RESOLUTION NO. 2011-18

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ELK GROVE ADOPTING A MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM FOR THE FIELDSTONE SOUTH AMENDMENTS PROJECT EG-10-018; APNS: 134-0110-136; 134-0110-137; AND 134-0110-138

WHEREAS, the Planning Department of the City of Elk Grove received an application from East Elk Grove 24, LLC (hereinafter referred to as the Applicant) on March 12, 2010, for a Tentative Subdivision Map in order to create 129 residential parcels. Additional entitlements included a Rezone of the property, General Plan Amendment, and Specific Plan Amendment; and

WHEREAS, the project is located on real property in the incorporated portions of the City of Elk Grove more particularly described as APNs 134-0110-136; 134-0110-137; and 134-0110-138; and

WHEREAS, the City determined that the project was subject to the California Environmental Quality Act (CEQA) and prepared an Initial Study pursuant to CEQA, attached hereto as Exhibit A and incorporated herein by reference, evaluating the potential environmental effects of the project; and

WHEREAS, the City determined that the mitigation measures identified in the Initial Study/Mitigated Negative Declaration would reduce environmental impacts to a less than significant level; and

WHEREAS, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared in accordance with CEQA, attached hereto as Exhibit B and incorporated herein by reference, which is designed to ensure compliance with the identified mitigation measures during project implementation and operation; and

WHEREAS, the City distributed the Notice of Intent to Adopt the Mitigated Negative Declaration on October 1, 2010, and the Notice was published in the *Elk Grove Citizen*, posted at the Sacramento County Clerk's Office, distributed through the State Clearinghouse, and posted at the City offices, pursuant to CEQA Guidelines, Section 15072. A 30-day review and comment period for the Mitigated Negative Declaration opened on October 1, 2010 and closed November 1, 2010. The Mitigated Negative Declaration was made available to the public during this review period; and

WHEREAS, the City received written comment letters within the 30-day public review period and responded to those comments in the project staff report; and

WHEREAS, the City has considered the comments received during the public review period, and they do not alter the conclusions in the Initial Study and Mitigated Negative Declaration; and

WHEREAS, the City Council has considered the written and oral comments on the proposed project and the Mitigated Negative Declaration; and

WHEREAS, the City of Elk Grove, Development Services Planning Department, located 8401 Laguna Palms Way, Elk Grove, California 95758 is the custodian of documents and other materials that constitute the record of proceedings upon which the decision to adopt the Mitigated Negative Declaration is based; and

WHEREAS, the City Council has reviewed the Initial Study, the Mitigation Negative Declaration, and the Mitigation Monitoring and Reporting Program and find that these documents reflect their independent judgment.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Elk Grove herby adopts the Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the Fieldstone South Amendments project attached hereto and incorporated herein by this reference based on the following findings:

1) On the basis of the whole record, there is no substantial evidence that the Project as designed, conditioned and mitigated, will have a significant effect on the environment. A Mitigated Negative Declaration has been prepared and completed in accordance with the California Environmental Quality Act (CEQA). The Mitigated Negative Declaration reflects the independent judgment and analysis of the City.

2) Pursuant to Public Resources Code, Section 21081 and CEQA Guidelines, Section 15091, all of the proposed mitigation measures described in the Mitigated Negative Declaration are feasible, and therefore shall become binding upon the City and affected landowners and their assigns or successors in interest when the Project is approved.

3) To the extent that these findings conclude that various proposed mitigation measures outlined in the MND are feasible and have not been modified, superseded or withdrawn, the City Council hereby binds itself, all landowners within the Project area, and their assigns and successors in interest to implement those measures. These findings are not merely informational but constitute a binding set of obligations that will come into effect when the City Council issues the Project entitlements set forth above. The actual implementation of the mitigation measures hereby adopted shall occur by having them included as conditions of approval on subsequent discretionary entitlements granted within the Project area.

Evidence: Pursuant to CEQA and the CEQA guidelines, staff prepared an Initial Environmental Study for the Fieldstone South amendment project and mitigation measures have been developed that will reduce potential environmental impacts to less than significant levels. The Initial Environmental Study identified potentially significant adverse effects in the areas of aesthetics, biological resources, cultural resources,

geology and soils, hazardous materials, hydrology and water quality, traffic and transportation, and utilities and service systems. Mitigation measures that avoid or mitigate the potentially significant effects to a point where no significant effects would occur were identified in the Initial Study and staff prepared a Mitigated Negative Declaration. Preparation of a Mitigation Monitoring and Reporting Program (MMRP) is required in accordance with the City of Elk Grove regulations and is designed to ensure compliance during project implementation.

The City distributed the Notice of Intent to Adopt the Mitigated Negative Declaration on October 1, 2010. It was posted at the Sacramento County Clerk's office, distributed through State Clearinghouse and at the City offices, pursuant to CEQA Guidelines 15072. A 30-day review and comment period was opened on October 1, 2010 and closed November 1, 2010. The Mitigated Negative Declaration was made available to the public during this review period. The City received one written comment letter within the 30-day public review period. These comments do not alter the conclusions of the Initial Study/Mitigated Negative Declaration.

On the basis of the Mitigated Negative Declaration, environmental analysis, and the whole record, there is no substantial evidence that the project will have a significant adverse impact on the environment above those addressed within the adopted Mitigated Negative Declaration. A Mitigation Monitoring and Reporting Program (MMRP), which is incorporated herein by this reference has been prepared to ensure compliance during project implementation. A condition of approval has been imposed on the project that requires conformance with the MMRP. The City of Elk Grove, Development Services Planning Department, located 8401 Laguna Palms Way, Elk Grove, California 95758 is the custodian of documents and other materials that constitute the record of proceedings upon which the decision to adopt the Negative Declaration is based.

PASSED AND ADOPTED by the City Council of the City of Elk Grove this 26th day of January 2011.

STEVEN M. DETRICK, MAYOR of the
CITY OF ELK GROVE

ATTEST:

JASON LINDGREN, CITY CLERK

APPROVED AS TO FORM:

SUSAN COCHRAN, CITY ATTORNEY

EXHIBIT A

CITY OF ELK GROVE
FIELDSTONE SOUTH AMENDMENTS PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Prepared for:

CITY OF ELK GROVE
DEVELOPMENT SERVICES DEPARTMENT
8401 LAGUNA PALMS WAY
ELK GROVE, CA 95758

SEPTEMBER 2010

CITY OF ELK GROVE

FIELDSTONE SOUTH AMENDMENTS PROJECT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Prepared for:

CITY OF ELK GROVE
DEVELOPMENT SERVICES DEPARTMENT
8401 LAGUNA PALMS WAY
ELK GROVE, CA 95758

SEPTEMBER 2010

A. PURPOSE OF THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

This document is an Initial Study (IS) and Mitigated Negative Declaration (MND) prepared pursuant to the California Environmental Quality Act (CEQA), for the Fieldstone South Project (referred to as the proposed project). This MND has been prepared in accordance with CEQA, Public Resources Code Sections 21000 et seq., and the CEQA Guidelines found in Chapter 14 of the California Code of Regulations.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with the CEQA Guidelines, Section 15064 (a)(1), an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed project under review may have a significant effect on the environment. A negative declaration (ND) may be prepared if the lead agency finds that there is no substantial evidence, in light of the whole record, that the project may have a significant effect on the environment. A negative declaration is a written statement describing the reasons why a proposed project, not exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a negative declaration shall be prepared for a project subject to CEQA when either:

a) The Initial Study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or

b) The Initial Study identified potentially significant effects, but:

   (1) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed mitigated negative declaration and initial study is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

   (2) There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment. If revisions are adopted into the proposed project in accordance with the CEQA Guidelines Section 15070(b), a mitigated negative declaration (MND) is prepared.

LEAD AGENCY

The lead agency is the public agency with primary responsibility over a proposed project. In accordance with CEQA Guidelines Section 15051(b)(1), "the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose..." In this case, the City of Elk Grove (City) will serve as the lead agency for the Fieldstone South Project.

B. TECHNICAL STUDIES

Technical studies referenced in this IS/MND are listed below. The technical studies are available at the City of Elk Grove Development Services Department at 8401 Laguna Palms Way, Elk Grove, CA 95758.

Sierra Nevada Arborists. 2009. *Updated Arborist Report and Tree Inventory Summary. Pappas Investments; Fieldstone Park Project; City of Elk Grove, California*. December 22, 2009.

Foothill Associates. 2005 (updated 2010). *Biological Resources Assessment; Fieldstone South 28-Acre Site; Sacramento County, California*. May 6, 2005 (update March 10, 2010).

C. ACRONYMS USED

The following acronyms have been or may have been used in the preparation of this IS/MND:

- 1991 Air Quality Attainment Plan (AQAP)
- 1994 Ozone Attainment Plan (OAP)
- acre-feet/year (af/y)
- Assembly Bill (AB)
- California Air Resources Board (CARB)
- California Clean Air Act (CCAA)
- California Department of Fish and Game (DFG)
- California Endangered Species Act (CESA)
- California Environmental Protection Agency (Cal/EPA)
- California Highway Patrol (CHP)
- California Natural Diversity Data Base (CNDDB)
- California Native Plant Society's (CNPS)
- Carbon monoxide (CO)
- Chlorofluorocarbons (CFCs)
- Clean Air Act (CAA)
- Compressed Natural Gas (CNG)
- Cosumnes Community Services District (CCSD)
- Department of Defense (DOD)
- Department of Toxic Substance Control (DTSC)
- Elk Grove Police Department (EGPD)
- Elk Grove Unified School District (EGUSD)
- Endangered Species Act (ESA)
- Environmental Impact Report (EIR)
- Environmental Site Assessment (ESA)
- Farmland Mapping and Monitoring Program (FMMP)
- Federal Emergency Management Agency (FEMA)
- Federal Express (FedEx)
- Federal Implementation Plan (FIP)
- Federal Transit Administration (FTA)
- Greenhouse Gases (GHG)
- Integrated Groundwater Surface Water Model (IGSM)
- Intergovernmental Panel on Climate Change (IPCC)
- Leaking Underground Storage Tank (LUST)
- Low Carbon Fuel Standard (LCFS)
- Methane (CH4)
- miles per hour (mph)
- million gallons per day (mgd)
- National Ambient Air Quality Standards (NAAQS)
- National Historic Preservation Act (NHPA)
- National Pollutant Discharge Elimination System (NPDES)
- National Register of Historic Places (NRHP)
- Nitrogen Dioxide (NO2)
- Nitrous Oxide (N2O)
- North Central Information Center (NCIC)
- Northern Sacramento Valley Air Basin (NSVAB)
- Office of Historic Preservation (OHP)
- Particulate Matter (PM)
- Reactive Organic Gases (ROG)
- Regional Water Quality Control Board (RWQCB)
- Sacramento Area Sewer District (SASD)
- Sacramento County Water Agency (SCWA)
- Sacramento Metropolitan Air Quality Management District (SMAQMD)
- Sacramento Regional County Sanitation District (SRCSD)
- Spills-Leaks-Investigations-Cleanups (SLIC)
- State Implementation Plan (SIP)
- State Route (SR)
- Sulfur Dioxide (SO2)
- Toxic Air Contaminants (TACs)
- Underground Storage Tank (UST)
- United Nations Environment Programme (UNEP)
- University of California Museum of Paleontology (UCMP)
- U.S. Army Corps of Engineers (USACE)
- U.S. Environmental Protection Agency (EPA)
- Vehicle Miles Traveled (VMT)
- Volatile Organic Compound (VOC)
- World Meteorological Organization (WMO)

A. PROJECT LOCATION AND SETTING

The proposed project is located in the City of Elk Grove (City) in Sacramento County (County), California (**Figure 1**). Within the City, the project site is located in the East Elk Grove Specific Plan (EEGSP), a Policy Area within the Elk Grove General Plan Land Use Policy Map. This area of the City encompasses approximately 1,439 acres and is bounded by Bond Road on the north; Bradshaw Road on the east; Grant Line Road on the south, and Waterman Road on the west. The EEGSP area is planned for development with residential, commercial, industrial, schools, parks and open space.

The proposed project site is located to the east of the Sonoma Creek Phase 2 subdivision at the intersection of Cote d'Or Drive and Wyland Drive, west of and adjacent to, Grant Line Road and south of Elk Grove Creek. It encompasses parcels with APNs 134-0110-036, -137, and -038. Property to the southwest and north of the project site is undeveloped land zoned for future residential uses with the EEGSP. Property east of Grant Line Road consists of agricultural uses, as well as a retail nursery located within the jurisdiction of Sacramento County. See **Figure 2**.

The project site is undeveloped and has historically been grazed and is currently dry farmland. The site is generally level, with the lowest point at the northwest corner of the site near Elk Grove Creek. Vegetation on-site is mostly non-native grass remaining from the dry land farming. There are approximately 22 native and non-native trees onsite. Tree species include Blue Gum Eucalyptus, Valley Oak, and California Back Walnut. The majority of the trees are located adjacent to the Grant Line Road right-of-way and around the former barn/house sites along the northern boundary. No structures exist on site, and no known cultural, historic or scenic aspects exist on site.

B. PROJECT BACKGROUND AND HISTORY

The project applicant for the triangular shaped 28.1 acre Fieldstone South residential development project is proposing to increase the total number of units from the 100 units approved in 2005 to 129 single family units. The proposed project is located in the EEGSP area and is bordered by Grant Line Road to the east, Wyland Drive to the west, and Elk Grove Creek to the north.

The Fieldstone South project had been previously approved at the 100 unit count by the City of Elk Grove in 2005 with property entitlements consisting of a General Plan Amendment, Specific Plan Amendment, Rezone, and Tentative Subdivision Map. Prior to the approval of the Fieldstone South project, the City adopted a Mitigated Negative Declaration (MND) and a Mitigation Monitoring and Reporting Plan (MMRP) for the project (City of Elk Grove, 2005a).

The project applicant is now proposing to increase the unit count by approximately 29 units, requesting a Tentative Subdivision Map; Rezone from RD-4 (detached single family or 2-family residential units up to four dwelling units per acre) to RD-5 (detached single family or 2-family residential units up to five dwelling units per acre); Specific Plan Amendment from RD 2-4 (2-4 residential dwelling units per acre) to RD-5 (5 residential dwelling units per acre); and, General Plan Amendment from Estate Residential (0.51 – 4.0 residential dwelling units per acre) to Low Density Residential (4.1 – 7.0 residential dwelling units per acre). Although the Fieldstone South project has been previously approved at the 100 unit count, the City of Elk Grove has determined that the revised project (129 unit count) needs an updated environmental review. The MMRP for the original 2005 Initial Study/Mitigated Negative Declaration (IS/MND) has been recorded on the title of the property and is applicable to this revised project. Therefore the proposed project includes proactive mitigation measures that are being followed currently and that will be incorporated into this proposed MND as necessary.

C. PROPOSED ACTIONS ADDRESSED IN THE IS/MND

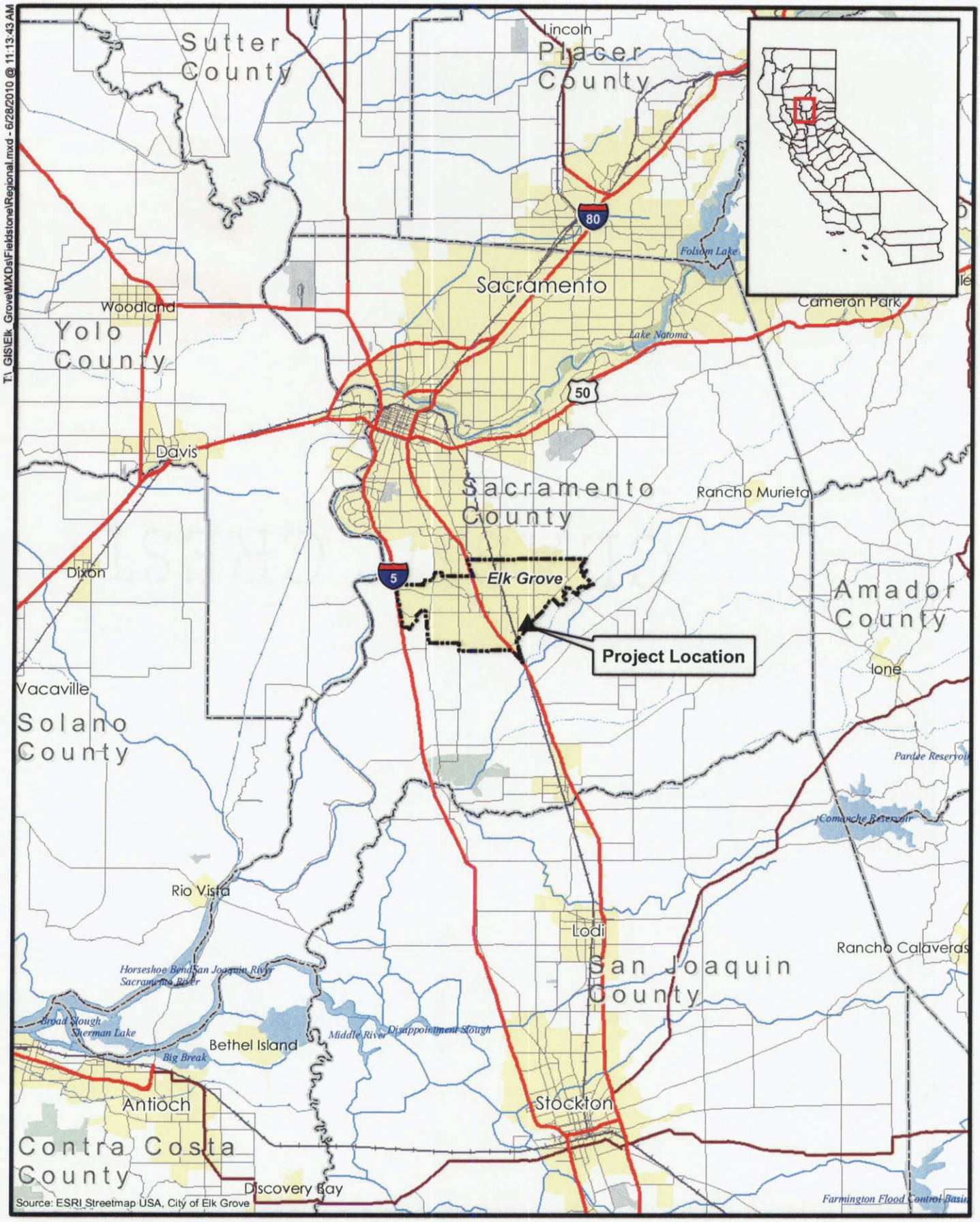
The proposed project is requesting entitlements for a tentative subdivision map resubmission/amendment (TSM), general plan amendment (GPA), specific plan amendment (SPA) and rezone (Rez) for the 28.1 acre site within the East Elk Grove Specific Plan (EEGSP). The Initial Study assumes compliance with all applicable State, Federal, and Local Codes and Regulations including, but not limited to, City of Elk Grove Improvement Standards, the California Building Code, the Sacramento County Water Agency Code, the Guidance Manual of On-site Storm Water Quality Control Measures, the State Health and Safety Code, and the State Public Resources Code.

