water Facility Alternatives, which involve diversion of surface water from the Sacramento River, and the City's desire to continue to be an active member in the Water Forum, this "Water" alternative was considered too uncertain to be carried forward for additional analysis.

Water Supply and Delivery from El Dorado Irrigation District

A small portion of the SPA is located within the EID service area. For this reason, the City initially considered water supplies from EID as a potential source of potable water for the Folsom Specific Plan. EID has two water

contracts with Reclamation, for a total of 32,000 AFY from the South Fork of the American River, along with an application submitted for a Fazio Water[7] contract.

Based on information contained in El Dorado County's General Plan Update EIR (2004), existing water demand for EID is estimated to range from 37,000–38,000 AFY. EID currently has a system firm yield[8] of 43,280 AFY. However, current projections for build-out of the recently adopted general plan suggest that demands within EID's service area could increase up to 80,000 AFY thereby potentially resulting in major surface water shortages within EID's service area and the need to develop additional surface water supplies. This water supply impact was identified as a significant in El Dorado County's General Plan EIR (2004).

In response to this anticipated shortfall in water supply, the El Dorado County Water Agency (EDCWA), with the assistance of EID and the other water purveyors in the county, has prepared the EDCWA Water Plan, which is intended to provide a blueprint for actions and facilities needed to address El Dorado County's projected water shortages into the future. One source under consideration in EDCWA's Plan is 15,000 AFY of new CVP M&I contract water for El Dorado County allocated under Fazio Water contract. This new CVP water would be taken directly from Folsom Reservoir, or exchanged for non-CVP water to be diverted from the American River upstream of Folsom Reservoir.

However, this additional water is intended to serve areas within El Dorado County and not areas within Sacramento County as Public Law 101-514 separately allocates new CVP water to SCWA. This water supply is still undergoing environmental review and has not been sufficiently developed to a point where it could be considered reliable to support development within the SPA. Additionally, the development of new CVP water supplies within El Dorado County will require the construction of the necessary supporting infrastructure (e.g., dams) to facilitate the capture and storage of these new supplies. These facilities could result in physical environmental impacts that would likely be greater in extent and severity when compared to those associated within the Off-site Water Facility Alternatives.

For these reasons, a water supply and delivery alternative involving EID was not carried forward for further consideration in this EIR/EIS due to uncertainty whether EID would have enough supply to serve the entire SPA.

Non-Potable Water Supplies

In its pursuit of water supplies for the Folsom Specific Plan development, the City considered several non-potable sources including process water from Granite's proposed Walltown Quarry, Groundwater Extraction and Treatment (GET) Water from Aerojet, and recycled water from SRCSD. At the time of writing of this EIR/EIS, none of these sources has materialized to a point where they could be considered for the purposes of environmental analysis based on existing institutional issues. Further, the use of non-potable water supplies would only address one sector of demand within the Folsom Specific Plan and would not address the potable water supply demand component of the proposed development.

Beyond these institutional issues, the use of recycled water within the SPA would require the construction of necessary conveyance infrastructure to facilitate delivery. At this time, the location and capacity for these conveyance facilities has not been determined. While it can be reasonably assumed that the pipelines would be installed within existing road utility easements, there may also be a need to construct additional facilities at the SCRSD Regional Wastewater Treatment Plant, or an additional scalping plant[9] at another, undetermined location.

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[7] Fazio Water - Public Law 101-514 (Section 206), of the Water Resources Development Act of 1990 authorized and directed the Secretary of the Interior to enter into a M&I water service contract with local public water purveys including the City, SCWA, EID and others. Specific allocations of Fazio Water are discussed in Sections 3.2B and 3.3B.

[8] EID defines its firm yield as the amount of water that is available for it to use from a source in 95 out of 100 years with existing facilities, while incurring shortages of no more than 20% annually in 5 out of 100 years (EDCWA 2003a).

[9] Satellite reclaimed water production plants that withdraw wastewater from trunk sewers and produce reclaimed water, usually returning the biosolids and any excess water produced back to the sewer.