As the proposed project is located within the EEGSP, the project shall be in compliance with all appropriate policies, conditions, and requirements and all appropriate Mitigation Measures contained in the EEGSP, EEGSP EIR, and the 2005 IS/MND for the Fieldstone South project. Compliance with these documents is assumed in this Initial Study and they are hereby incorporated into the project description. Furthermore, the EEGSP was included in the Elk Grove General Plan (2003) and the environmental impacts of urbanization of the EEGSP area, including the proposed project site, were programmatically analyzed in the *Elk Grove General Plan Volume 1: Draft Environmental Impact Report SCH # 2002062082* (August, 2003). This Initial Study assumes compliance with the applicable policies, conditions, and requirements in these documents and hereby incorporates them in the project description.

D. REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies in the processing of the proposed project that this Mitigated Negative Declaration may be used to support include, but are not limited to, the following:

- United States Army Corps of Engineers (US ACOE)
- California Department of Fish and Game (CADFG)
- Central Valley Regional Water Quality Control Board (CVRWQCB)
- Sacramento Metropolitan Air Quality Management District (SMAQMD) City of Elk Grove
- Sacramento Regional County Sanitation District
- Sacramento County Water Resources (Zone 40)
- Sacramento County Water Resources (Zone 41)
- Cosumnes Community Services District Park and Recreation
- Elk Grove Police Department
- Cosumnes Community Services District Fire Department



City of Elk Grove
Development Services

Figure 1
Regional Location Map

City of Elk Grove
Development Services

Figure 2
Project Location Map

A. BACKGROUND

1. Project Title:

Fieldstone South Amendments Project - EG-10-018

2. Lead Agency Name and Address:

City of Elk Grove
Development Services Department
8401 Laguna Palms Way
Elk Grove, CA 95758

3. Contact Person and Phone Number:

Taro Echiburú
(916) 478-3619

4. Project Location:

The proposed project site is located to the east of the Sonoma Creek Phase 2 subdivision at the intersection of Cote d'Or Drive and Wyland Drive, west of and adjacent to Grant Line Road, and south of Elk Grove Creek (APN: 134-0110-136, -137 & 038).

5. Project Sponsor's Name and Address:

City of Elk Grove
8401 Laguna Palms Way
Elk Grove, CA 95758

6. General Plan Designation:

Estate Residential

7. Description of Project:

The proposed project is requesting entitlements for a tentative subdivision map resubmission/amendment, general plan amendment, specific plan amendment and rezone for the 28.1 acre site within the EEGSP to allow for 129 units on the project site (**Figure 3**).

8. Surrounding Land Uses and Setting:

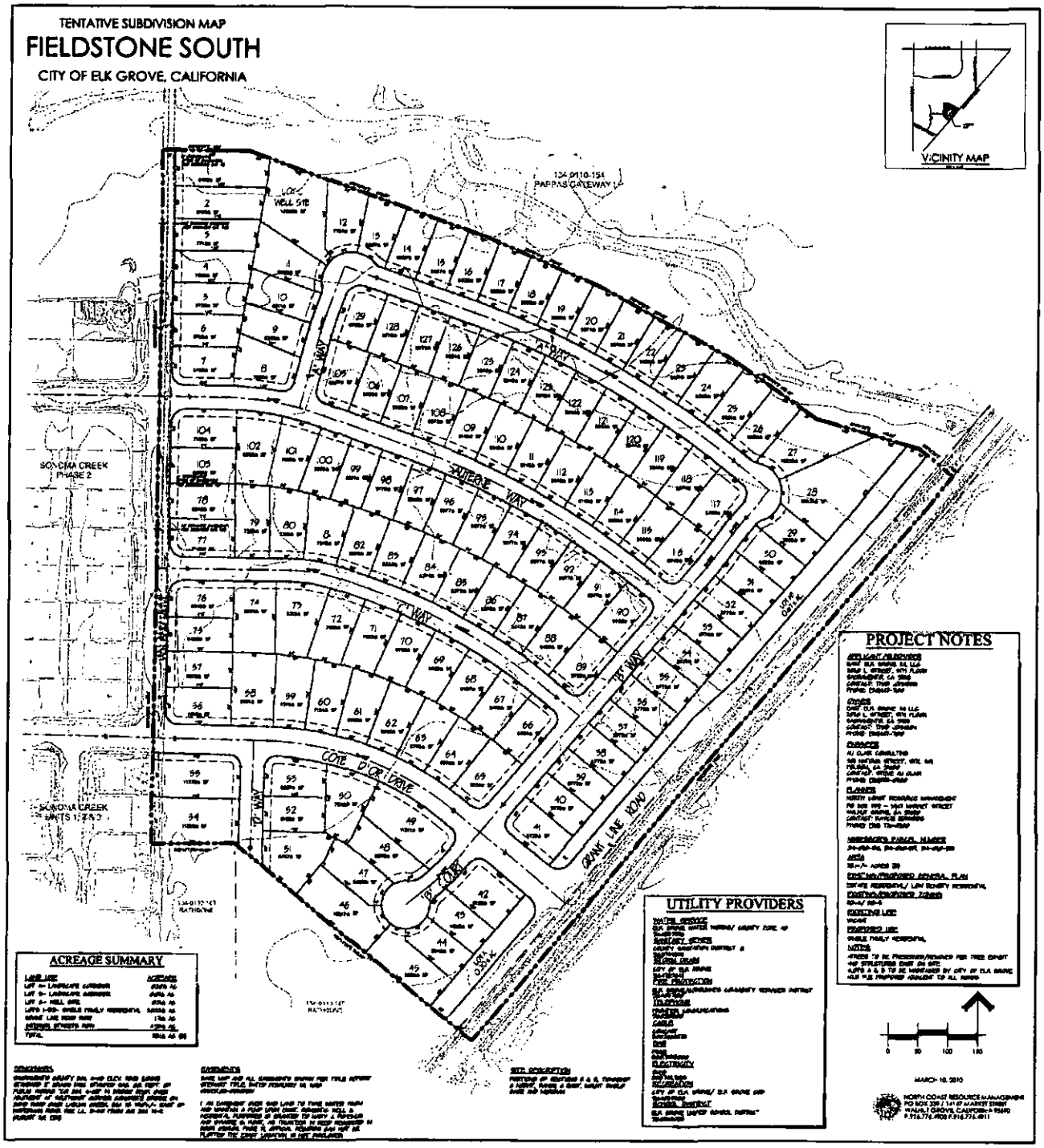
Property to the southwest and north of the project site is undeveloped land zoned for future residential uses within the EEGSP. Property to the east and southeast of Grant Line Road consists of agricultural uses, as well as a retail nursery located within the jurisdiction of Sacramento County. The Sonoma Creek Phase 2 subdivision is located to the west.

9. Other Public Agencies Whose Approval Is Required:

In CEQA, the term "responsible agency" includes all public agencies other than the lead agency that may have discretionary actions associated with the implementation of the proposed project. Therefore the following agencies may have some role in implementing the proposed project and have been identified as potential responsible agencies:

- Central Valley Regional Water Quality Control Board (CVRWQCB);
- Sacramento Metropolitan Air Quality Management District (SMAQMD).

T:_CS\Work\Elk Grove, City of\Fieldstone South SMND\Figures



Source:

0 0 0
FEET

N

Figure 3
Fieldstone South Subdivision

PMC

B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and corresponding discussion on the following pages.

☒ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology and Soils
☒ Greenhouse Gas Emissions	☒ Hazards/Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☒ Noise
☒ Population/Housing	☐ Public Services	☒ Recreation
☒ Transportation/Traffic	☐ Utilities/Service Systems	☒ Mandatory Findings of Significance

C. DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because of the incorporated mitigation measures and revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

9/28/10
Date

TARO ECHIBURÚ
Printed Name

INTERIM PLANNING DIRECTOR
Title

D. EVALUATION OF ENVIRONMENTAL IMPACTS

The following requirements for evaluating environmental impacts are cited directly from the State CEQA Guidelines Appendix G.

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards.

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect, and construction as well as operational impacts.

3) A "Less than Significant Impact" applies when the proposed project would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

4) "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

5) "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The initial study must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcrops, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

EXISTING SETTING

CITY OF ELK GROVE

Dominant visual features within the City of Elk Grove include urbanized land uses, open sections of the valley floor, agricultural land uses, rivers and creeks, and various species of trees. Because the City is topographically flat, views of these resources are available from roadways throughout the City. Oak trees, streams, creeks, and rivers are among the most significant natural visual features in the City. In addition, the Stone Lakes National Wildlife Refuge, the Sacramento River, and the Cosumnes River are located just outside of the City in unincorporated Sacramento County. Distant views of the Sierra Nevada and Coastal ranges can be visible from the City under clear conditions (City of Elk Grove, 2003b, p. 4.13-1).

PROJECT SITE

The project site is undeveloped and has historically been grazed and is dry farmland. Vegetation on-site is mostly non-native grass remaining from the dry land farming. There are approximately 22 native and non-native trees onsite. Tree species include Blue Gum Eucalyptus, Valley Oak, and California Back Walnut. The majority of the trees are located adjacent to the Grant Line Road right-of-way and around the former barn/house sites. Elk Grove Creek borders the project site to the north.

AESTHETIC CHARACTER OF THE SURROUNDING AREA

The project site is located in an area of largely undeveloped land zoned for future residential uses within the EEGSP. The Sonoma Creek Phase 2 subdivision has recently been completed to the east of the proposed project site, and to the north and southwest is land zoned for future residential uses. As such, the visual character of the surrounding area to the north, southwest, and east is considered urban and/or urbanizing.

To the east and southeast of the project site, across Grant Line Road, are agricultural uses in unincorporated Sacramento County. It is this location where the visual character of the area is beginning to transition from urban and residential uses to the west of Grant Line Road to agricultural and rural to the east of Grant Line Road. The aesthetic character of Grant Line

Road, which provides the main arterial access to the area, includes a mix of urban development close to State Route (SR) 99 and a transition to agricultural and rural residential uses as one travels east from the project site.

SCENIC VISTAS AND STATE SCENIC HIGHWAYS

There are no scenic vistas in the City of Elk Grove (City of Elk Grove, 2003b). Furthermore, there are no officially-designated state scenic highways in the City of Elk Grove or in the surrounding area (DOT, 2010). However, scenic corridors that extend 660 feet on each side of the right -of-way protect all freeways within Sacramento County, including SR 99 from the Calvine Road exit to the juncture of SR 99 and the Cosumnes River south of Grant Line Road. The purpose of the corridor is to beautify the freeways to make road travel more pleasant and to create a more attractive image of the urban areas in Sacramento County. Additionally, SR 99 is also designated as a Special Sign Corridor by the Elk Grove Zoning Code, which regulates the type, size and location of signs within the view of the traveling public (City of Elk Grove, 2003b, p. 4.13-2). The project site is not within the scenic corridor surrounding the SR-99 right-of-way.

NIGHTTIME LIGHTING AND DAYTIME GLARE

Currently, there are no sources of nighttime lighting or daytime glare on the project site as it is vacant. The only major source of nighttime lighting in the vicinity of the project site is the single-family residential development located to the west, within the EEGSP. Areas to east of the project site are characterized by agricultural uses and rural development, which produce low levels of nighttime lighting. While vacant lands to the southwest and north currently possess no sources of nighttime lighting, these lands are zoned for residential land uses. The areas surrounding the project site do not contain significant sources of daytime glare, which generally results from commercial and industrial development that use reflective building materials.

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- State Laws and Regulations
  - California Scenic Highway Program
  - Nighttime Sky-Title 24 Outdoor Lighting Standards
- Local Laws, Regulations, and Policies
  - City of Elk Grove Zoning Code
  - City of Elk Grove Design Guidelines

PROJECT IMPACTS AND MITIGATION MEASURES

a) No Impact. Neither the City of Elk Grove General Plan (2003a) nor the EEGSP identify any scenic vistas within the City or project area. Therefore, the proposed project would not adversely affect a scenic vista and **no impact** would occur.

b) **No Impact.** There are no officially-designated state scenic highways in the City of Elk Grove. Therefore, implementation of the proposed project would not damage scenic resources within a state scenic highway. Furthermore, the project site is not visible from SR 99. Therefore, the proposed project would result in **no impact** associated with the scenic corridor along SR 99.

c) **Less Than Significant Impact.** Based on EEGSP EIR Volume One, dated October 1995 (Project Characteristics, page 113), implementation of the project will have no greater effect on the visual character or quality of the site and surroundings than those identified in the East Elk Grove Specific Plan EIR because the proposed project is residential development consistent with that anticipated in the EEGSP. While the additional 29 residential units currently proposed represent increased density, they do not create a significant change with respect to the previously approved project because the project is still residential in nature and, if approved, the visual character of the site will change from rural to residential. The EEGSP and EEGSP EIR anticipated a conversion of agricultural lands to suburban residential uses. The majority of the EEGSP area has been or is being developed.

Furthermore, additional project-level environmental reviews would require any proposed development and/or improvements to be consistent with the City's Zoning Code, which regulates features such as setbacks and building heights of residential developments and seek to protect surrounding properties from objectionable views (City of Elk Grove, 2010). Any proposed development would also be required to be consistent with the City's Design Guidelines, which encourage sound industrial site development practices, including controlled site access, service areas located at the sides and rear of buildings, convenient public access and visitor parking, screening of storage, work areas, and mechanical equipment, storage and service area screen walls, and an emphasis on the main building entry and landscaping (City of Elk Grove, 2003c, p. 134). In addition, as previously stated the MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. The proposed project already includes mitigation measures to address potential visual impacts. Prior to the final map, the project area shall form or annex into a Mello-Roos CFD, assessment district, other financing district, or will provide some other funding mechanism, which is acceptable to the Finance Director of the City to fund the project's fair share of landscape maintenance costs which may include, but not be limited to, roadway corridors, interchanges, medians, drainage corridors, trails, open space, and parks, and maintenance costs of other community facilities (see **Appendix A** for the MMRP for the original 2005 IS/MND).

Given that implementation of the proposed project would allow for future residential development in an established residential area and that future development would be required to comply with the City's Zoning Code and Design Guidelines as well as mitigation measures established in the MMRP for the original 2005 IS/MND, impacts would be considered **less than significant.**

d) **Less Than Significant Impact.** Implementation of the proposed project will introduce new light sources onto the currently undeveloped project site. Nighttime lighting levels on the project site will increase substantially over current non-existent lighting levels and could result in adverse affects to adjacent land uses through the "spilling over" of light into these areas and "sky glow" conditions. The proposed project will increase the total number of residential units included in the original Fieldstone South project from 100 to 129 single-family units. The proposed increase in units will still be consistent with land uses envisioned by the EEGSP, which anticipated future residential, commercial and

institutional land uses and associated infrastructure to develop within the EEGSP area. Light and glare impacts from the project are not expected to exceed the standards as discussed in the EEGSP EIR. Policies for the EEGSP were thus drafted to address all such future growth within the EEGSP area. The EEGSP was included in the Elk Grove General Plan (2003) and the environmental impacts of urbanization of the EEGSP area were programmatically analyzed in the *Elk Grove General Plan Volume 1: Draft Environmental Impact Report SCH # 2002062082* (August, 2003). Increasing the number of residential units on the project site will subject the project to the City's Zoning Code, which contains outdoor lighting standards including shielding requirements, maximum level of illumination, and height of outdoor light fixtures. The project proposes residential development that would be subject to a design and architectural review in accordance to the City's Design Guidelines, which require lighting to be designed so that light is not directed off site and the light source is shielded downward from direct off-site viewing. The additional lighting that would be generated would be consistent with surrounding existing and future developments. Therefore light and glare impacts are considered **less than significant**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURE AND FOREST RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526, and by Government Code Section 51104(f)), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

REGIONAL SETTING

As of 2008 Sacramento County contained approximately 369,264 acres of agricultural land as designated by the Farmland Mapping and Monitoring Program (FMMP). FMMP is a non-regulatory program within the California Department of Conservation (DOC) that produces Important Farmland maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify five agriculture-related categories - prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land - rated according to soil quality and irrigation status. Each is summarized below (DOC, 2004, pp. 6-7):

- PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

- FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

- GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.

- URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

- WATER (W): Perennial water bodies with an extent of at least 40 acres.

Table 1 below tabulates the acres of land area in Sacramento County by FMMP category in 2008, along with the changes in designations between 2006 and 2008. As shown, the largest portion of the County's Important Farmland is Prime Farmland (104,367 acres) and the largest decrease of Important Farmland between 2006 and 2008, was for Prime Farmland. One of the basic underlying premises of agricultural conversion is that the proximity of agricultural land to urban uses increases the value of the agricultural land either directly through formal purchase offers or indirectly through recent sales in the vicinity, and through the extension of utilities and other urban infrastructure into productive agricultural areas. Between 2006 and 2008, approximately 1,995 acres of Important Farmland in Sacramento County were converted to other uses and approximately 831 acres of Grazing Land were converted. These conversions resulted in a total decline in agricultural land of 2,826 acres in Sacramento County between 2006 and 2008 (DOC, 2006; DOC, 2008).

TABLE 1
FMMP LAND USE AND CONVERSION IN SACRAMENTO COUNTY
2006 – 2008

Land Use Category	Acreage		2006 to 2008 Acreage Changes
	2006	2008	
Prime Farmland	106,667	104,367	-2,300
Farmland of Statewide Importance	51,217	49,470	-1,747
Unique Farmland	15,268	15,462	+194
Farmland of Local Importance	41,961	43,819	+1,858
IMPORTANT FARMLAND SUBTOTAL	215,113	213,118	-1,995
Grazing Land	156,977	156,146	-831
AGRICULTURAL LAND SUBTOTAL	372,090	369,264	-2,826
Urban and Built-up Land	175,523	177,914	+2,391
Other Land	70,242	70,757	+515
Water Area	18,230	18,148	-82
TOTAL AREA INVENTORIED	636,085	636,083	-2

Source: DOC, 2006; DOC, 2008.

LOCAL SETTING

The majority of agricultural land uses within the City of Elk Grove are considered fallow (vacant or underutilized). Few crops are grown in the City itself and no major commercial agricultural operations occur within the City limits, though small family farms do exist. Much of the remaining agricultural land uses are expected to be converted to urban land uses as the City continues to develop. Although the City's General Plan designates a large area of the City (generally east of Bradshaw Road) for rural uses, the small parcel sizes in this area will most likely limit agricultural uses to "hobby" farming, the raising of animals either for personal enjoyment or on a small commercial scale, or the growing of specialty crops such as nursery plants.

The 2008 Important Farmland Map for Sacramento County designates the proposed project site as Other Land and the majority of the surrounding sites to the north, and east as either Other Land or Urban and Built Up Land (DOC, 2008). However, as shown in **Figure 4**, the land adjacent to the Grant Line Road Site on the east is designated as Farmland of Statewide Importance (DOC, 2008).

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- State Laws and Regulations
  - Williamson Act – The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is a non-mandated state program, administered by counties and cities to preserve agricultural land and discourage the premature conversion of agricultural land to urban uses. The Williamson Act enables local governments to enter

into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use and, in return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value (DOC, 2010). It should be noted that in July 2009, the state legislature passed several bills to balance the state budget. Included in these bills was a provision that temporarily cuts local funding for the implementation of the Williamson Act Program by approximately $35 million, effectively *eliminating* the program until funding is restored.

As of 2008, Sacramento County had 245,682 acres under Williamson Act Contract. The proposed project site is not under Williamson Act contracts. There are lands to the east of the project site both under active contracts and in nonrenewal, a 9-year process to terminate the Williamson Act contract (Sacramento County, 2009, p. 3-8).

- Local Laws, Regulations, and Policies
  - Right-to-Farm Ordinance

PROJECT IMPACTS AND MITIGATION MEASURES

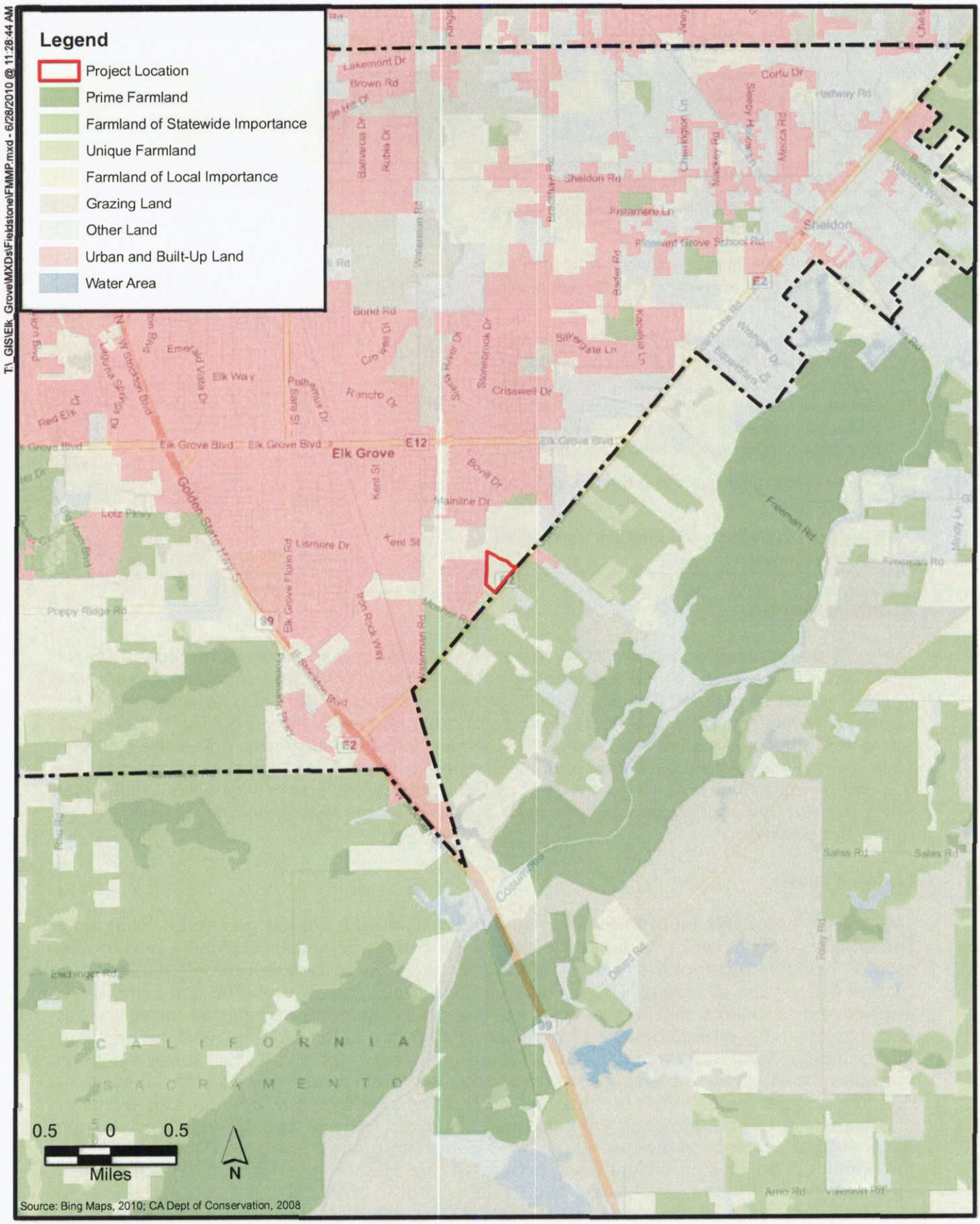
a) No Impact. The proposed project site is designated by the Department of Conservation FMMP as Other Land. Therefore, implementation of the proposed project would not directly convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a nonagricultural use and **no impact** would occur.

b) No Impact. The project site is not under a Williamson Act contract. There are lands to the east of the project site both under active contracts and in nonrenewal, a 9-year process to terminate the Williamson Act contract. However, implementation of the proposed project would accommodate the development of 129 residential units in a residential area, which would not be expected to interfere with nearby zoning for agricultural uses or Williamson Act contracts. Therefore, implementation of the proposed project would result in **no impact** associated with conflicts with existing zoning for agricultural uses or a Williamson Act Contract.

c) No Impact. Neither the City of Elk Grove nor Sacramento County contains any land zoned for forest land, timberland, or Timberland Production. Therefore, **no impact** would occur.

d) No Impact. Neither the City of Elk Grove nor Sacramento County contains any forest land other than urban forest. Therefore, **no impact** would occur.

e) Less Than Significant. The placement of nonagricultural uses adjacent to agricultural uses can result in conflicts that inadvertently place growth pressure on agricultural lands to convert to urban uses. Although the project site is defined as Other Land and does not include any farmland, lands to the east of the project site are in unincorporated Sacramento County and are designated by the DOC FMMP as Farmland of Statewide Importance. Even so, implementation of the proposed project would not be expected to place pressure on this farmland to convert to nonagricultural uses, as the proposed project is consistent with the development of land as identified within the EEGSP, which anticipated a conversion of agricultural land uses to urban development. Therefore, the proposed project would not involve changes in the existing environment which could *indirectly* result in the conversion of farmland to non-agricultural use and this impact would be considered **less than significant**.



City of Elk Grove
Development Services

Figure 4
Important Farmland Map

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. AIR QUALITY. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

REGIONAL SETTING

The project site is located within the Sacramento Metropolitan Air Quality Management District (SMAQMD), which is part of the Sacramento Valley Air Basin (SVAB). The Sacramento Valley Air Basin comprises all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties, the western portion of Placer County, and the eastern portion of Solano County. The Sacramento Valley Air Basin has been further divided into Planning Areas called the Northern Sacramento Valley Air Basin (NSVAB) and the Greater Sacramento Air region, designated by the U.S. Environmental Protection Agency (EPA) as the Sacramento Federal Ozone Non-attainment Area. The Non-attainment area consists of all of Sacramento, Yolo, El Dorado, Solano, Placer, and Sutter counties.

LOCAL SETTING

SMAQMD is responsible for limiting the amount of emissions that can be generated throughout Sacramento County, which includes the City of Elk Grove, by various stationary and mobile sources. Concentrations of the following air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM) (PM_{10} and $PM_{2.5}$, respectively), and lead are used as indicators of ambient air quality conditions. Specific rules and regulations have been adopted by the SMAQMD Board of Directors that limit the emissions that can be generated by various uses and/or activities, and identify specific pollution reduction measures that must be implemented in association with various uses and activities. These rules not only regulate the emissions of the six criteria pollutants listed above, but also toxic emissions and acutely hazardous materials. Emissions sources subject to these rules are regulated through the SMAQMD's permitting process. Through this permitting process, the SMAQMD also monitors the amount of stationary emissions being generated and uses this information in developing new clean air plans. The proposed project would be subject to SMAQMD rules and regulations to reduce specific emissions and to mitigate potential air quality impacts.

Sacramento County, which encompasses the City, is a known area of non-attainment for state and federal standards for ozone (Sacramento County has been designated as *severe* non-attainment for the 8-hour ozone national ambient air quality standard) as well as state and federal standards for particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) (SMAQMD, 2009a). Implementation of the project would result in increases in both construction emissions of $PM_{2.5}$ and increases in reactive organic gases (ROG) and NO_x, which are precursor components of ozone and PM_{10}. The region has been designated as a nonattainment area for the national (8-hour) ozone standard with an attainment deadline of 2019. SMAQMD has recently completed the *Sacramento Metropolitan Area 8-Hour Ozone Attainment Plan* (2009). This plan proposes to use updated emissions inventories, existing control strategies, and approved control measure commitments to achieve emission reductions necessary for compliance with the Clean Air Act (SMAQMD, 2009b).

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- **Federal Laws and Regulations** – The federal Clean Air Act (CAA) required by the Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS).

- **State Laws and Regulations –** The California Clean Air Act (CCAA), which was adopted in 1988, required the California Air Resources Board (CARB) to establish California ambient air **quality standards (CAAQS).**

- **Local Laws, Regulations, and Policies** – The *1991 Air Quality Attainment Plan* (AQAP), prepared and submitted by SMAQMD in compliance with the requirements set forth in the CCAA, specifically addressed the nonattainment status for ozone and to a lesser extent, CO and PM_{10}. The CCAA requires SMAQMD to prepare an Annual Progress Report and submit the report to CARB by December 31 of each year. At a minimum, the Annual Progress Report shall contain the proposed and actual dates for the adoption and implementation of each measure listed in the previous Triennial Plan.

  - SMAQMD has also adopted various rules and regulations pertaining to the control of emissions from area and stationary sources. All projects are subject to SMAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project may include, but are not limited to:

    - Rule 201 – General Permit Requirements.
    - Rule 402 – Nuisances.
    - Rule 403 – Fugitive Dust.
    - Rule 442 – Architectural Coatings.

PROJECT IMPACTS AND MITIGATION MEASURES

a) **Less than Significant.** As identified in the setting discussion, the Sacramento Metropolitan region, which includes the City of Elk Grove, is designated as a nonattainment area for the federal 8-hour ozone standard as well as a nonattainment area for the state 1-hour

and 8-hour standards for ozone. The Sacramento Regional Ozone Attainment Plan (OAP) was developed by the air districts in the Sacramento Region to bring the region into attainment. The OAP is the regional component of the SIP, which is the State's plan for attaining the federal 8-hour ozone standard as required by the federal CAA. The SIP, which also includes the *Sacramento Metropolitan 8-Hour Ozone Attainment Plan*, has been prepared to identify a detailed comprehensive strategy for reducing emissions to the level needed for attainment and show how the region would make expeditious progress toward meeting this goal. The SIP assumes annual increases in air pollutant emissions resulting from regional growth (including construction-generated emissions) anticipated according to local land use plans (e.g., general plans, regional transportation plans). The SIP also assumes the incremental increase in emissions will be partially offset through the implementation of stationary, area, and indirect source control measures contained within the SIP.

In addition to not attaining the federal or state ozone standards, the region does not attain the federal or state particulate matter standards (PM_{10} and $PM_{2.5}$). Reduction of particulate matter by all feasible means is necessary to attain these particulate matter standards. Unlike for ozone, there is no approved regional plan for attaining the PM_{10} or $PM_{2.5}$ standards. PM directly emitted from a project is generally regarded as having regional and localized impacts; however, PM_{10} and $PM_{2.5}$ are of greatest concern during construction (e.g., site preparation phase) of a proposed project.

Adoption of the Fieldstone South project will not conflict with or obstruct implementation of the applicable air quality plan. The MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. Therefore the proposed project already includes proactive mitigation measures to address potential air quality-related impacts that are being followed currently. For example, all construction equipment capable of releasing emissions to the atmosphere may require permit(s) from the SMAQMD prior to operation and portable construction equipment that has an internal combustion engine with a horsepower rating greater than 50 are required to have a SMAQMD permit or a California Air Resources Board portable equipment registration. Other general types of uses that require a SMAQMD permit are operations that generate airborne particulate emissions.

Furthermore, as stipulated in the MMRP for the original 2005 IS/MND, the project shall provide a plan for approval by the City of Elk Grove and SMAQMD demonstrating that the heavy duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average. In addition, the project representative shall submit to the City of Elk Grove and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. Lastly, the project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than

three minutes in any one hour. Any equipment found to exceed 40 percent opacity shall be repaired immediately, and the City of Elk Grove and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supercede other SMAQMD or state rules or regulations.

Implementation of these mitigation measures will reduce this impact to a **less than significant** level (refer to **Appendix A** for the MMRP for the original 2005 IS/MND).

b & c) Less than Significant with Mitigation Incorporated. Subsequent land use activities associated with implementation of the proposed project would introduce additional construction, mobile and stationary sources of emissions, which would adversely affect regional air quality. The NSVAB, which encompasses the City of Elk Grove, is designated as nonattainment for the federal 8-hour ozone standard, the state and 8-hour and 1-hour ozone standard, and the federal and state PM_{10} and $PM_{2.5}$ standards.

CONSTRUCTION EMISSIONS

Construction generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. The construction and development of the proposed project would result in the temporary generation of emissions resulting from demolition of existing structures, site grading and excavation, paving, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities.

SMAQMD has adopted guidelines for determining potential adverse impacts to air quality in the region. The SMAQMD guidelines state that construction of 180 single family residential units or more is considered a potentially significant adverse impact and therefore qualifies for a more in depth analysis. The Fieldstone South residential development project is proposing to develop 129 residential units. As the proposed project involves fewer than 180 single family units, emissions resulting from project construction would be insubstantial.

Fugitive Dust

In addition to emissions from onsite mobile equipment, onsite grading activities would also result in increased emissions of fugitive dust. Construction projects that require grading or other earthmoving activities generate large amounts of particulate matter. While construction related emissions produce only temporary impacts, these short-term impacts contribute to the emission inventory. Under certain conditions, the increased pollution load can exceed state and federal ambient air quality standards.

To assist in the evaluation of fugitive dust-related impacts, SMAQMD staff has developed screening criteria for construction projects. The SMAQMD guidelines state that if the maximum daily disturbed area (i.e., grading, excavation, cut and fill) would not exceed

15 acres and the project would implement all SMAQMD's *Basic Construction Emission Control Practices*, then the PM_{10} emission concentrations generated by construction projects shall be considered a less than significant impact to air quality. It is anticipated that one-quarter of the project site (totaling 7 acres) could be actively disturbed on any given day. Furthermore, the proposed project would be required to comply with SMAQMD Rule 403 for control of fugitive dust, as well as SMAQMD Rule 902 for control of asbestos if asbestos was identified in the structures to be demolished. Rule 403 requires implementation of reasonable precautions so as not to cause or allow emissions of fugitive dust from being airborne beyond the property line of the project site. Rule 902 requires compliance with the US EPA's National Emissions Standard for Hazardous Air Pollutants for Asbestos and limits emissions of asbestos to the atmosphere, including emissions occurring during demolition of existing structures. However, implementation of SMAQMD's *Basic Construction Emission Control Practices* is not proposed as part of the project resulting in **potentially significant impact** resulting from fugitive dust emissions.

The following mitigation is therefore required:

MM 3b-1: The following SMAQMD's *Basic Construction Emission Control Practices* shall be implemented:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).

- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Timing/Implementation: During construction

Enforcement/Monitoring: City of Elk Grove Planning Department

Implementation of mitigation measure **MM 3b-1** would reduce construction-related air quality impacts to a **less than significant level.**

OPERATIONAL EMISSIONS

As previously mentioned, ozone is not emitted directly into the air but is formed through a complex series of chemical reactions between ROG and NO_x, while the principal sources of PM_{10} and $PM_{2.5}$ include fuel burned in cars and trucks, power plants, factories, fireplaces, agricultural activities, and wood stoves. Implementation of the proposed project would result in increased regional emissions of PM_{10} and $PM_{2.5}$, as well as ROG, NO_x, and CO, due to increased use of motor vehicles, natural gas, maintenance equipment, and various consumer products, thereby increasing potential operational air quality impacts.

Increases in operational air impacts with implementation of the proposed project would generally consist of two sources: stationary and mobile.

SMAQMD has adopted guidelines for determining potential adverse impacts to air quality in the region. The SMAQMD guidelines state that the proposed operation of 375 single family residential units or more is considered a potentially significant adverse impact and therefore qualifies for a more in depth analysis. As the proposed project involves fewer than 375 single family units, emissions resulting from operational activities would be insubstantial. As a result, operational emissions of ozone-precursor pollutants would be considered **less than significant**.

d) Less than Significant. The Elk Grove General Plan considers residences to be "sensitive receptors" in relation to air quality issues. The project site is located within the EEGSP area which anticipated for residential, commercial and industrial land uses. There are currently residential land uses to the west of the project site. Construction activities would involve the use of a variety of gasoline or diesel powered equipment that emit exhaust fumes. These residents would potentially be exposed to nuisance dust and heavy equipment emission odors (e.g. diesel exhaust) during construction. However, the duration of exposure would be short. Furthermore, exhaust from construction equipment dissipates rapidly. As discussed above, the project falls below the SMAQMD operational threshold for emissions. Therefore, the operation of the proposed project is not expected to result in impacts to sensitive receptors. For those reasons, impacts to sensitive receptors are considered to be **less than significant**.

e) No Impact. SMAQMD has adopted guidelines for determining potential adverse impacts involving odors and does not recognize residential land uses as potential emitters of odors. The proposed project and associated uses would not create objectionable odors because the proposed project is a residential subdivision, and does not involve any activity that would generate odors. Single family homes and associated uses anticipated on the new parcels would not create objectionable odors affecting a substantial number of people. **No impact** is expected.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	☐	☐	☐	☒

EXISTING SETTING

The following biological resource setting information was obtained from the biological research assessment and the arborist and tree inventory summary prepared for the proposed project. The biological resource assessment was based on a reconnaissance field survey conducted by Foothill Associates on May 6, 2005 and updated on December 2, 2009 to evaluate current site conditions. A number of large eucalyptus trees in the central portion of the site have been removed in between the two field inspections, but the oaks and ornamental trees located in the vicinity of the old building site still remain, as do the walnut trees located along Grant Line Road. According to the arborist and tree inventory summary, there are 16 valley oak trees, six California black walnut trees, one lemon scented eucalyptus tree, and 19 blue gum eucalyptus trees on the project site. According to the biological resource assessment prepared for the project, the site is currently in a dry farming operation (winter wheat production). While farmed wetlands had previously occurred on the site at the time of the May 6, 2005 field inspection, these have been

filled, and there is no evidence of any wetland habitat remaining within the project boundary. Wetland mitigation credits were purchased, and agricultural operations resulted in fill of the farmed wetlands (see **Appendix B** for mitigation credit sales receipt).