A scalping plant option would require several miles of easements for pipelines, while modifications at SCRSD's existing treatment plant could require up to ten of miles of easements.

The securing of these easements and construction of associated pipeline facilities would have physical environmental effects similar to those of the Off-site Water Facility Alternatives. However, without a conceptual alignment and operational understanding for these facilities, a comparative analysis under CEQA and NEPA is not feasible at this time. As a result, separate environmental analysis would be required for any non-potable water infrastructure intended to serve the SPA.

East Bay Municipal Utilities District's Capacity within the Freeport Project

Under this "Water" alternative, the City would wheel its CVP water through the Freeport Project using a portion (e.g., 6.5 mgd) of EBMUD's allocated capacity. In concept, an alternative using EBMUD's allocated supply within the Freeport Project would look similar to the Proposed Off-site Water Facility Alternative or Off-site Water Facility Alternative 1. However, rather than constructing a pump facility at the bifurcation point, the City would construct the pumping facility at the FSC. The alignment from this location would then resemble that of Proposed Off-site Water Facility Alternative or Off-site Water Facility Alternative 1 by following Grant Line Road north to the On-site WTP or White Rock WTP immediately south of the SPA.

This "Water" alternative was rejected from further consideration for two primary reasons. First, based on information contained in the Freeport Project EIR, EBMUD's operations at Freeport require full use of the its allocated capacity three out of every ten years. This would eliminate capacity for the City during these three years and would create, for the City, an infeasible need to secure sufficient storage capacity, either above or below ground, to enable for continued service during these three years when capacity within the Freeport Project would otherwise be unavailable. The need to store up to 25,500 AF for three years, especially if the facility were above-ground, would result in a substantially greater footprint when compared to the Off-site Water Facility Alternatives.

Secondly, in preliminary negotiations with EBMUD, EBMUD has been adamant that any capacity allocated to the City within the Freeport Project must be replaced or augmented throughout the remainder of EBMUD's portion of the Freeport Project, which extends south to the Mokelumne River. This arrangement would be required to ensure that EBMUD's service area is not adversely affected by a loss in conveyance capacity. Based on the City's initial investigation, the level of improvements necessary to augment the capacity purchased by the City would render this alternative cost prohibitive. For these reasons, this "Water" alternative was not carried forward for further analysis in this EIR/EIS.

Water Supply Exchange with Sacramento Municipal Utility District

Under this alternative, the City would purchase up to 8,000 AFY of CVP Water from NCMWC and exchange this water supply with SMUD for up to 8,000 AFY of their CVP Water from the American River. SMUD has an existing water service contract with Reclamation that expires in 2012 for delivery of a maximum of 75,000 AFY via the FSC.

SMUD currently has two primary water uses: (1) decommissioning Rancho Seco Nuclear Plant; and (2) cooling requirements at the Cosumnes Power Plant. At the Rancho Seco Nuclear Plant, water is currently diverted from the FSC for dilution of treated-radioactive wastewater, which is subsequently discharged to Clay Creek. The current NPDES Permit (R5-2007-0016) indicates that over time the reduction in the volume of radioactive liquid waste will also result in a corresponding reduction in the quantity of dilution water. The actual reduction in water use resulting from this activity is unknown.

For the Cosumnes Power Plant, SMUD uses approximately 5,300 AFY to meet both phases of the Power Plant's cooling and process water requirements (SMUD 2002). Based on these operational considerations, the City has

assumed that SMUD would be capable of exchanging up to 8,000 AFY of its existing CVP water from the American River.

Under this alternative, the City would construct raw and treated water facilities similar to those described for Water Supply Option 2, as described in more detail in Section 3B.18, "Water Supply", to facilitate diversion of the exchanged water from the FSC at the City's existing turnout. The City would then purchase capacity within EBMUD's dedicated portion of the Freeport Project to wheel up to 8,000 AFY of NCMWC water supply into the FSC. SMUD would then take delivery of the water from its existing intake downstream on the FSC.