Vegetation and Wildlife

The plant community covering the majority of the site is a dryland hay crop, which is characterized primarily by a mix of small grains and legumes, with various weedy non-native grasses and forbs intermixed. The plant species in this community are common to the Central Valley. In addition to planted species, other grass species consists of soft chess (Bromus hordeaceous), ripgut brome (Bromus diandrus), foxtail fescue (Vulpia myuros), and wild oat (Avena sp.). Common dominant herbaceous non-natives include yellow star-thistle (Centaurea solstitalis), woolly mullein (Verbascum thapsus), California horkelia (Horkelia californica), and Italian thistle (Carduus pycnocephalus). Valley oaks (Quercus lobata), California black walnuts (Juglans hindsii), and blue gum eucalyptus trees (Eucalyptus globulus) are scattered throughout site within the dryland hay fields.

This landscape provides breeding, foraging, and shelter habitat for several common species of wildlife. Species observed in this habitat on the site include American crow (Corvus brachyrhynchos), mourning dove (Zenaida macroura), northern mockingbird (Mimus polyglottos), white-crowned sparow (Zonotrichia leucophrys), black phoebe (Sayornis nigricans), and black-tailed jackrabbit (Lepus californicus).

Special-status Plants

Based on a records search of the California Natural Diversity Database (CNDDB) and the U.S. Fish and Wildlife Service (USFWS) list, special-status plant species have the potential to occur on the site or in the vicinity. Based on field observations and literature review specific to the special-status plants listed in the biological resources assessment prepared for the project (**Appendix B**), the potential for occurrence has been determined for each species. No special-status plant species are considered to have a high potential or a low potential to occur on the site due to the high level of disturbance within potential habitat that has occurred from agricultural and grazing activities and the fact that agricultural operations resulted in fill of the farmed wetlands (see **Appendix B** for mitigation credit sales receipt).

Special-status Wildlife

Based on a records search of the CNDDB and the USFWS list, special-status animal species have the potential to occur on the site or in the vicinity. Based on field observations and literature review specific to the special-status animals listed in the biological resources assessment prepared for the project (**Appendix B**), the potential for occurrence has been determined for each species. Species that are known to be present or that are considered to have a high potential to occur on the site include the following: Swainson's hawk (Buteo swainsoni), white-tailed kite (Elanus leucurus), as well as other raptor species. The species that are considered to have a low potential to occur on the site include the following: ferruginous hawk (Buteo regalis), loggerhead shrike (Lanius ludovicianus), Nuttall's woodpecker (Picoides nuttalli), oak titmouse (Baeolophus inornatus), and western burrowing owl (Athene cunicularia hypugaea).

Sensitive Habitats

Sensitive habitats include those identified as sensitive natural communities "rare and worthy of consideration" in the List of California Terrestrial Natural Communities recognized by the CNDDB,

as well as those subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act, Section 1602 of the California Fish and Game Code, and the State's Porter-Cologne Water Quality Control Act protecting waters of the state. Sensitive habitats are of special concern because they have high potential to support special-status plant and animal species. Sensitive habitats can also provide other important ecological functions, such as enhancing flood and erosion control and maintaining water quality. Seasonal wetland habitat could potentially be categorized as jurisdictional waters of the United States. Previous agricultural operations resulted in fill of the farmed wetlands associated with the project site (see **Appendix B** for mitigation credit sales receipt).

REGULATORY FRAMEWORK

The following federal, state, and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- Federal Laws and Regulations
  - Federal Endangered Species Act
  - Clean Water Act
  - Migratory Bird Treaty Act
- State Laws and Regulations
  - California Endangered Species Act
  - Native Plant Protection Act
  - California Department of Fish and Game Species of Special Concern
- Local Laws and Regulations
  - Title 19, Chapter 19.12 of the Municipal Code (Tree Preservation and Protection)
  - Swainson's Hawk Ordinance

PROJECT IMPACTS AND MITIGATION MEASURES

a) & b) Less than Significant. Several species of raptors may forage and nest on the site, including white-tailed kite. The proposed project is foraging habitat for the Swainson's hawk. The Swainson's hawk is a listed threatened species under the California Endangered Species act. The project site and adjoining parcels have grassland habitat with scattered trees, which is considered suitable habitat for Swainson's hawk. Given the habitat provided on the project site, adjoining parcels, and other surrounding remnant agricultural fields and open space areas, the proposed project could have a significant adverse effect by contributing to the cumulative loss of Swainson's hawk foraging habitat. The City's Swainson's hawk Ordinance is designed to reduce impacts to Swainson's hawk foraging habitat to less than significant levels. The project will be required to comply with the Swainson's hawk Ordinance.

Habitat at the proposed project location could support foraging and nesting habitat for burrowing owls. While no burrowing owls have were observed within the project area, the site contains annual grassland habitat. Therefore, implementation and construction of the proposed project could impact burrowing owl, both directly (removal of habitat and/or nest sites) and indirectly (increased human activity near nest sites). Special-status wildlife species are considered to be a sensitive resource by federal and state resource agencies, so alteration and disturbance of the project area would be considered a potentially significant impact.

As previously mentioned the MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. Consequently, the proposed project must comply with the appropriate mitigation measures to address potential biological impacts. For example, the project Applicant shall retain a qualified biologist approved by the City of Elk Grove to conduct a preconstruction burrow survey no more than 30 days prior to ground disturbing activity (and following any break in site activity longer than two weeks in duration) following procedures outlined in *Burrowing Owl Survey Protocol and Mitigation Guidelines* prepared by the California Burrowing Owl Consortium in April 1993. Should no owls be found onsite, a report shall be prepared (as outlined below) and submitted to the City of Elk Grove and no further mitigation would be necessary. Should owls be found onsite during the preconstruction survey or any time during construction activities, an avoidance area shall be established around the occupied burrow, such that no disturbance (or ingress) into the buffer area shall be allowed. If construction occurs between September 1st and January 31st (the non-breeding season) the avoidance area shall be at least 50 meters surrounding the burrow. If construction occurs between February 1st and August 31st (the breeding season) the avoidance buffer shall be at least 75 meters surrounding the burrow. During the breeding season (February 1st through August 31st), occupied burrows shall not be disturbed unless the DFG verifies that the birds have not begun egg-laying and incubation or that the juveniles from those burrows are foraging independently and capable of independent survival. If destruction of occupied burrows is unavoidable, replacement burrows shall be installed at a minimum ratio of one burrow replaced for every burrow lost (1:1). Replacement shall occur in an area with a minimum of 100 meter radius of foraging habitat surrounding the new burrow that shall be retained in a long-term conservation easement. In the situation that owls are threatened and must be relocated from a construction site, passive relocation shall be attempted (if appropriate) before trapping. Passive relocation is defined (in the owl guidelines) as encouraging owls to move from an occupied burrow to an alternate natural or artificial burrow located beyond 50 meters from the zone of impact. Trapping shall only be attempted during the nonbreeding season by a qualified biologist approved by the DFG. The DFG shall be consulted regarding the adequacy of onsite avoidance measures and mitigation and the project Applicant shall implement DFG recommendations to the extent possible. Furthermore, the biologist shall prepare a written report to be submitted to the City of Elk Grove that includes a habitat assessment of the project site, burrow survey methods and results, behavior of owls noted onsite (if applicable), and maps as well as photographs of the area showing habitat and burrow locations.

The proposed project must also comply with nesting raptors and migratory birds mitigation as established in the MMRP for the original 2005 IS/MND. For example, unless proposed construction activities are planned to occur outside the nesting seasons for local avian species, the project Applicant shall retain a qualified biologist approved by the City to conduct a focused survey for active nests of raptors and migratory birds within and in the vicinity of the construction area no more than 30 days prior to ground disturbance. If active nests are located during pre-construction surveys, USFWS and/or

DFG shall be notified regarding the status of the nests. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nests until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment) around the nest or alteration of the construction schedule. No action is necessary if construction occurs during the nonbreeding season (generally October 1st through January 31st).

In order to mitigate for the loss of Swainson's hawk foraging habitat, the Applicant shall implement one of the City of Elk Grove's approved mitigation alternatives. For example, prior to any site disturbance, such as clearing or grubbing, or the issuance of any permits for grading, building, or other site improvements, whichever occurs first, the project Applicant has the option to preserve 1.0 acre of similar habitat for each acre lost. This land shall be protected through a fee title or conservation easement acceptable to the City of Elk Grove as set forth in Chapter 16.130.040(a) of the City of Elk Grove Municipal Code. Alternatively, the project Applicant can choose to submit payment of Swainson's hawk impact mitigation fee per acre of habitat impacted (payment shall be at a 1:1 ratio) to the City of Elk Grove in the amount set forth in Chapter 16.130 of the City of Elk Grove Code.

Refer to **Appendix A** for the MMRP for the original 2005 IS/MND. Given that the proposed project must comply with the mitigation measures previously imposed and that the proposed increase in units does not create any new impacts beyond those addressed by the existing mitigation measures, impacts to special status species or habitats is considered to be **less than significant.**

b) Less than Significant. As previously mentioned, while farmed wetlands had formally occurred on the site at the time of the May 6, 2005 field inspection, these have been filled, and there is no evidence of any wetland habitat remaining within the project boundary. Wetland mitigation credits were purchased, and agricultural operations resulted in fill of the farmed wetlands (see **Appendix B** for mitigation credit sales receipt). Therefore, impacts on sensitive habitats and jurisdictional waters of the United States is considered a **less than significant** level.

d) Less than Significant. Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas, such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range. As discussed above, the project site does contain annual grassland habitat that could provide potential foraging habitat for Swainson's hawks and other raptors. Therefore, the potential exists for wildlife to pass through the site and future construction could impede the movement of wildlife through the project sites. However, the project site has been previously cultivated and the predominant plan community on site is hay crops. The site does not consist of any large bodies of water suitable for migratory waterfowl nor was the site identified as suitable for any other migratory bird species in the Elk Grove General Plan EIR. Elk Grove Creek, located to the north of the project site, was not identified as possible migratory fish habitat in the General Plan EIR. Therefore, the project would not have a substantial effect on wildlife corridors or nursing sites and is considered a **less than significant** impact.

e) **Less than Significant with Mitigation Incorporated.** Currently, the only ordinances protecting biological resources in the city (other than General Plan policies) are Title 19, Chapter 19.12 of the Municipal Code (Tree Preservation and Protection) and the City of Elk Grove Swainson's Hawk Ordinance.

Under Chapter 19.12 of the Municipal Code (Tree Preservation and Protection), native oak trees measuring at least 6 inches diameter at breast height (dbh) are protected and mitigation must be implemented for development projects that propose to remove the protected trees (native single-trunked trees 6 inches dbh and larger, or multi-trunked native trees having an aggregate diameter of 10 inches dbh and larger significant trees 19 inches dbh and larger). There are 16 valley oak trees, six California black walnut trees, one lemon scented eucalyptus tree, and 19 blue gum eucalyptus trees on the project site. The MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. Therefore the proposed project includes proactive mitigation measures that are being followed currently. The proposed project is obligated to comply with existing mitigation measures in the recorded MMRP to address potential biological impacts. For example, prior to the issuance of any permits for grading, building or any other site improvements, or the recordation of any Final Subdivision Maps on the subject property, whichever occurs first, a Tree Replacement Plan shall be prepared by a certified arborist or landscape architect to mitigate for the loss of native trees 6-inch dbh or larger and all non-native trees larger than 19-inch dbh or larger that are proposed for removal or that would be adversely affected by the project. The Applicant shall not be responsible for the mitigation of Eucalyptus trees. The Plan shall comply with the City code and General Plan polices and be submitted to the City for review and approval. The current policies require that every trunk diameter lost shall be mitigated by an inch planted or funds placed in the tree mitigation fund. Mitigation funds for one-inch of native/ornamental tree removed shall be $200.00 per trunk diameter. Mitigation can occur on site or off site and the Plan shall include the following elements:

- Species, size and locations of all replacement trees plantings. Replacement trees shall not be planted in lawn areas or in front yards of residential lots;
- Method of irrigation, a 3 year monitoring program and a 3 year maintenance program and name contractor to maintain replacement trees.
- The City of Elk Grove Standard Tree Planting Detail L-1, including the 10-foot depth boring hole to provide for adequate drainage.

The Applicant is not responsible to mitigate for the loss of any trees due to the Grant Line Road widening project.

In addition to the above mitigation measure, an arborist report and tree inventory summary was prepared for the proposed project which identified general guidelines to provide protection to trees proposed to remain on the site. Based upon these guidelines, the following additional mitigation shall be required:

MM 4e-1: The following General Preservation strategies identified in the arborist report and tree inventory summary prepared for the proposed project shall be implemented:

- The 'critical root zone area' for a tree shall be fenced prior to any activities on the site and should remain in place throughout construction. The root zone area for a tree should include the dripline radius measurement taken from the tree trunk to the tip of the farthest reaching branch, plus one foot.

- Cuts within a dripline of a tree should be maintained at less than 20 percent of the critical root zone area. Grade cuts shall be supervised by a Certified Arborist and any damaged roots encountered shall be root pruned and properly treated as soon as possible after excavation by a Certified Arborist. Root cuts which will be exposed for more than one day shall be covered with dense burlap fabric and watered to maintain soil moisture on a daily basis or as directed by the Certified Arborist.

- Fill materials in excess of one foot in depth of up to 20 percent of the critical root zone area shall trigger the installation of aeration systems as directed by a Certified Arborist. Should it be necessary to build fill materials on two or three sides of a tree, the use of retaining walls shall be employed in order to reduce encroachment and the degree of fill beneath the tree.

- In cases in which it is necessary for a proposed structure to encroach into the critical root zone area, encroachment shall be maintained at less than 20 percent and a slab foundation with an aeration system shall be installed beneath the slab and footings, excavated by hand. In cases in which encroachment of a proposed structure equated to more than 20 percent of the critical root zone area of a tree, the tree shall be considered for removal or continued post-construction monitoring and health evaluation by a Certified Arborist.

- Where possible, dry utilities shall be routed on the opposite side of the street from project tree locations

  Timing/Implementation: During construction

  Enforcement/Monitoring: City of Elk Grove Planning Department

Compliance with the existing mitigation measure regarding a tree mitigation plan and the imposition of mitigation measure MM 4e-1 would result in a **less than significant** impact to the City's Tree Preservation and Protection Ordinance.

f) No Impact. The City of Elk Grove does not have an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan. Therefore, **no impact** would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

EXISTING SETTING

The City of Elk Grove General Plan DEIR (2003b) identifies 93 prehistoric and historic Native American archaeological sites within the City of Elk Grove General Plan Planning Area (Planning Area), which includes the City limits and surrounding area in unincorporated Sacramento County. The project site is located within this Planning Area. Many, if not most, of these archaeological sites are village mounds located along rivers, creeks, sloughs and around lakes. Some are known to contain human remains and many others have the potential to contain human remains. In addition, there are 24 historic sites within the City of Elk Grove General Plan Planning Area, many of which are remnants of farms and ranches. Included among the historic sites is the Murphy's Ranch (Murphy's Corral) site, State Historic Landmark 680 and California Inventory of Historical Resources 182; the site of Joseph Hampton Kerr's home, California Inventory of Historical Resources 178 and Point of Historical Interest 001; the site of the Old Elk Grove Hotel, Point of Historical Interest 004; and the site of the first free library branch in California, California Historical Landmark No. 817 (City of Elk Grove, 2003b). Old Town Elk Grove became nationally recognized as a historic district on March 1, 1988. It is listed as the Elk Grove Historic District on the National Register of Historic Places (NRHP). The only other site in the Planning Area listed in the NRHP is the Eastern Star Hall, located along the Sacramento River, approximately 1.5 miles north of the community of Hood (City of Elk Grove, 2003b).

LOCAL SETTING

According to the EEGSP EIR Cultural Resources section, a cultural resource overview of the East Elk Grove Specific Plan area was conducted by Robert A. Gerry, Peak and Associates, Inc in July 1994 (City of Elk Grove, 1996). The overview concluded that no significant cultural resources were identified; historic structures appear to consist primarily of nondescript barns and relatively recent residences, except for a house on Grant Line Road between Mosher and Waterman Roads. Nonetheless, as detailed below performance standards adopted in EEGSP shall be applied in the event that significant resources are encountered during any development activities.

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- **Federal Laws and Regulations** –the Antiquities Act of 1906, National Park Service Act of 1966, Historic Sites Act of 1935, Section 106 of the National Historic Preservation Act (NHPA) Reservoir Salvage Act of 1960, Department of Transportation Act of 1966 (Section 4(f)), National Environmental Policy Act of 1969, Archaeological and Historic Preservation Act of 1974, Tax Reform Act of 1976, American Indian Religious Freedom Act of 1978, Archaeological Resources Protection Act of 1979, Abandoned Shipwrecks Act of 1987, Native American Graves Protection & Repatriation Act of 1990, and Executive Orders 12898, 11593, 13006, 13007

- **State Laws and Regulations** – California Environmental Quality Act (14 CCR 15064.5, PRC 21083.2, and PRC 21084.1), Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and SB 447 (Chapter 44, Statutes of 1987).

- **Local Laws, Regulations, and Policies**

  – City of Elk Grove Historic Preservation Ordinance (Municipal Code Chapter 7.00)

PROJECT IMPACTS AND MITIGATION MEASURES

a) No Impact. Based on the above discussion, the site does not contain any known historic buildings or structures, or resources related to ethnic cultural value, or religious/sacred uses. Therefore, no impacts are anticipated to the resources.

b) – d) Less than Significant. Archaeological and historical investigations for the EEGSP area did not identify any archaeological resources, cultural resources, or human remains, significant or otherwise, within the proposed project sites or surrounding area. Regardless, there are known archaeological resources in the City of Elk Grove associated with Native American and Euroamerican use and occupation of the area and future construction activities envisioned by the proposed project could result in the unanticipated discovery of archaeological and other cultural resources in the project area, including human remains. Furthermore, as the City has the potential to contain paleontological resources, there is a possibility of the unanticipated discovery of paleontological resources during future ground-disturbing activities envisioned by the project. Therefore, the project could impact significant archaeological, paleontological, or other cultural resources, including human remains.

General Plan Historic Resource Element Action HR-6-Action 1 states that in areas identified in the General Plan Background Report as having a significant potential for containing archaeological or paleontological artifacts, completion of a detailed on-site study as part of the project environmental review process will be required and all recommended mitigation measures shall be implemented. Action HR-6-Action 1 addresses potential impacts to archaeological, paleontological, or other cultural resources, including human remains. As a proposed development project anticipated under the City's General Plan, this project would have to comply with the policies and actions of the General Plan. Therefore, impacts to undiscovered archaeological, paleontological, or other cultural resources including human remains would be mitigated per Action HR-6-Action 1 and are therefore considered to be **less than significant.**

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would became unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

EXISTING SETTING

GEOLOGY AND SOILS

The majority of Sacramento County, including the entire City of Elk Grove and the proposed project site, lies in the Great Valley geomorphic province. A "geomorphic province" is defined as an area with similar geologic origin and erosional/depositional history. The Great Valley geomorphic province is an alluvial plain approximately 50 miles wide and 400 miles long located in central California (CA Geological Survey, 2002a). The Great Valley province is bounded on the north by the Klamath and Cascade mountain ranges, on the east by the Sierra Nevada Mountains, and on the west by the California Coast Mountain Range. The Great Valley is a trough in which sediments consisting of Cenozoic non-marine (continental) sedimentary rocks and alluvial deposits have been deposited almost continuously since the Jurassic period approximately 160 million years ago. Elk Grove is in the northern portion of the Great Valley

geomorphic province, the Sacramento Valley, and is drained by the Sacramento River (CA Geological Survey, 2002a; CA Geological Survey, 2002b).

Surface elevations within the Great Valley generally range from several feet below mean sea level (msl) to more than 1,000 feet above msl. The ground surface elevation in the vicinity of Elk Grove ranges from approximately 10 to 150 feet above msl (City of Elk Grove, 2003b, p. 4.9-1).

Soils on the project sites and in the surrounding project area are primarily composed of San Joaquin silt loam and San Joaquin-Galt Complex (Foothill Associates, 2005). The San Joaquin soil type is moderately well drained and moderately deep over a cemented hardpan. This base geologic condition does not lend to structural failures such as sinkholes. Since these soils are located at shallow depths, they are conducive to urban development. Properly designed foundations, buildings, and roads, can help to prevent potential damage caused by the high shrink-swell potential and low subsoil strength (City of Elk Grove, 2003b, p. 4.9-1).

The project sites are relatively flat and there are no distinctive geological features, such as rock outcroppings, on any of the proposed project sites.

FAULTS AND SEISMICITY

Sacramento County, as well as the City of Elk Grove, is less affected by seismic events and geologic hazards than other portions of the state. Nevertheless, some property damage has occurred as a result of seismic events in the past. The damage experienced was largely the result of major seismic events occurring in adjacent areas, especially the San Francisco Bay Area and, to a lesser extent, the foothills of the Sierra Nevada Mountain Range. Therefore, Sacramento County, like most of California, is considered a seismically active region.

Faults

There are no known active faults in the City of Elk Grove and no active or potentially active faults underlie the City. The City is not located in an Alquist-Priolo Earthquake Fault Zone. The closest fault to the City is the Foothills Fault System, which is 21 miles away (City of Elk Grove, 2003b, p. 4.9-3).

Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Based on these factors, the potential for liquefaction beneath the City of Elk Grove, and thus the project site, is considered low. The potential for ground lurching, differential settlement or lateral spreading occurring during or after seismic events is also considered to be low (City of Elk Grove, 2003b, p. 4.9-4).

Expansive Soils

Soils that contain a relatively high percentage of clay minerals have the potential to shrink and swell with changing moisture conditions. The San Joaquin soil group contains approximately 5 inches of claypan in the subsoil, and contains a surface layer of brown silt loam between 11 and 23 inches thick. Therefore, as mentioned above, the shrink-swell potential is high in this soil type due to the high percentage of claypan (City of Elk Grove, 2003b, p. 4.9-4).

Other Potential Geologic Hazards

There is a risk for subsidence, the gradual settling or sinking of the earth's surface with little or no horizontal motion, within the City of Elk Grove and therefore within the project area. There are five causes of subsidence that affect the City – compaction by heavy structures, erosion of peat soils, peat oxidation, fluid withdrawal, and compaction of unconsolidated soils by earthquake shaking. The pumping of water from subsurface water tables for residential, commercial, and agricultural uses causes the greatest amount of subsidence within the City (City of Elk Grove, 2003b, p. 4.9-4).

There is little potential in the City and within the project sites for landslides to occur since there are no major slopes in the area. There are also no oceans, large bodies of water, or volcanoes in the City or immediate vicinity, so there is little or no possibility for seiches, tsunamis, or volcanic eruptions to occur (City of Elk Grove, 2003b, p. 4.9-4).

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- State Laws and Regulations
  - Alquist-Priolo Earthquake Fault Zoning Act
  - California Building Code
- Local Laws, Regulations, and Policies
  - City's Buildings and Construction Ordinance

PROJECT IMPACTS AND MITIGATION MEASURES

a) i) Less than Significant. There are no known faults crossing through the proposed project site or in the vicinity of the project site. The closest fault is over 20 miles away from the City, as described above. Furthermore, the project sites are not located within an Alquist-Priolo earthquake hazard zone. Therefore, impacts related to faults would be considered **less than significant.**

ii) Less Than Significant. As discussed under item **i)** above, the proposed project site is not located in the vicinity of any active faults. In addition, the City of Elk Grove is not located within an Alquist-Priolo Earthquake Fault Zone and surface evidence of faulting has not been observed. However, due to the proximity to the San Andreas Fault Zone and other active faults such as those discussed above, the City of Elk Grove may experience non-catastrophic ground shaking during a seismic event. The City of Elk Grove has adopted the California Building Code (CBC) and all buildings constructed in the City, including those under the proposed project, would be required to comply with the CBC, which includes special design requirements for building and foundation stress capabilities, masonry and concrete reinforcement, and building spacing to accommodate moderate earthquake shaking. In recent earthquakes, buildings built to modern codes have generally sustained relatively little damage (USGS, 2010). Therefore, the CBC design requirements reduce impacts associated with seismic groundshaking by preparing structures to accommodate moderate earthquake-related ground movement

and compliance with these seismic design parameters would ensure that impacts resulting from seismic groundshaking at the project site would be **less than significant.**

iii) Less Than Significant. As previously discussed, the potential for liquefaction is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Based on these factors, the potential for liquefaction beneath the City of Elk Grove, and thus the project sites, is considered low and impacts would be **less than significant.**

iv) No Impact. The proposed project site is topographically flat; therefore the likelihood of landslides is minimal. Furthermore, the City of Elk Grove General Plan Draft EIR (City of Elk Grove, 2003b) confirms that there is little potential for landslides to occur anywhere in the City as there are no major slopes in the area and the maximum land surface slope within the City is 3 percent. Therefore, **no impact** associated with landslides is expected to occur.

b) Less Than Significant. The proposed project envisions the development of 129 residential units on 28.1 acres. Construction associated with these activities would require grading and compaction of project site soils, which would result in minor changes to the topography of the sites and surface relief features. This is particularly true on the project site as it is currently vacant. Over-covering of the soils on the project site would occur to the extent necessary to construct the necessary facilities. Temporary increases in soil erosion from wind and water may be experienced during construction activities. The City's Land Grading and Erosion Control Code (Title 16, Chapter 16.44 of the Municipal Code) establishes procedures to minimize erosion and sedimentation during construction activities. Compliance with this Ordinance would reduce impacts associated with soil erosion during construction. After construction, the building foundations, parking areas, and other facilities constructed at the project sites would serve to stabilize the soils that they cover and would effectively reduce erosion of all types. Therefore, this impact is considered to be **less than significant.**

c) & d) Less than Significant. The proposed project provides for the future development of 129 residential units, which could place development on expansive and unstable soils. However, as required by the City of Elk Grove General Plan (2003), all future development constructed on the project site would be required to submit a geotechnical report that would include recommendations, design criteria, and specifications to reduce impacts related to expansive and unstable soils. In addition, all development proposed on the site would be required to comply with all applicable building codes including the CBC and commonly accepted engineering practices, which require special design and construction methods for dealing with expansive and unstable soil behavior.

Compliance with recommendations included in the geotechnical reports and applicable building codes would ensure that on-site soils would be capable of supporting the structures resulting from approval of the proposed project and would therefore reduce impacts resulting from expansive and unstable soils to a **less than significant** level.

e) No Impact. The project will connect to the Sacramento Regional County Sanitation District (SRCSD) and Sacramento Area Sewer District (SASD) sewer system. SRCSD is responsible for the regional interceptor collection system (sanitary wastewater facilities that are designed to carry flows in excess of 10 million gallons per day [mgd]), and treatment of wastewater. SASD is responsible for the local collection system, including

trunks (wastewater facilities that carry flows of 1 to 10 mgd) and laterals (wastewater facilities that carry flows of less than 1 mgd). SASD provides local wastewater collection and transport from its facilities to the regional wastewater transmission, treatment and disposal facilities operated by SRCSD. The project does not propose the use or construction of septic tanks or alternative wastewater disposal systems; therefore, **no impact** would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

EXISTING SETTING

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the greenhouse gases that contribute to this phenomenon. The temperature on earth is regulated by a greenhouse effect, which is so named because the earth's atmosphere acts like a greenhouse, warming the planet in much the same way that an ordinary greenhouse warms the air inside its glass walls. Like glass, the gases in the atmosphere let in light yet prevent heat from escaping.

Greenhouse gases (GHG) are naturally occurring gases such as water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) that absorb heat radiated from the earth's surface. Greenhouse gases are transparent to certain wavelengths of the sun's radiant energy, allowing this energy to penetrate deep into the atmosphere or all the way to the earth's surface. Clouds, ice caps, and particles in the air reflect about 30 percent of this radiation, but oceans and land masses absorb the rest (70 percent of the radiation received from the sun) before releasing it back toward space as infrared radiation. GHG and clouds effectively prevent some of the infrared radiation from escaping; they trap the heat near the earth's surface where it warms the lower atmosphere. If this natural barrier of atmospheric gases were not present, the heat would escape into space, and the earth's average global temperatures could be as much as 61 degrees Fahrenheit cooler (NASA, 2007).

In addition to natural sources, human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. Measured global GHG emissions resulting from human activities, especially the consumption of fossil fuels, have grown since pre-industrial times, with an increase of 70 percent between 1970 and 2004 (IPCC, 2007). This increase in atmospheric levels of GHG unnaturally enhances the greenhouse effect by trapping more infrared radiation as it rebounds from the earth's surface and thus trapping more heat near the earth's surface. Prominent GHGs contributing to the greenhouse effect and climate change include carbon dioxide, methane, ozone, nitrous oxide, and chlorofluorocarbons (CFCs). Emissions of these gases are attributable to human activities associated with the industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (CEC, 2006a).

GLOBAL IMPLICATIONS

Recognizing the problem of global climate change, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. It is open to all members of the

United Nations and WMO. The role of the IPCC is to assess on a comprehensive, objective, open, and transparent basis the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation. IPCC projects that the earth's average surface temperature should rise 1.8 to 6.3 degrees Fahrenheit before the year 2100 (IPCC, 2007).

The IPCC Fourth Assessment Report's Working Group I Summary for Policymakers (Report) synthesizes current scientific understanding of global climate change and projects future climate change using the most comprehensive set of well-established global climate models. The report incorporates findings of the current effects of global climate change. These findings include:

- The intensity of tropical cyclones (hurricanes) in the North Atlantic has increased over the past 30 years, which correlates with increases in tropical sea surface temperatures.
- Droughts have become longer and more intense and have affected larger areas since the 1970s, especially in the tropics and subtropics.
- Since 1900 the Northern Hemisphere has lost 7 percent of the maximum area covered by seasonally frozen ground.
- Mountain glaciers and snow cover have declined worldwide.
- Satellite data since 1978 show that the extent of Arctic sea ice during the summer has shrunk by more than 20 percent.
- Since 1961, the world's oceans have been absorbing more than 80 percent of the heat added to the climate, causing ocean water to expand and contributing to rising sea levels. Between 1993 and 2003, ocean expansion was the largest contributor to sea level rise.
- Melting glaciers and losses from the Greenland and Antarctic ice sheets have also contributed to recent sea level rise.

An enhanced greenhouse effect will generate new patterns of microclimate and will have significant impacts on the economy, environment, and transportation infrastructure and operations due to increased temperatures, intensity of storms, sea level rise, and changes in precipitation. Impacts may include flooding of tunnels, coastal highways, runways, and railways, buckling of highways and railroad tracks, submersion of dock facilities, and a shift in agriculture to areas that are now cooler. Such prospects will have strategic security as well as transportation implications.

Climate change affects public health and the environment. Increased smog and emissions, respiratory disease, reduction in California's water supply, extensive coastal damage, and changes in vegetation and crop patterns have been identified as effects of climate change. The impacts of climate change are broad-ranging and interact with other market failures and economic dynamics, giving rise to many complex policy problems. The findings are the latest in a string of reports warning that the rate of carbon dioxide accumulating in the atmosphere is increasing at an alarming pace.

STATE AND REGIONAL IMPLICATIONS

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Worldwide, California is the 12th to 16th largest emitter of CO_2 and is responsible for

approximately 2 percent of the world's CO_2 emissions (CEC, 2006a, 2006b). In 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent (CO_2e) (CEC, 2006a).

The California Climate Action Team found that California-specific models estimate an average warming increase of 2.7 to 10.5 degrees Fahrenheit throughout California before the year 2100 (CAT, 2009). With the lowest projected global increase of 1.8 degrees, the earth would be warmer than it has been for 10,000 years (Miller, 2000). As a result, increased ocean temperatures could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's flood control systems.

Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion (a particular concern in the low-lying Sacramento–San Joaquin Delta, where potable water delivery pumps could be threatened) and degradation of wetlands. Mass migration and loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution. The scientific evidence supporting these assertions continues to build, with updated modeling scenarios being testing on an ongoing basis. The science of climate change is such that it is constantly evolving, with information presented as a component of public policy quickly becoming out of date. General impacts as a result of climate change, as currently known at the adoption of this document, are outlined below.

To date, the primary impact of global climate change has been a rise in the average global tropospheric temperature (the troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude) of 0.2°C per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming could occur, which would cause additional changes in the global climate system during the 21st century. Impacts to the environment of California that could result from continued global warming include, but are not limited to:

- Increasing temperatures by as much as 8 to 10.4 degrees Fahrenheit (°F) under the higher emission scenarios, resulting in a 25 to 35 percent increase in the number of days ozone pollution standards are exceeded in most urban areas;
- Increased electricity demand, particularly in the hot summer months;
- Decline of the Sierra snowpack, which accounts for a significant amount of the stored surface water in California, by 70 percent to 90 percent over the next 100 years;
- Decline in spring stream flow by as much as 30 percent, causing severe water shortages;
- The loss of sea ice and mountain snow pack, resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;
- Changes in weather, such as widespread changes in precipitation, ocean salinity and wind patterns, and increased incidence of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold and the intensity of tropical cyclones;

- Impacts to agricultural production due to increased temperatures, reduced water supply and increased threats from pests and pathogens;

- High potential for erosion of California's coastlines and seawater intrusion into the Delta and levee systems; and

- Increased wildfire risk resulting from dry vegetation and extended droughts.

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- **State Laws and Regulations** – Executive Order S-3-05 (2005) established the following aggressive emissions reduction goals: by 2010, GHG emissions must be reduced to 2000 levels; by 2020, GHG emissions must be reduced to 1990 levels; and by 2050, GHG emissions must be reduced to 80 percent below 1990 levels.

  In 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the Global Warming Solutions Act, into legislation. The Act requires that California cap its GHG emissions at 1990 levels by 2020. AB 1493, the Pavley Bill, directed CARB to adopt regulations to reduce emissions from new passenger vehicles.

  Recently, California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl.

- **Local Laws, Regulations, and Policies –** SMAQMD offers the guidance contained in the SMAQMD Guide for Air Quality Assessment in Sacramento County (2009) for addressing the GHG emissions associated with individual development projects.

PROJECT IMPACTS AND MITIGATION MEASURES

a) **Less than Significant with Mitigation Incorporated.** Implementation of the proposed project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to the proposed project would be primarily associated with increases of carbon dioxide (CO_2) from mobile sources. Emissions of CO_2 typically constitute a majority of total mobile-source GHGs commonly associated with community development projects. To a lesser extent, other GHG pollutants, such as Methane (CH_4), largely generated by natural-gas combustion, would typically have a minor contribution to overall GHG emissions, or are not commonly associated with typical community development projects.

   Estimated emissions of CO_2 were calculated using the URBEMIS2007 computer program, based on default parameters (i.e., emission factors, vehicle fleet, and trip distribution data) contained in the model. Emissions were converted to CO_2 equivalents (i.e., CO_2e), expressed in metric tons, based on the global warming potential of each pollutant. Emissions were calculated for short-term construction and long-term operational conditions and are discussed in more detail, as follows:

SHORT-TERM CONSTRUCTION

During construction of the project, GHGs would be emitted from the operation of construction equipment and from worker and building supply vendor vehicles. Emissions during construction were estimated using the URBEMIS2007 model. The project construction emissions of CO_2 are shown in **Table 2**, below. Emissions of nitrous oxide and methane are negligible in comparison and were not estimated. As indicated, construction of the proposed project would generate total annual emissions of approximately 324 metric tons of CO2e. These construction-generated emissions are temporary and short-term and would not result in a significant impact.

TABLE 2
SHORT-TERM CONSTRUCTION-GENERATED GREENHOUSE GAS EMISSIONS

Construction	CO_2 Equivalent (Metric Tons/Year)
Proposed Project	324
Total	**324**

Notes: Emissions were calculated using the URBEMIS2007 (version 9.2.4) computer program. Project construction was assumed to commence from the end of 2010 through mid-2011 for the purpose of this analysis. Source: PMC 2010

LONG-TERM OPERATION

Long-term increases in area- and mobile-source GHG emissions associated with the proposed project were estimated using the URBEMIS2007 computer program. The default settings for Sacramento County contained in the model were used for this analysis. Increases in energy consumption were estimated using the Energy Information Administration's *Residential Energy Consumption Survey* (2005a & 2005b). Predicted long-term operational emissions of GHG are summarized in **Table 3.**

TABLE 3
LONG-TERM OPERATIONAL GREENHOUSE GAS EMISSIONS

	CO_2 Equivalent (Metric Tons/Year)			
	Area Source	**Mobile Source**	**Indirect Emissions from Energy Consumption**	**Total**
Proposed Project	543	1,660	874	**3,077**

Notes: Operational emissions were calculated using the URBEMIS2007 (v9.2.4) computer program and the Energy Information Administration's Residential Energy Consumption Survey (2005). Proposed project emissions include landscape maintenance activities, automobile source emissions and energy generation. CO2e = carbon dioxide equivalent; MT/yr = metric tons per year; refer to Appendix D for detailed assumptions and modeling output files.