In addition to the agreements identified for the Off-site Water Facility Alternatives, this alternative would require an additional agreement with SMUD to facilitate the exchange beyond that described for the Off-site Water Facilities Alternatives. In addition, capacity within EBMUD's portion of the Freeport Project would be required instead of SCWA's. Given that negotiations between the City and SMUD and EBMUD regarding any exchange option remain preliminary at the time of the preparation of this EIR/EIS, this alternative was not considered sufficiently developed to enable for analysis within this EIR/EIS.

Higher Central Valley Project Allocation from Natomas Central Mutual Water Company

The City considered allocations of CVP Water of up to 15,000 AFY from NCMWC during the course of its evaluation. After completing intensive water demand analysis for the SPA, the City determined that 8,000 AFY would be sufficient to serve the SPA development when considering the potential for reductions during dry years. Acquiring any additional supplies could have potential growth implications and, therefore, were not pursued.

2.9 CITY OF FOLSOM GENERAL PLAN AMENDMENT

2.9.1 CHANGES TO PERMITTED DENSITY RANGES

Adoption of the Proposed Project Alternative, the Resource Impact Minimization Alternative, the Centralized Development Alternative, the Reduced Hillside Development Alternative, or the No USACE Permit Alternative would require changes to the density ranges of several City of Folsom General Plan land use designations to accommodate the proposed residential units. The City of Folsom uses a single set of general plan land use designations throughout its jurisdiction, so these changes would alter the permitted density ranges in several areas of the existing City. The following designations would be altered:

- Single Family: existing density range is 2–4 units per acre, proposed density range would be 1–4 units per acre.
- Multi-Family Medium Density: existing density range is 12–18 units per acre, proposed density range would be 12–20 units per acre.
- Multi-Family High Density: existing density range is 18–25 units per acre, proposed density range would be 20–30 units per acre.

These changes would result in an increase of the potential maximum population in some areas of the existing City. A discussion of the potential impacts of this change is included in Section 3A.10, "Land Use and Agricultural Resources – Land."

2.9.2 CHANGES TO THE TRAFFIC LEVEL OF SERVICE STANDARD

The Folsom Specific Plan proposes an amended Level of Service (LOS) policy within the project area (the portion of the City of Folsom to be located south of U.S. 50), as follows:

> The City should strive to achieve at least a traffic Level of Service "C" within the Folsom South of US 50 Specific Plan. For roadways and intersections within the Specific Plan, LOS "D" conditions may be considered on a case by case basis if improvements required to meet LOS "C" exceeds the "normally accepted maximum" improvements established by the City. Complete Streets principles require that streets and intersections be designed with all transportation modes in mind, and that the road widths, delays, and safety impacts to pedestrians and bicycles make larger roadways and intersections incompatible with this philosophy. Coupled with the limited reduction in vehicular delay that such improvements would provide, the City has determined that the benefits of excessively wide roadways and intersections do not outweigh the impacts to the community. Therefore, "normally accepted maximum" improvements on arterial roadways include three through-lanes in each direction; and at intersections includes two left-turn lanes, three through-lanes and one right-turn lane on an approach.

The existing City of Folsom General Plan Policy 17.17, which addresses traffic LOS standards, will not change within the existing City of Folsom boundaries (i.e., north of U.S. 50).

2.10 INTEGRATION OF "LAND" AND "WATER" ALTERNATIVES FOR DEVELOPMENT

Under the No Project Alternative, the SPA could be developed with up to 44 rural residences on 80-acre parcels as currently zoned under the Sacramento County General Plan, and no off-site water facilities would be constructed because each rural resident would be responsible for developing his or her on-site well. Therefore, for purposes of this EIR/EIS, the No Project Alternative is evaluated in the 3A "Land" sections.