Source: PMC 2010

The SMAQMD offers the guidance contained in the SMAQMD *Guide for Air Quality Assessment in Sacramento County* (2009) for addressing the GHG emissions associated with individual development projects. However, SMAQMD does not currently have an adopted threshold of significance for GHG emissions. SMAQMD recommends addressing the potential impacts of project-generated GHG emissions including a description of the existing environmental conditions or setting (see Existing Setting above), a discussion of the existing regulatory environment pertaining to GHGs (see Regulatory Framework above), a discussion of the GHG emission sources associated with the project's

construction and operational activities (see **Tables 2** and **3**), and a discussion of feasible construction and operational mitigation necessary to reduce impacts. Long-term operational greenhouse gas emissions are considered to be **potentially significant.**

The following mitigations are therefore required:

The following mitigation measures shall be incorporated into the project's design, construction activities, and operation in order to reduce impacts to global warming and climate change. A number of these measures have been identified by CARB to offset or reduce global warming impacts in their June 19, 2008, technical advisory CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review.

MM 7a-1: The following emissions reduction measures shall be implemented:

1. The following measures shall be implemented during construction:
   - Limit idling of construction equipment and delivery vehicles;
   - Limit the vehicle trips of construction deliveries by consolidating material loads;
   - Delivery of materials should take place during non-rush hours, in order to increase vehicle fuel efficiency;
   - Provide opportunity for construction workers to carpool, and
   - Gasoline and diesel-run equipment and machinery should be well maintained and in good working condition.
2. Following consultation with SMAQMD, and to the extent agreed upon by the project applicant and SMAQMD, construction vehicles shall use retrofit emission control devices, such as diesel oxidation catalysts and diesel particulate filters verified by the California Air Resources Board.
3. No wood-burning fireplaces, woodstoves, or similar wood-burning devices will be used in association with the project.
4. For low-impact areas and surfaces, the lowest-emitting architectural coatings feasible shall be used during construction. Zero-VOC coatings shall be used. For areas of high use that will require frequent cleaning, such as door frames or kitchen room walls, low-VOC coatings shall be used. Design review submittals shall include information concerning the coatings products proposed for use in the project.

Timing/Implementation: *Prior to issuance of certification of occupancy*

Monitoring/Enforcement: *City of Elk Grove Planning Department and Sacramento Metropolitan Air Quality Management District*

MM 7a-2 The following energy efficiency and renewable energy measures shall be implemented:

1. Include energy-efficient window glazings, wall insulation, and efficient ventilation methods.

2. Energy efficient lighting (e.g., fluorescent lighting, which uses approximately 75% less energy than incandescent lighting to deliver the same amount of light) shall be used.

3. To the extent feasible, promote passive solar building design and landscaping conducive to passive solar energy use (i.e., building orientation in a south to southwest direction, encouraging planting of deciduous trees on western sides of structures, landscaping with drought-resistant species, and including groundcovers rather than pavement to reduce heat reflection) where energy modeling indicates that these measures will reduce energy consumption.

4. Landscaping plans shall prohibit the use of liquidambar and eucalyptus trees that produce smog-forming compounds (high emission factors for isoprenes).

5. Establish building guidelines that require the use of low-absorptive coatings on all building surfaces and Energy Star roofing products on all roofs if commercially available at the time building permits are issued and compliant with the California Building Code.

6. To the extent feasible, require reuse and recycling of construction and demolition waste.

7. Preserve and create open space and parks. Preserve existing healthy heritage trees, or in the event that preservation cannot be achieved, replace with similar species to the greatest extent possible (5 gallon container trees or larger size shall be planted for each healthy heritage tree removed). Payment of in-lieu fees for tree mitigation shall be allowed only after it can be demonstrated that onsite replacement planting cannot be achieved.

Timing/Implementation: *Prior to issuance of certification of occupancy*

Monitoring/Enforcement: *City of Elk Grove Planning Department*

City of Elk Grove Planning Department and Sacramento Metropolitan Air Quality Management District

Implementation of mitigation measures **MM 7a-1** and **MM 7a-2** will provide feasible construction and operational mitigation necessary to reduce impacts while maintaining the proposed project in conformance with SMAQMD recommendations. Therefore this impact is considered **less than significant**.

b) Less than Significant. The California Governor's Office of Planning and Research (OPR) recommendations are broad in their scope and address a wide range of industries and GHG emission sources. Therefore, most of the recommendations are not applicable to the development and operation of any single residential project, but rather as general development policies. Thus, the proposed project's compliance with these measures was evaluated qualitatively with the understanding that exact compliance can only be determined once specific applicable regulations are adopted.

The project does not, as proposed, conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The analysis was completed in accordance with the methodology recommended in the SMAQMD *Guide for Air Quality Assessment in Sacramento County* (2009), which is consistent with the above-stated goals of the State of California. Absent other guidance from local, regional, or state agencies, the SMAQMD *Guide for Air Quality Assessment in Sacramento County* is the best available tool in Sacramento County to determine a level of significance for CEQA (the City of Elk Grove is in the process of establishing goals and policies to address climate change concerns). Therefore, with the implementation of mitigation measures **MM 7a-1** and **MM 7a-2**, along with minimal additional emissions as a result of the residential project, there would be consistency with state and regional recommendations for addressing climate, and therefore a **less than significant** impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles or a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

EXISTING SETTING

HAZARDOUS MATERIALS

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency (Cal/EPA) to develop at least annually an updated Cortese List. The Department of Toxic Substance Control (DTSC) is responsible for a portion of

the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the Envirostor database, the State Water Resource Control Board (SWRCB) Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense sites (DOD), and Land Disposal program. A search of the DTSC Envirostor database and the SWRCB Geotracker determined that there are no known hazardous waste generators or hazardous material spill sites within the proposed project site. However, the project site are located in an industrial area and there are several Leaking Underground Storage Tank (LUST) and SLIC sites within one mile of the project site. These are detailed in **Table 4** below.

TABLE 4
LUST AND SLIC SITES WITHIN ONE MILE OF THE PROJECT SITE

Facility	Address	Type of Site	Contaminants of Concern	Potential Media Affected	Cleanup Status
Georgia Pacific Resins	10399 Stockton Boulevard	SLIC	Semi-volatile organic compounds	Not Specified	Completed – Case closed as of 1/1/95
Flying V SS	10473 Stockton Boulevard	LUFT	Gasoline	Aquifer Used for Drinking Water Supply	Completed – Case closed as of 4/15/98
Arco #5752	10466 Grant Line Road	LUFT	Gasoline	Soil	Completed – Case closed as of 1/8/07
Transcon Lines	10401 Grant Line Road	LUFT	Diesel	Soil	Open – Site assessment as of 4/17/1989
World Asphalt	10144 Waterman Road	LUFT	Stoddard Solvent/Mineral Spriits/Distillates	Under Investigation	Completed – Case closed as of 9/9/99
Conoco Asphalt Terminal	10090 Waterman Road	LUFT	Diesel	Soil	Completed – Case closed as of 11/12/86

Source: DTSC, 2010. SWRCB, 2010.

FACILITIES STORING, TRANSPORTING, USING, OR MANUFACTURING HAZARDOUS MATERIALS

The project site is located within one mile of industrial uses and a variety of facilities that store, transport, use, or manufacture hazardous materials. The two largest facilities are Suburban Propane, which stores propane in large aboveground tanks, and Georgia-Pacific Resins, which manufactures industrial coatings from chemicals such as formalin and formaldehyde. Both facilities are located within the City limits of Elk Grove and are surrounded by industrial, office, commercial, residential, and agricultural land uses.

Suburban Propane Facility

The Suburban Propane facility is located at 10450 Grant Line Road, approximately 1.2 miles southwest of the proposed project. Suburban Propane receives pressurized liquid propane at ambient temperatures from tanker trucks and railroad cars and loads ambient-temperature propane for transport offsite. The facility stores both ambient-temperature and refrigerated liquid propane. On average, approximately 120,000 gallons of propane are handled at the

facility each day, 50% by tanker truck and 50% by railroad car (EDAW, 2009, p. 4.7-4). Major equipment at Suburban Propane includes four 60,000-gallon storage tanks (known as "bullet tanks") for pressurized, ambient-temperature propane; two 12-million-gallon refrigerated, low-pressure storage tanks; loading/unloading stations for tanker trucks and railroad cars; a propane refrigeration system; a flare; and safety systems such as a water spray system in the railroad car and truck loading area.

The bullet tanks are protected from overpressure (the greater-than-normal pressure that accompanies an explosion) by multiple pressure relief valves on the top of each tank. A water spray system protects each bullet tank from excessive heating in the event of fire exposure. The refrigerated storage tanks are equipped with pressure and liquid-level gauges, liquid overflow vents, pressure relief valves, vacuum breakers, and a vent line to the facility flare. The loading/unloading stations for tanker trucks and railroad cars are equipped with water deluge systems. In the event of a fire in these areas, the deluge systems should help prevent physical failure of tanker trucks and railroad cars as a result of excessive heat and internal pressure (EDAW, 2009, p. 4.7-4).

Georgia-Pacific Resins

The Georgia-Pacific Resins facility is located at 10399 East Stockton Boulevard, approximately one mile to the southwest of the project site. Georgia Pacific Resins produces coating resins such as industrial coatings; air-dry varnishes; and specialty coatings for drums, pails, and food cans. The manufacturing process involves quantities of formalin, formaldehyde, formic acid, and ammonium hydroxide. The largest quantity of formalin, a toxic gas that is a mixture of formaldehyde and water, at the facility is contained in Tank 105, an insulated AST constructed of welded steel with a capacity of 40,000 gallons. Formalin within the tank is heated to maintain its temperature at about 140°F. Tank 105 is surrounded by a concrete containment structure that is large enough to hold the entire contents of the tank, a "pool area" of approximately 11,120 square feet. The material stored at the Georgia-Pacific Resins facility that would pose the largest problem following a large accidental release is formaldehyde, a colorless gas that can be toxic at certain levels by inhalation, ingestion, or physical contact (EDAW, 2009, p. 4.7-4 and 4.7-5).

Risk Analysis for the Suburban Propane and Georgia-Pacific Resins Facilities

In 2003, Quest Consultants performed a Quantitative Risk Analysis (QRA) for both the Suburban Propane propane terminal and a formalin storage tank at the Georgia-Pacific Resins facility (Quest Consultants, 2003). The objective of the study was to compute the level of risk posed to members of the public in the vicinity of the two facilities, including the potential project site, by potential releases of flammable liquids from the propane terminal and toxic liquids from the formalin storage tank (EDAW, 2009, p. 4.7-5).

For the QRA, Quest Consultants identified all possible accident scenarios for the Suburban Propane and Georgia-Pacific Resins facilities and analyzed the hazard types, incidence scenarios, worst-case effects and the extent of those effects, specific conditions associated with worst-case effects, and approximate probabilities associated with each scenario.

Off-site hazards to human health and property associated with incidents at the Suburban Propane and Georgia-Pacific facilities fall into the following five main categories:

- Vapor cloud explosion from a release at Suburban Propane that generates an overpressure;

- Thermal radiation (radiant heat), such as a pool fire;
- Flash fire;
- Shrapnel from a sudden, catastrophic failure of a pressure vessel; and
- Formaldehyde exposure from a spill.

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- Federal Laws and Regulations
  - Clean Water Act
  - Clean Air Act
  - Resource Conservation and Recovery Act
  - Comprehensive Environmental Response, Compensation, and Liability Act
  - Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title 10)
- State Laws and Regulations
  - Cal/EPA Unified Program
  - California Accidental Release Prevention (CalARP) Program
  - California Department of Toxic Substances Control
  - UST Program
  - Hazardous Materials Release Response Plans and Inventory (Business Plan) Program
  - California Fire and Building Code
  - Defensible Space Requirements

PROJECT IMPACTS AND MITIGATION MEASURES

a) & b) Less than Significant with Mitigation Incorporated.

CONSTRUCTION HAZARDS

As discussed above there are no identified hazardous materials on the project site. However, the potential exists for site construction activities to expose construction workers and the general public to hazardous materials, including petroleum hydrocarbons, pesticides, herbicides, and fertilizers; contaminated debris; elevated levels of chemicals that could be hazardous; or hazardous substances that could be

inadvertently spilled or otherwise spread. Construction workers and the general public could also be exposed to hazards and hazardous materials as a result of improper handling or use during construction activities (particularly by untrained personnel); transportation accidents; or fires, explosions, or other emergencies. Construction workers could also be exposed to hazards associated with accidental releases of hazardous materials, which could result in adverse health effects.

The use and handling of hazardous materials during construction activities would be required to occur in accordance with applicable federal, state, and local laws and codes as discussed above, including California Occupational Health and Safety Administration (CalOSHA) requirements, thereby minimizing the extent of any spills, releases, or other exposure. Contractors would also be required to comply with Cal/EPA's Unified Program; regulated activities would be managed by Sacramento County Environmental Management Department, the designated Certified Unified Program Agency (CUPA) for Sacramento County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California UFC hazardous material management plans and inventories). Such compliance would reduce the potential for accidental release of hazardous materials during construction of the proposed project. As a result, it would lessen the risk of exposure of construction workers and the public to accidental release of hazardous materials, as well as the demand for incident emergency response. In addition, the following mitigation measure would be incorporated to further reduce impacts associated with any spills, releases, or other exposure to hazardous materials.

MM 8.1: Prior to start of construction, the construction contractor shall designate staging areas where fueling and oil-changing activities will take place. The staging area(s) shall be reviewed and approved by City's Planning Department and the Storm Water pollution Prevention Plan (SWPPP) Manager prior to the start of construction. No fueling and oil-changing activities shall be permitted outside the designated staging areas. The staging areas, as much as practicable, shall be located on level terrain and away from sensitive land uses such as residences, day care facilities, and schools. Staging areas shall not be located near any stream, channel, or wetlands. The proposed staging areas shall be identified in the SWPPP.

Timing/Implementation: Prior to start of construction and during project construction.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Compliance with federal, State, and local hazardous materials regulations and codes, as well as the above mitigation measure, would ensure that site-specific impacts associated with hazards for construction workers and the general public involving the release of hazardous materials into the environment or through the routine transport, use, or disposal of hazards materials during construction activities would be reduced to a **less than significant** level.

OPERATIONAL HAZARDS

As with construction activities associated with the proposed project, operation of the proposed project is required to be consistent with federal, State, and local laws and regulations addressing hazardous materials. The proposed project consists primarily of

residential land uses, which generally do not involve the routine transport, use, or disposal of hazards materials. Therefore, operation of the proposed project would not create a significant hazard to the general public or the environment involving the release of hazardous materials into the environment or through the routine transport, use, or disposal of hazards materials and impacts would be considered **less than significant.**

c) No Impact. As described under **a) & b)** above, residential land uses generally do not involve the routine transport, use, or disposal of hazards materials. Therefore, **no impact** is expected concerning hazardous emissions, materials, or wastes near schools.

d) Less than Significant. As noted under the Existing Setting sub-section above, the proposed project site is not *included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5*. Seven nearby facilities were listed; however, these facilities are not likely to have adversely affected the proposed project site based on information reviewed. Those facilities that were reported as having unauthorized releases of hazardous materials are not likely to adversely impact the project site as most have been remediated or are in the process of being remediated. Therefore, this impact would be considered **less than significant.**

e) & f) Less than Significant. There are no public airports in the City of Elk Grove. The only private airport in the vicinity of the project site is the Elk Grove (Sunset Skyranch) Airport, which is located near the intersection of Grant Line and Bradshaw roads approximately 0.5 miles east of the site. However, on January 25, 2006, the Sacramento County Board of Supervisors decided not to renew the Use Permit for the airport. Although the airport is still currently operating, its continued operation is in question due to ongoing litigation. The airport's use is limited to relatively small planes and while the project site is located within the airport's Comprehensive Land Use Plan (CLUP) Area for this facility, it is not located within the designated Clear Zone or Approach – Departure safety zone. The CLUP indicates the project site is located within Safety Area 3 – Overflight Zone (Safety Area 3), which covers the widest area for flight safety. The CLUP indicates that single-family detached homes, duplex and multiple-family dwellings are compatible with this area (SACOG, 2000). The proposed project does not include any structures or equipment anticipated to penetrate the navigable airspace of the Sunset Skyranch Airport. Therefore, the proposed project would not result in an airport safety hazard for people working in the project area and this impact would be considered **less than significant.**

g) Less than Significant. Upon incorporation, the City adopted the Sacramento County Multi-Hazard Disaster Plan (SCMDP), which was established to address planned response to extraordinary emergency situations associated with natural disasters and technological incidents. The SCMDP focuses on operational concepts relative to large-scale disasters, which can pose major threats to life and property requiring unusual emergency responses. Additionally, the City adopted the Sacramento County Area Plan (SCAP), which is used as a guideline for hazardous material related accidents or occurrences. The purpose of the SCAP is *"To delineate responsibilities and actions by various agencies in Sacramento County required to meet the obligation to protect the health and welfare of the populace, natural resource (environment), and the public and private properties involving hazardous materials."* The proposed project would not impede or conflict with the objectives or policies contained in the SCMDP or the SCAP.

After implementation of the proposed project, emergency response vehicles would have fairly direct access to the sites from SR 99 and Grant Line Road. Furthermore, the City's Police Department and the Cosumnes CSD Fire Department would review the site design

and circulation layout as part of the project review process to ensure adequate emergency access is provided. In addition, as previously stated, the MMRP for the original 2005 IS/MND has been initiated and is active. The proposed project already includes mitigation measures to address potential hazard-related impacts. For instance, dead-end streets in excess of 150 feet require emergency vehicle turn-a-rounds.

The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be considered **less than significant**.

h) **No Impact.** The project site is located in a primarily urban setting, surrounded by industrial and commercial development, as well as some agricultural uses. While there is some vacant land in the area, the risk of loss, injury, or death due to wildland fires is considered low. In the event of a fire, the Elk Grove Community Services District Fire Department would provide fire and emergency services for the project area (please refer to section 3.13, Public Services). Therefore, **no impact** would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
h) Place within 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

REGIONAL SETTING

REGIONAL SURFACE WATER HYDROLOGY

The proposed project site is located in the southern portion of the Sacramento River Hydrologic Region, which covers approximately 17.4 million acres (27,200 square miles) (DWR, 2006). The

region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa counties. Geographically, the region extends south from the Modoc Plateau and Cascade Range at the Oregon border, to the Sacramento-San Joaquin Delta. The Sacramento Valley, which forms the core of the region, is bounded to the east by the crest of the Sierra Nevada and southern Cascades and to the west by the crest of the Coast Range and Klamath Mountains. Another significant feature is the Sacramento River, which is the longest river system in the State of California with major tributaries the Pit, Feather, Yuba, Bear and American rivers. The City is also located in the Morrison Creek Stream group drainage basin, a 192-square mile watershed tributary to the Sacramento River Basin. The Morrison Creek Stream Group drainage basin consists of Elder, Elk Grove, Laguna (and tributaries), Morrison, Strawberry, and Whitehouse Creeks. All creeks in the vicinity of the City drain into the Morrison Creek Stream Group, then eventually into the Sacramento River. Runoff from precipitation and snowmelt from the Sierra Nevada mountains are the main sources of surface water for the City of Elk Grove.

PROJECT SITE SURFACE HYDROLOGY

Topography on the site is relatively level with elevations ranging from 50 to 55 feet above mean sea level. Surface runoff generally enters Elk Grove Creek to the north of the site and a temporary ditch immediately to the west of the site. Previously there had been farmed wetlands on the site that would capture limited amounts of surface runoff. However, these have been filled and there is no evidence of any wetland habitat remaining within the project boundary. Wetland mitigation credits were purchased as a result of the fill of the farmed wetlands (see **Appendix B** for mitigation credit sales receipt).

The drainage area for this reach of the Elk Grove Creek is identified as the 'Southern Drainage Shed' in the EEGSP. A combination stormwater detention/water quality basin commonly known as the Hudson Basin was built with previous projects just south of Elk Grove Creek east of Waterman Road (west of the proposed project site). The Hudson Basin receives direct pipe and overland flow from the Sonoma Creek Subdivision and Newton Ranch Unit 1 projects on the south side of the creek. It also receives piped flow from the north side of the creek from Newton Ranch Unit 2 through a 48-inch concrete culvert. Two 30-inch pipes were used to cross under the creek due to cover problems.

The Hudson Basin was constructed in two phases with the Sonoma Creek and Newton Ranch projects to mitigate for project impacts to water quality and increased runoff. According to the EEGSP, the basin was intended to divert peak flows from an improved and realigned Elk Grove Creek via a weir arrangement operating as an offline basin. However, the channel improvements could not be constructed as originally planned due to Army Corps of Engineers wetland permitting issues. Because of the permitting issues and timing of development, the basin does not function as originally intended. The basin currently functions as an in-line detention basin receiving both piped and overland flow from the development south of the creek whereas; only the piped flow from the development north of the creek enters the basin (MacKay & Somps, 2007).

SURFACE WATER QUALITY

Based on the most current Watershed Sanitary Surveys for the American and Sacramento Rivers, both rivers are excellent sources of supply for drinking water in the Sacramento Metropolitan Area. These source waters can be treated to meet all Title 22 drinking water standards using both conventional and direct filtration processes, as well as membranes. There are no persistent constituents in the raw waters that require additional treatment processes. However, there are

seasonal treatment requirements at times for rice herbicides on the Sacramento River. This treatment requirement is addressed through chemical oxidation processes (SCWA, 2004).

GROUNDWATER HYDROLOGY AND QUALITY

The SCWA *Zone 40: Groundwater Management Plan* (GMP) discusses groundwater in Zone 40, which includes both the City of Elk Grove and areas of Sacramento County surrounding the proposed project sites. Zone 40, as well as water supply facilities and water supplies other than groundwater, are discussed in more detail under the Utilities and Service Systems sub-section. According to the GMP, formations that constitute the water-bearing deposits underlying Sacramento County include an upper, unconfined aquifer system consisting of the Victor, Fair Oaks, and Laguna Formations (now known as the Modesto Formation) and a lower, semi-confined aquifer system consisting primarily of the Mehrten Formation known for its fine black sands. These formations are typically composed of lenses of inter-bedded sand, silt, and clay, interlaced with coarse-grained stream channel deposits (SCWA, 2004). Groundwater in the Central Basin is generally classified as occurring in a shallow aquifer zone (Laguna or Modesto Formation) or in an underlying deeper aquifer zone (Mehrten Formation). Within Zone 40, the shallow aquifer extends approximately 200 to 300 feet below the ground surface and, in general, the water quality in this zone is considered to be good except for the occurrence of arsenic in some locations. The shallow aquifer is typically targeted for private domestic wells requiring no treatment unless high arsenic values are encountered. The deep aquifer is separated from the shallow aquifer by a discontinuous clay layer that serves as a semi-confining layer for the deep aquifer. The base of the potable water portion of the deep aquifer averages approximately 1,400 feet below the ground surface. Water in the deep aquifer typically has higher concentrations of total dissolved solids (TDS), iron, and manganese. Groundwater used in Zone 40 is supplied from both the shallow and deeper aquifer systems (SCWA, 2004).

Groundwater in Central Sacramento County moves from sources of recharge to areas of discharge. Recharge to the local aquifer system occurs along active river and stream channels where extensive sand and gravel deposits exist, particularly along the American, Cosumnes, and Sacramento River channels. Additional recharge occurs along the eastern boundary of Sacramento County at the transition point from the consolidated rocks of the Sierra Nevada to the alluvial deposited basin sediments. This typically occurs through fractured granitic rock that makes up the Sierra Nevada foothills. Other sources of recharge within the area include deep percolation from applied surface water, precipitation, and small streams. Changes in the groundwater surface elevation result from changes in groundwater recharge, discharge, or extraction. The majority of the City of Elk Grove has poor groundwater recharge capabilities (City of Elk Grove, 2003b). Additionally, the Sacramento County Ground Water Elevations Map dated fall of 2007 shows groundwater levels ranging from 40 feet below mean sea level to 20 feet below mean sea level in Elk Grove (SCDWR, 2007). Within the project vicinity, groundwater depths are estimated to be approximately 85 feet below the ground surface. Groundwater depths are seasonally influenced by local pumping, rainfall, and irrigation patterns (EDAW, 2009, p. 4.8-3).

The Sacramento County Water Agency (SCWA) meets water demands through a conjunctive use program of groundwater, surface water, and recycled water supplies, including a maximum yield 69,900 acre-feet/year (af/y) of groundwater from the groundwater basin underlying Zone 40 (SCWA, 2005a). The hydrologic effects of implementing the SCWA's Water Supply Master Plan (WSMP), which identifies a set of water supply alternatives that provide a long-term balance between water demands and supplies in Zone 40, were analyzed using the Sacramento County Integrated Groundwater Surface Water Model (IGSM). The IGSM model runs performed to analyze the effects of the Zone 40 WSMP to the groundwater basin under existing conditions, as well as 2030 conditions for different combinations of surface water and groundwater use (SCWA, 2004). The modeling

evaluated projected pumping within the groundwater basin by SCWA as well as all other water users, including those for agriculture. The results of the groundwater model indicated that in 2030 approximately 74,000 acre-feet annually of groundwater is expected to be pumped by SCWA and private urban and agricultural water users for use in the Zone 40 2030 Study Area. This volume, combined with other pumping in the Central Basin (including pumping for groundwater remediation), would be less than the sustainable-yield recommendation of 273,000 af/y for all modeled scenarios that assume some level of reuse of remediated groundwater. Stabilized groundwater elevations at the Central Basin's cone of depression under the modeled scenarios would range from approximately 50 feet below mean sea level (msl) to 84 feet below msl, which are all substantially higher than the projected level of 116 feet below msl to 130 feet below msl. Therefore, groundwater pumping associated with the Zone 40 WSMP would not cause sustainable yield recommendations to be exceeded. Therefore, groundwater levels at the Central Basin cone of depression are projected to be higher than those determined to be acceptable to the Water Forum, and this impact was considered less than significant in the EIR for the Zone 40 WSMP.

FLOODING

Flooding is a major concern within many areas of the City. Though the predominant portion of the site is not located within a 100-year flood plain, the northern section adjacent to Elk Grove Creek is designated as 100-year flood plain (see **Figure 5**). The applicant is proposing the placement of fill to elevate lots in that area above the 100-year floodplain elevation.

STORMWATER QUALITY

The City of Elk Grove Public Works Department has jurisdiction over aspects of stormwater management in the City of Elk Grove and the Sacramento County Department of Water Resources has jurisdiction over areas outside the City in the unincorporated areas. The Water Resources division of the Elk Grove Public Works Department is responsible for drainage, flood control, stormwater quality, and long-term water and urban runoff planning within the City.

Upon its incorporation in July 2000, the City of Elk Grove adopted two County ordinances that provide legal authority for the Stormwater Quality Improvement Program – the Stormwater Management and Discharge Control Ordinance (No 22-2003) (updated June 10, 2005) and the Land Grading and Erosion Control Code (Chapter 16.44 of the Elk Grove Municipal Code). The Stormwater Management and Discharge Control Ordinance prohibits most non-stormwater discharges conditionally allowable (e.g., water from firefighting activities) pursuant to National Pollution Discharge Elimination System (NPDES) federal regulations. The ordinance provides legal authority to the City for inspections and enforcement related to control of illegal and industrial discharges to the City storm drainage system and local receiving waters. The Land Grading and Erosion Control Code requires projects in Elk Grove disturbing 350 cubic yards or more of soil or one or more acres of land to prepare an erosion and sediment control plan specifying best management practices (BPMs) for erosion and sediment control, and provides legal authority to Elk Grove for inspections and enforcement needed to ensure compliance with the ordinance.

The City of Elk Grove is a joint participant with Sacramento County's NPDES. The permit was renewed in December 2002 and allows for the City to discharge urban runoff from Municipal Separate Storm Sewer Systems (MS4s) in their municipal jurisdictions. The permit requires that the City impose water quality and watershed protection measures for all development projects. The NPDES also requires every new construction project to have a permit for every new construction project that implements the following measures:

- Eliminate or reduce non-stormwater discharges to stormwater systems and other waters of the nation;
- Develop and implement a stormwater pollution prevention plan (SWPPP); and
- Perform inspections of stormwater control structures and pollution prevention measures.

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- Federal Laws and Regulations
  - Clean Water Act
    - Section 303(d) of the Clean Water Act
- State Laws and Regulations
  - Porter-Cologne Water Quality Control Act
  - National Pollutant Discharge Elimination System (NPDES) Permit Program
  - National Flood Insurance Program
- Local Laws and Regulations
  - Elk Grove Flood Control and Storm Drainage Master Plan
  - Stormwater Quality Design Manual
  - City of Elk Grove Land Grading and Erosion Control Code
  - Zone 40 Water Supply Master Plan
  - Zone 41 Urban Water Management Plan
  - SCWA Groundwater Management Plan
  - City of Elk Grove Water Use and Conservation Ordinance

PROJECT IMPACTS AND MITIGATION MEASURES

a) & f) Less than Significant.

CONSTRUCTION WATER QUALITY IMPACTS

Future development of facilities identified in the proposed project could involve site grading, excavation for utilities, trenching, backfilling, and the construction of proposed facilities that could disturb the existing vegetation cover and soil of the project sites. Although the project site is generally flat, intense rainfall and associated stormwater runoff could result in short periods of sheet erosion within areas of exposed or stockpiled soils. If uncontrolled, these soil materials would flow off of the site and into Elk Grove Creek.

Further, the compaction of soils by heavy equipment may reduce the infiltration capacity of soils and increase the potential for runoff and downstream sedimentation. Therefore, future construction activities could result in substantial stormwater discharges of pollutants into local drainage channels from the project construction sites. Construction-related chemicals (fuels, paints, adhesives, etc.) could be washed into surface waters by stormwater runoff. The deposition of pollutants (gas, oil, etc.) onto the ground surface by construction vehicles could similarly result in the transport of pollutants to surface waters by stormwater runoff or in seepage of such pollutants into groundwater. Because the project could contribute substantial additional sources of polluted runoff and could substantially degrade water quality during proposed construction activities, this impact is considered **potentially significant**. As previously stated the MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. The proposed project already includes mitigation measures to address potential hydrology-related impacts. These mitigation *measures* include:

- The Applicant shall implement Best Management Practices to ensure that long-term water quality is protected. The Best Management Practices shall be designed, constructed and maintained to meet a performance standard established by the City. The City or project applicant shall retain a qualified specialist to monitor the effectiveness of the Best Management Practices selected. Monitoring activities, along with funding for monitoring, shall be established and shall include (but not be limited to) initial setup, yearly maintenance, and yearly monitoring.

  During project operation, the project shall implement actions and procedures established to reduce the pollutant loadings in storm drain systems.

- The project Applicant shall consult with the City when the project affects any water stream(s). The Applicant shall submit the proposed improvement designs and a drainage study to the City for review prior to the approval of the final map. The study shall include improvements to receiving water body(s) to mitigate the impacts of increased runoff from the project and any change in runoff including quality, quantity, and stream conveyance capacity short and long term, and building pad elevations. There shall be no net loss of storage for any fill placed within the 100-year floodplain with in-kind replacement, or other mitigation as deemed appropriate in the drainage study. Elk Grove Creek and the project is not a part of a financing plan. Due to the current Elk Grove Creek hydraulic constraints resulting from the absence of a Corps of Engineers (COE) permit that would permit improving Elk Grove Creek, it will be necessary to demonstrate by calculations that the 10-year flows from the Fieldstone South development can be accommodated the existing underground pipe system located in Sonoma Creeks 1, 2 and 3.

- The Applicant shall comply with all NPDES Permit and City's Stormwater Ordinance requirement before, during, and after construction as require by the Permit and the Ordinance and in accordance with the latest version of the Guidance Manual of On-site Stormwater Quality Control Measure.

- The Applicant shall comply with all NPDES Permit and City's Stormwater Ordinance requirement before, during, and after construction as require by the Permit and the Ordinance and in accordance with the latest version of the Guidance Manual of On-site Stormwater Quality Control Measure.

- In order to mitigate erosion and sediment control problems on the project site, the project shall comply with the City's Land Grading and Erosion Control Ordinance. If the project size is more than one acre, a Notice of Intent (NOI) must be filed prior to construction to obtain coverage under the State's General Construction Activity Storm Water Permit.

- Prior to the issuance of grading permits, the project applicant shall prepare a Storm Water Pollution and Prevention Plan (SWPPP) to be administered through all phases of grading and project construction. The SWPPP shall incorporate Best Management Practices to ensure that potential water quality impacts during construction phases are minimized. The SWPPP shall address spill prevention and include counter measure plan describing measures to ensure proper collection and disposal of all pollutants handled or produced on the site during construction, including sanitary wastes, cement, and petroleum products. These measures shall be consistent with the City's Improvement Standards and Land Grading and Erosion Control Ordinance and may include but not necessary limited to: (1) restricting grading to the dry season; (2) protecting all finished graded slopes from erosion using such techniques as erosion control matting and hydroseeding; (3) protecting downstream storm drainage inlets from sedimentation; (4) use of silt fencing and hay bales to retain sediment on the project site; (5) use of temporary water conveyance and water diversion structures to eliminate runoff into any receiving water body; and (6) any other suitable measures The SWPPP shall be submitted to the Central Valley Regional Water Quality Control Board and to the City for review. A copy of the SWPPP must be kept accessible on the project site at all times.

With implementation of the above mitigation measures (**Appendix A**), erosion from site soils would be minimized and pollutants would be largely captured on the site. Also, the implementation of identified spill prevention and cleanup plans would limit the potential for hazardous material spills to adversely affect storm water quality (refer to mitigation measure **MM 8.1**). Therefore, the project's construction-related water quality impacts would be reduced to a **less than significant** level.

OPERATIONAL WATER QUALITY IMPACTS

The development and/or expansion of residential uses on the proposed project site would alter the types, quantities, and timing of contaminant discharges in stormwater runoff relative to existing conditions. The amount of contaminants discharged in stormwater drainage from development areas varies based on a variety of factors, including the intensity of urban uses such as vehicle traffic, types of activities occurring on-site (e.g., office, commercial, industrial), types of chemicals used on-site (e.g., pesticides, herbicides, cleaning agents, petroleum byproducts), the pollutants on street surfaces, and the amount of rainfall. The future industrial uses on the sites may result in the deposit of various materials on the new pavement and adjacent areas that constitute urban pollution. These materials include heavy metals, engine oil and other automobile wastes (e.g., antifreeze, transmission fluid, rubber, etc.) that can be transported in surface water runoff during storm events. Due to the industrial character of future development associated with the proposed project, it has the potential to contribute additional sources of polluted runoff and to degrade water quality during site operations.

Future development under the proposed project would be subject to the requirements of the NPDES Stormwater Permit No. CA0082597, which requires that the City impose water quality and watershed protection measures for all development projects and

prohibits discharges from causing violations of applicable water quality standards or from resulting in conditions that create a nuisance or water quality impairment in receiving waters. A key component of the NPDES permit is the implementation of the Stormwater Quality Improvement Plan (SQIP) for the City, which includes a new development element requiring stormwater quality treatment and/or best management practices (BMPs) in project design for both construction and operation for new development. As described in the mitigation measures above, future development under the proposed project would be required to prepare a SWPPP and implement BMPs to ensure that long-term water quality is protected.

The implementation of BMPs, consistent with the requirements of the site's NPDES permit and the SWPPP, would ensure that the quality of discharged water from the project sites would not be substantially degraded. With implementation of the City's NPDES permit and the above mitigation measures, the project's operational water quality impacts would be reduced to a **less than significant** level.

b) Less than Significant. The project sites are located within the boundaries of Sacramento County Water Agency (SCWA) service areas Zone 41 and Zone 40. These service areas plan to utilize a combination of groundwater, surface water, and recycled water to meet customer demands. The proposed project is increasing the total number of residential units by 129 single-family units.

In December 2005, the Sacramento County Water Agency adopted the *Zone 41 Urban Water Management Plan* (UWMP). The UWMP was prepared based on land uses contained in the City of Elk Grove's 2003 General Plan. The UWMP also incorporates the *SCWA Zone 40 Water Supply Master Plan* (WSMP) which was also prepared using land uses contained in the Elk Grove 2003 General Plan. The purpose of these documents is to ensure that a sustainable water supply exists to meet the demand planned in the various land use plans within their service areas.