Under the No USACE Permit Alternative, there would be no placement of dredged or fill material into waters of the U.S. (including wetlands) from either the "Land" or "Water" portions of the project, thus eliminating the need for a USACE Section 404 CWA permit. In order to achieve "no fill," no development in the SPA would occur within 50 feet of a water of the United States, the water treatment plant (regardless of whether it is located off-site or on-site) would not be constructed within 50 feet of a water of the United States, and the off-site water conveyance pipeline would use trenchless construction methods (e.g., horizontal directional drilling or jack-and-bore) where the pipeline route intersected any water of the United States. Therefore, only the No USACE Permit Off-site Water Facility Alternative could be selected if the No USACE Permit "Land" Alternative were selected for development of the SPA.

Any of the other 10 off-site water alternatives described above could ultimately be implemented for either the Resource Impact Minimization, Centralized Development, or Reduced Hillside Development Alternative. Because the off-site water facilities are different from development of the SPA and would occur in locations that are further removed spatially from the SPA, the impacts of these water facilities are evaluated in the 3B "Water" sections of this EIR/EIS. However, the City and the USACE wish to make clear to the reader that the "project" as a whole consists of both development of the SPA and off-site facilities necessary to provide water in support of the SPA development. Thus, when considering impacts of the "project" as a whole, it is necessary to consider both the 3A and 3B impacts taken together.

2.11 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines require identification of an environmentally superior alternative from among the proposed project and the alternatives evaluated. Federal NEPA guidelines also recommend that an environmentally preferred alternative be identified; however, under NEPA, that alternative does not need to be identified until the final record of decision is published. Therefore, the discussion in this section of the environmentally superior alternative is intended to satisfy only the state CEQA requirements.

2.11.1 "LAND" ALTERNATIVES

Table 2-16 shows the overall level of significance for each issue area, and provides a comparison of CEQA significance determinations among the action alternatives (No USACE Permit, Proposed Project, Resource Impact Minimization, Reduced Hillside Development, Centralized Development) and the No Project Alternative for each of the 17 environmental issues evaluated in this EIR/EIS.

The No Project Alternative is defined in Chapter 2, "Alternatives" of this EIR/EIS as (1) no annexation of the SPA to the City, (2) potential development of up to 44 rural residences in the SPA under the existing Sacramento County zoning AG-80, and (3) no construction of any off-site water facilities. Therefore, "no project," from both a "Land" and "Water" perspective, is evaluated as one combined No Project Alternative in the 3A "Land" sections of this EIR/EIS. As shown in Table 2-16, the No Project Alternative would be the Environmentally Superior Alternative. This alternative provides the greatest opportunity for avoidance and/or substantial reduction in the significant environmental impacts of the project. However, this alternative would not meet the project purpose and need, nor would it meet any of the project objectives, as identified in Chapter 1 of this EIR/EIS.

In the event that the "No Project" Alternative is considered the environmentally superior alternative, the State CEQA Guidelines (CCR Section 15126[d][3]) require the identification of an environmentally superior "build alternative." As shown in Table 2-16, all five of the action alternatives (No USACE Permit, Proposed Project, Resource Impact Minimization, Centralized Development, and Reduced Hillside Development) would have the same overall significance after mitigation in each of the issue areas. However, as described in more detail in the impact analysis contained in Sections 3A.1 through 3A.18, the following differences can be summarized:

- The No USACE Permit Alternative would avoid filling any jurisdictional waters of the U.S., including wetlands. This alternative would also result in the lowest GHG emissions, and has the lowest water demand of any of the five action alternatives.
- The Resource Impact Minimization Alternative would generate the lowest amount of PM_{10} and NO_x emissions among the five action alternatives. This alternative would preserve the most known cultural resources of any of the five action alternatives.
- The Centralized Development Alternative would preserve the largest amount of the hillside within the Sierra Nevada foothills among the five action alternatives. This alternative would also have the least amount of hazards from geologic conditions and soil erosion among the five action alternatives.

Therefore, for the reasons stated above, either the No USACE Permit, Resource Impact Minimization, or Centralized Development Alternative could be considered the "environmentally superior alternative" under CEQA for the "Land" portion of the project.

2.11.2 "WATER" ALTERNATIVES

As described above in Section 2.9.1, because no off-site water facilities would be constructed under the No Project Alternative, the combined impacts of "Land" and "Water" under are evaluated in Section 2.9.1 above and throughout the 3A "Land" sections of this DEIR/EIS.

Construction-related effects identified for the Proposed Off-site Water Facility Alternative and Off-site Water Facility Alternatives NCP, 1, 1A, 2, 2A, 2B, 3, 3A, 4, and 4A would be similar; however, the intensity of those activities is expected to be substantially less under Off-site Water Facility Alternative 2B and NCP. Off-site Water Facility Alternatives NCP, PA, 1, 1A, 2, 2A, 3, 3A, 4, and 4A would require much longer conveyance alignments as compared to Off-site Water Facility Alternative 2B. The No USACE Permit Off-site Water Facility Alternative would avoid potential direct impacts to waters of the U. S. and direct impacts to special status vernal pool species that could occur under the Proposed Off-site Water Facility Alternative and Off-site Water Facility

Table 2-16
Comparison of Impacts of the Proposed Project - Land After Mitigation Implementation to Those of the Alternatives Under Consideration[1]

Environmental Issue	Alternative					
	No Project	No USACE Permit	Proposed Project	Resource Impact Minimization	Centralized Development	Reduced Hillside Development
Aesthetics	LTS	S&U	S&U	S&U	S&U but lesser than Proposed Project and the other action alternatives	S&U
Air Quality	LTS	S&U	S&U	S&U but lesser than Proposed Project and the other action alternatives	S&U	S&U
Biological Resources	LTS	S&U but lesser than Proposed Project and the other action alternatives	S&U	S&U	S&U	S&U
Climate Change	LTS	S&U but lesser than Proposed Project and the other action alternatives	S&U	S&U	S&U	S&U
Cultural Resources	PS	S&U	S&U	S&U but lesser than Proposed Project and the other action alternatives	S&U	S&U
Environmental Justice	NI	LTS	LTS	LTS	LTS	LTS
Geology, Soils, Minerals, and Paleontological Resources	PS	LTS	LTS	LTS	LTS and less than Proposed Project and the other action alternatives	LTS
Hazards and Hazardous Materials	LTS	LTS	LTS	LTS	LTS	LTS
Hydrology and Water Quality	LTS	LTS	LTS	LTS	LTS	LTS
Land Use and Agricultural Resources	NI	S&U	S&U	S&U	S&U	S&U
Noise	LTS	LTS	LTS	LTS	LTS	LTS
Parks and Recreation	LTS	LTS	LTS	LTS	LTS	LTS

Table 2-16
Comparison of Impacts of the Proposed Project - Land After Mitigation Implementation to Those of the Alternatives Under Consideration[1]

Environmental Issue	Alternative					
	No Project	No USACE Permit	Proposed Project	Resource Impact Minimization	Centralized Development	Reduced Hillside Development
Population, Employment, and Housing	LTS	LTS	LTS	LTS	LTS	LTS
Public Services	LTS	LTS	LTS	LTS	LTS	LTS
Traffic and Transportation	LTS	S&U	S&U	S&U	S&U	S&U
Utilities and Service Systems	LTS	LTS	LTS	LTS	LTS	LTS
Water Supply	NI	LTS and has lowest water demand of action alts	LTS	LTS	LTS	LTS

Notes: LTS = less than significant, NI = no impact, PS = potentially significant, S = significant, SU = significant and unavoidable

[1] The overall impact conclusion for each issue area for each alternative was determined as follows: Separate tables were created for each issue area, and within each alternative, the number of each of the significance conclusions (LTS, PS, S, or NI) before the implementation of mitigation measures was added up and totaled. The significance conclusion that occurred the greatest number of times within each issue area was determined to be the overall impact conclusion for that alternative. For example, if there were four impacts determined to be LTS and two impacts determined to be PS, the impact conclusion would be LTS. In cases where the numbers were the same (i.e., two impacts determined to be LTS and two impacts determined to be PS), the more severe impact was used; in the case of this example, it would be PS. Impacts that are identified in the DEIR/DEIS as being SU after mitigation only because the mitigation is outside of the jurisdiction of the lead agency were assumed to be reduced to LTS for purposes of determining the environmentally superior alternative.

Source: Data compiled by AECOM in 2010

Alternatives 1, 1A, 2, 2A, 2B, 3, 3A, 4 and 4A. Off-site Water Facility Alternative 2B would avoid some of the more extensive wetland and, potentially, vernal pool impacts that could occur under the Proposed Off-site Water Facility Alternative and Off-site Water Facility Alternatives 1 and 1A. Table 2-17 provides a comparison of CEQA significance determinations among the Off-site Water Facility Alternatives.

Of the action alternatives described in Section 2.13 and analyzed in Chapter 3, Off-site Water Facility Alternative 2B is considered environmentally superior due to its further integration within existing water treatment facilities (e.g., Vineyard SWTP), and a substantially reduced conveyance alignment from the North Douglas Tanks. Alternative 2B would minimize many of the air quality and noise concerns associated with the placement of a WTP adjacent to areas planned for medium- and high-density residential housing, and would also avoid potential indirect and/or direct impacts to special status species, wetlands, and vernal pools along Eagles Nest, Excelsior, and Florin Roads. The No USACE Permit Alternative would provide for the avoidance of direct impacts to special status vernal pool species and waters of the U. S.; however, indirect impacts to waters of the U.S. would still occur, and the No USACE Permit Alternative would not achieve the reduction in air quality, noise, and land use impacts that would be achieved under Off-site Water Facility Alternative 2B.

Therefore, Off-site Water Facility Alternative 2B is considered environmentally superior for purposes of CEQA when compared to the Proposed Off-site Water Facility Alternative, the No USACE Permit Off-site Water Facility Alternative, and Off-site Water Facility Alternatives 1, 1A, 2, 2A, 3, 3A, 4, and 4A for both the construction and operation of the "Water" project.

Table 2-17
Comparison of Impacts of the Off-site Water Facility Alternatives Under Consideration[1]

Environmental Issue	Alternative										
	NCP	PA	1	1A	2	2A	2B	3	3A	4	4A
Air Quality	S	S	S	S	LTS	LTS	LTS	S	S	S	S
Biological Resources	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Climate Change	S	S	S	S	S	S	S	S	S	S	S
Cultural Resources	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Drainage, Hydrology, and Water Quality	PS	PS	PS	PS	LTS	LTS	LTS	PS	PS	PS	PS
Environmental Justice	NI	NI	NI	NI	NI	LTS	NI	NI	LTS	NI	LTS
Hazards and Hazardous Materials	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Geology, Soils, and Mineral Resources	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Land Use and Agriculture	PS	PS	S	S	LTS	LTS	LTS	S	S	S	S
Noise	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Paleontological Resources	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Parks and Recreation	PS	PS	PS	PS	PS	PS	LTS	PS	PS	PS	PS
Population, Employment, and Housing	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Public Services	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Traffic and Transportation	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Utilities and Service Systems	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS
Visual Resources	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS

Notes: NCP = No USACE Permit Alternative; PA = Proposed Off-site Water Facilities Alignment; LTS = less than significant, NI = no impact, PS = potentially significant, S = significant, SU = significant and unavoidable, B = Beneficial

[1] The overall impact conclusion for each issue area for each alternative was determined as follows: Separate tables were created for each issue area, and within each alternative, the number of each of the significance conclusions (LTS, PS, S, or NI) before the implementation of mitigation measures was added up and totaled. The significance conclusion that occurred the greatest number of times within each issue area was determined to be the overall impact conclusion for that alternative. For example, if there were four impacts determined to be LTS and two impacts determined to be PS, the impact conclusion would be LTS. In cases where the numbers were the same (i.e., two impacts determined to be LTS and two impacts determined to be PS), the more severe impact was used; in the case of this example, it would be PS.

Source: Data compiled by RMC Water and Environment in 2010