The MMRP for the original 2005 IS/MND (**Appendix A**) has been recorded on the title of the property and is active. Therefore the proposed project includes proactive mitigation measures to address potential hydrology-related impacts that are being followed currently. For instance, per the MMRP, the Fieldstone South project Applicant is required to reserve a minimum 100ft x 100ft water well site located on or adjacent to lot numbers 95 & 96 (see **Figure 3**) and necessary easements to the satisfaction of the Sacramento County Water Agency (SCWA). Acceptance and approval of the well site are subject to meeting Department of Health Services (DHS) setback requirements and obtaining acceptable results from hydrogeologic evaluations (exploratory drilling). If these conditions cannot be satisfied, then an alternate site on the Fieldstone South Subdivision shall be selected by SCWA and similarly evaluated. Prior to final map approval or signing of improvement plans whichever occurs first, the Applicant is required to grant right-of-entry to SCWA to conduct hydrogeologic evaluations. In addition, prior to final map recordation, the property owner shall enter into an agreement with SCWA consistent with Chapter 22.50 of the Elk Grove Municipal Code which states that as a condition of approval of a tentative subdivision map, the Applicant shall reserve sites for SCWA facilities, appropriate in area and location, to the satisfaction of SCWA. Therefore, with the ongoing mitigation of the site per the 2005 MMRP, impacts associated with the groundwater basin would be **less than significant.**

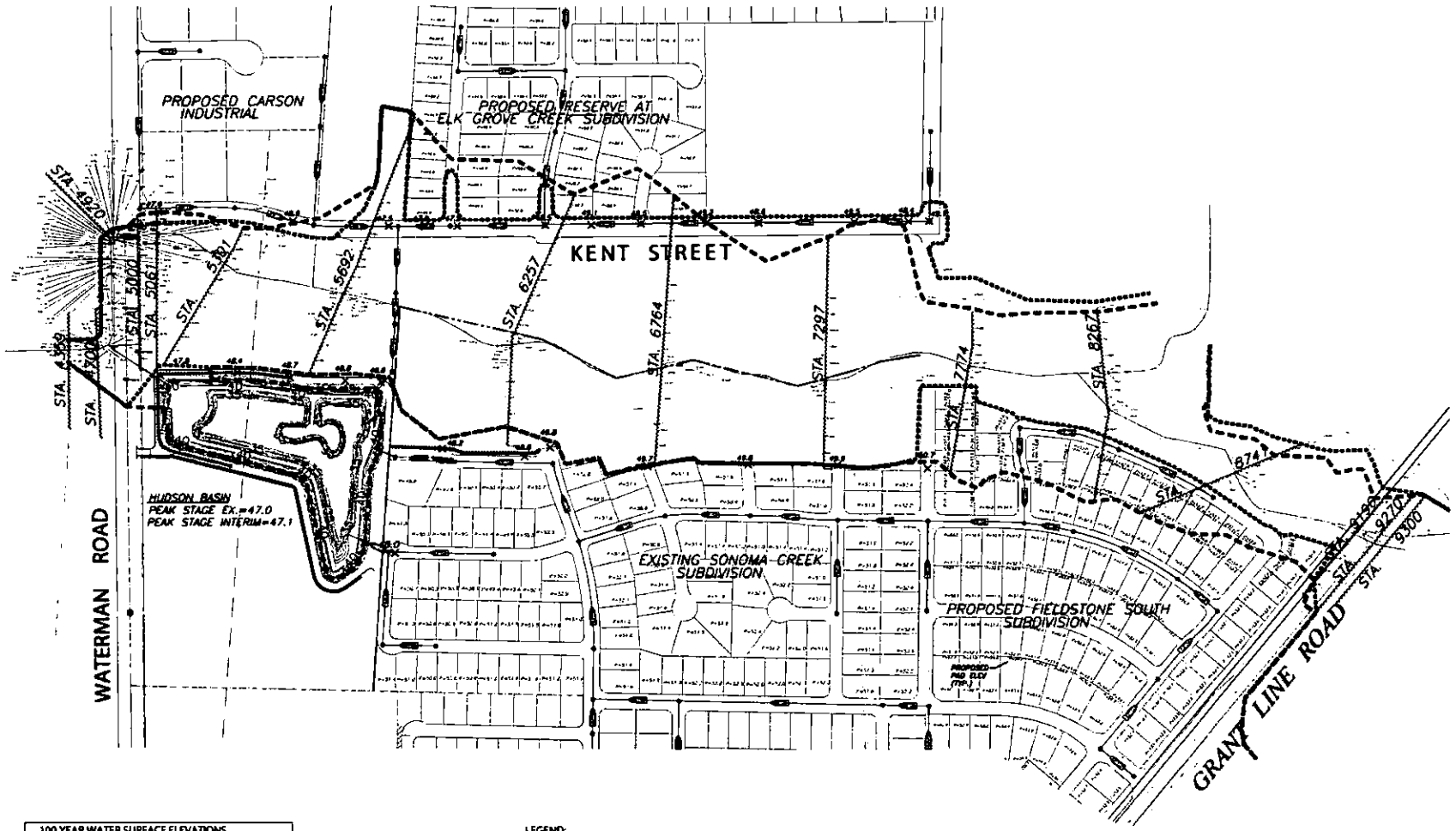
c) – e) Less than Significant. Future development under the proposed project would result in increased impervious surfaces on the project site and would therefore substantially alter

the existing drainage pattern of the sites and increase surface runoff. Increased surface runoff could increase the potential for localized flooding and/or erosion both on- and offsite if allowed to exit the project area unchecked. In addition, runoff water could exceed the capacity of stormwater drainage systems and provide an additional source of polluted runoff.

As discussed under **a)** and **f)** above, the proposed project would be subject to the requirements of the NPDES Stormwater Permit No. CA0082597. The mitigation measures identified in the MMRP for the original 2005 IS/MND (see **a)** and **f)** above) require that the City prepare a SWPPP consistent with the NPDES Permit. The SWPPP must contain BMPs including construction and post-construction erosion and sediment controls. In addition, the project (and the BMPs included in the SWPPP) would be required to comply with the City's Grading and Erosion Control Code (Chapter 16.44 of the City of Elk Grove Municipal Code). This ordinance establishes administrative procedures, standards for review, and implementation and enforcement procedures for controlling erosion, sedimentation, other pollutant runoff, and the disruption of existing drainage and related environmental damage. The ordinance requires that prior to grading activities, a detailed set of plans be developed that include measures to minimize erosion, sediment, and dust created by improvement activities. Compliance with the provisions of the NPDES Permit, BMPs, and the City's Land Grading and Erosion Control Ordinance would reduce the impacts of increased runoff resulting from altering the drainage pattern of the proposed project sites.

In addition, a drainage study for Elk Grove Creek was prepared in May 2007. The primary purpose of the *Drainage Study for Elk Grove Creek (upstream of U.P.R.R. Crossing)* (MacKay & Somps, 2007) was to provide a hydrologic and hydraulic analysis of Elk Grove Creek upstream of the Union Pacific Railroad (UPRR) to demonstrate that the proposed developments consisting of the proposed project (Fieldstone South), the Reserve and the Carson Industrial Park can be developed without causing an adverse flooding impact to proposed or existing development along the north and south of Elk Grove Creek, as well as maintaining or reducing peak 100-year design flows within Elk Grove Creek downstream of Waterman Road. According to the drainage study, there are several possible improvements that would need to be implemented in order to accommodate the proposed project as well as the Reserve and the Carson Industrial Park. These improvements are listed below.

In August 2010, Au Clair Consulting conducted further analysis to verify the findings of the *Drainage Study for Elk Grove Creek (upstream of U.P.R.R. Crossing)* as this was completed in 2007. According to the analysis prepared by Au Clair Consulting, the development flows from Fieldstone South will be lower than the anticipated development flow conditions expected with all the projects in the original Interim study (the Reserve and the Carson Industrial Park). Furthermore, the Fieldstone South project flows will result in an interim floodplain that will be less than the existing floodplain on the downstream properties and the only increase in the floodplain width will occur on the Fieldstone North property as originally modeled in 2007. The Applicant owns both the Fieldstone South and Fieldstone North properties and is proposing to use the Fieldstone North property to accept the incremental encroachment of the interim flood plain. As the development flows will be lower than anticipated, the increase in floodplain width on the Fieldstone North property will be also be lower than originally anticipated (Au Clair, 2010). By using the originally mapped interim condition on Fieldstone North, all the impact from Fieldstone South will be mitigated (Au Clair, 2010).



100 YEAR WATER SURFACE ELEVATIONS					
STATION	FLOW	EXISTING 100YR HGL	FLOW	INTERIM 100YR HGL	
4269	497 cfs	46.3	498 cfs	46.3	
4700	506 cfs	46.9	473 cfs	46.8	
4830	507 cfs	47.1	477 cfs	47.1	
5000	518 cfs	47.3	482 cfs	47.3	
5061	503 cfs	46.8	477 cfs	47.0	
5301	483 cfs	46.1	471 cfs	46.1	
5692	483 cfs	46.3	485 cfs	46.5	
6257	489 cfs	46.3	467 cfs	46.9	
6764	492 cfs	46.3	462 cfs	46.3	
7297	509 cfs	46.7	469 cfs	46.2	
7774	506 cfs	50.2	490 cfs	50.5	
8267	752 cfs	50.6	753 cfs	50.9	
8743	156 cfs	50.7	155 cfs	51.0	
9196	189 cfs	51.3	188 cfs	51.6	
9278	190 cfs	53.0	189 cfs	53.0	
9300	190 cfs	53.0	190 cfs	53.0	

LEGEND:

EXISTING 100-YR FLOOD PLAIN

PROPOSED INTERIM 100-YR FLOOD PLAIN

NOTES:

1. CROSS SECTION ELEVATIONS DETERMINED BY FIELD SURVEY PERFORMED BY MACKAY & SOMPS, JUNE 2003, AND AERIAL TOPO FLOWN SPRING 2006 (STATIONS 4269 TO 7297) AND AERIAL TOPO DATED DECEMBER 2005 (STATIONS 7774 TO 9300).

2. 100-YR WATER SURFACE ELEVATIONS PER UNSTEADY STATE HEC-RAS MODELS PREPARED BY MACKAY & SOMPS DATED 12-27-06 & 1-12-07

3. INTERIM DEVELOPMENT INCLUDES THE FOLLOWING PROJECTS

A) FIELDSTONE SOUTH UNIT 1 AND 2

B) THE RESERVE AT ELK GROVE CREEK (EXCEPT SOUTH OF KENT STREET)

C) CARSON INDUSTRIAL

0 200 200 feet

Source: MacKay & Somps Civil Engineers, Inc.

0 0 0

FEET

N

Figure 5

Existing and Interim Floodplain

PMC

The following mitigations identified in the 2007 drainage study and verified in 2010 are therefore required:

MM 9-1: The project applicant shall:

- Increase the capacity of the existing Hudson Ranch Detention Basin (located to the west of the proposed project just west of the existing Sonoma Creek Subdivision) lowering the basin bottom approximately 7 feet (to elevation 32.0 feet from 39.3 feet).
- Modify the Hudson Basin outlet structure by lowering the outlet weir from elevation 42 to 39.3 feet.
- Add an additional 36-inch outfall pipe from Hudson Basin across Waterman Road.
- Install flap gates at the discharge end of the two 36-inch Hudson Basin outlet pipes.
- Raise the service road at the northwest corner of the Hudson Basin to approximately elevation 48.6 ft.
- Construct a berm to elevation 49.8 between the basin and Rhone River Drive along the south side of the creek.

These improvements must be constructed prior to issuance of the first building permit for the project.

Timing/Implementation: *Prior to issuance of 1st Building Permit*

Monitoring/Enforcement: *City of Elk Grove Planning Department and Public Works-Drainage*

The MMRP for the original 2005 IS/MND which has been recorded on the title of the property and is active. Another mitigation measure associated with drainage impacts resulting from the proposed project includes the stipulation that no Final Map shall be recorded on lots in Phase 2 as depicted on the tentative map of the proposed project, until information is provided to the satisfaction of the Public Works Director demonstrating that this portion of the project can be constructed without restricting or adversely impacting drainage improvements to Elk Grove Creek as intended in the East Elk Grove Specific Plan. This site is located south of Elk Grove Creek. As mandated in the MMRP for the original 2005 IS/MND, all drainage system improvements shall be designed to accommodate runoff from the ultimate development according to the City's storm water Design Standards, and City's Flood Plain Management Ordinance. No adverse or adjacent storm drain system may occur due to this development. Lastly, in addition to these mitigation measures, the Applicant shall submit Flood Elevation Certification for each structure or appropriate documents as determined by the City Public Works Department.

Mitigation measure **MM 9-1** been recently confirmed as adequate flood/drainage impact mitigation (Au Clair, 2010) and ensure the proposed project will participate in its fair share of the Elk Grove Creek design and construction improvements (as described above). Mitigation measure **MM 9-1** along with compliance with the City's NPDES permit and the SWPPP and BMPs, would ensure that stormwater runoff from the project sites

would not contribute to localized flooding/erosion and would not exceed capacity of the storm drain system. Therefore, impacts would be considered **less than significant.**

g) & h) *Less than Significant.* As previously mentioned, the northern section adjacent to Elk Grove Creek is designated as 100-year flood plain. Mitigation measure **MM 9-1** addresses potential flooding impacts. Furthermore, the MMRP for the original 2005 IS/MND which has been recorded on the title of the property and is active. Therefore the proposed project includes proactive mitigation measures to address potential flooding impacts that are being followed currently. For instance, per the MMRP, the Applicant shall submit Flood Elevation Certification for each structure or appropriate documents as determined by the City Public Works Department. A Flood Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP). It is to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances. In addition, according to the drainage study, improvements required to accommodate the proposed project, as well as the Reserve and the Carson Industrial Park include modification of the existing 100-year floodplain by elevating the lots with fill. Modifying the existing 100-year floodplain does not impact developments currently constructed (MacKay & Somps, 2007). As a result, potential flooding impacts associated with the proposed project are **less than significant.**

i) No Impact. The only dam in the vicinity of the project sites is the Folsom Dam. The proposed project sites are located outside the Folsom Dam Failure Flood Area. Therefore, implementation of the project would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of a failure of a levee or dam. **No impact** would occur.

j) No Impact. The proposed project area is not located near any ocean coast or seiche hazard areas and would not involve the development of residential or other sensitive land uses in or near these areas. Therefore, the project would not expose people to potential impacts involving seiche or tsunami. No potential for mudflows is anticipated. Therefore, there is **no impact** associated with the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

EXISTING SETTING

EXISTING LAND USES

The project site is located within the East Elk Grove Specific Plan (EEGSP) area. The EEGSP area consists of residential, commercial, industrial, parks, open space, school and right-of-way land uses. The proposed project is designated for residential uses. The areas surrounding the project site contains undeveloped land zoned for future residential uses within the EEGSP as well as the constructed Sonoma Creek Phase 2 subdivision located to the west. Property to the east and southeast of the project site consists of agricultural uses, as well as a retail nursery located within the jurisdiction of Sacramento County.

The City of Elk Grove General Plan Land Use Element designates land uses within the City. The City of Elk Grove General Plan Land Use Policy Map designates the project area Estate Residential (0.51 – 4.0 residential dwelling units per acre). The project site is zoned RD-4 (detached single family or 2-family residential units up to four dwelling units per acre) and the EEGSP designates the project site as RD 2-4 (2-4 residential dwelling units per acre).

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- Local Laws, Regulations, and Policies –
  - City of Elk Grove General Plan
  - Sacramento County General Plan

PROJECT IMPACTS AND MITIGATION MEASURES

a) No Impact. The project site is located within the EEGSP area. The EEGSP area consists of residential, commercial, industrial, parks, open space, school and right-of-way land uses.

The plan area is designated for residential uses. Therefore the proposed project would not divide an established community and **no impact** would occur

b) Less than Significant. The Fieldstone South project is a 28.1 acre component of the already approved 1,440 +/- acre East Elk Grove Specific Plan, approved in February 1996. The proposed project will increase the approved density on the project to 129 single-family residential units. The proposed increase in units will still be consistent with land uses envisioned by the EEGSP, which anticipated future residential, commercial and industrial land uses and associated infrastructure to develop within the EEGSP area. Guidelines and standards for the EEGSP were thus drafted to address all such future growth within the Plan Area. In addition, the EEGSP was included in the Elk Grove General Plan (2003) and the environmental impacts of urbanization of the EEGSP area were programmatically analyzed in the *Elk Grove General Plan Volume 1: Draft Environmental Impact Report SCH # 2002062082* (August, 2003). Increasing the number of residential units on the project site while remaining within the original project site footprint will not conflict with the EEGSP nor with the Land Use Element of the Elk Grove General Plan.

As previously stated the applicant is proposing the placement of fill to elevate lots in that area above the 100-year floodplain elevation (see **Figure 5**). General Plan Policies CAQ-20, SA-15 and SA-16 are aimed at discouraging development of land in the FEMA 100-year floodplain map and the placement of fill in the 100-year floodplain *to create* buildable lots unless specifically approved by the City. As shown in the August 2010 analysis by Au Clair Consulting (See Section 9 of this Initial Study), the proposed placement of fill in the FEMA 100-year floodplain area will displace flood waters onto the Fieldstone North property which is owned by the Applicant. This effect is accepted by the Applicant. No other effects of the proposed fill have been identified. Therefore, given that project implementation is contingent upon City approval, this impact is considered **less than significant.**

c) No Impact. The City of Elk Grove does not have an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan. Therefore, **no impact** would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
11. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

EXISTING SETTING

Mineral resources in Sacramento County include sand, gravel, clay, gold, silver, peat, topsoil, lignite, natural gas and petroleum. Potential sources of quality aggregate exist within Sacramento County. These potential sources lie within areas that are classified by the Surface Mining and Reclamation Act of 1975 (SMARA) Special Report 156 as MRZ-3, a classification that includes areas "containing aggregate deposits, the significance of which cannot be evaluated from available data," and include igneous rocks of volcanic origin and metamorphic rocks (Sacramento County, 2007; City of Elk Grove, 2003a). Using data contained in the SMARA Special Report 156, the City of Elk Grove was classified for its mineral resource potential and is covered by the MRZ-3 classification. However, no known significant mineral resource have been identified in the City of Elk Grove.

REGULATORY FRAMEWORK

The following state regulations, plans, programs, and guidelines are applicable to the proposed project:

- State Laws and Regulations
  - State Mining and Reclamation Act

PROJECT IMPACTS AND MITIGATION MEASURES

a) & b) As no known significant mineral resource have been identified in the City of Elk Grove, implementation of the proposed project is not expected to result in the loss of availability of a known mineral resource, or a resource delineated on a local general plan, specific plan or other land use plan. **No impact** would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. NOISE. Would the project:				
a) The exposure of persons to, or the generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) The exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

EXISTING SETTING

The project site is located across from agricultural lands and a plant nursery to the east. The closest residential subdivision is the Sonoma Creek subdivision located at the western boundary of the proposed project.

The ambient noise environment in the vicinity of the project site is dominated by traffic noise from Grant Line Road. The ambient noise environment for the site is also affected by the Elk Grove (Sunset Skyranch) Airport, which is located near the intersection of Grant Line and Bradshaw roads and the Union Pacific rail line located approximately one mile to the southwest. The agricultural operations on the property to the east also affect the site's ambient noise environment.

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- State Laws and Regulations
  - Title 24 of the California Building Code
  - State of California General Plan Guidelines

- Local Laws and Regulations
  - Noise Element of the City of Elk Grove General Plan

PROJECT IMPACTS AND MITIGATION MEASURES

a) & c) Less Than Significant. Potential sources of noise for the project include traffic along Grant Line Road which is currently a two-lane east/west street immediately to southeast of the project site. A small portion of the backyards of some of the proposed lots are located within the 60 dB Noise Level Contour for Grant Line Road (Elk Grove, 2003a). Maximum allowable noise exposure for residential uses is 60 Ldn/CNEL, db. The EEGSP EIR analyzed the potential traffic noise impacts to residential project along Grant Line Road. Table 20 of the noise section indicates that a barrier height of 11 feet is necessary in order to mitigate noise levels to 60 Ldn, dB.

The MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active (**Appendix A**). The proposed project already includes a mitigation measure to address potential noise-related impacts. Prior to the issuance of any building permits, the Applicant shall construct a noise barrier, which is required to meet the thresholds for acceptable noise levels prior to residential occupancy. A combination of berm and wall is required and the barrier shall be constructed to be 11-foot high noise barrier at the rear property lines of lots 28-45 to reduce the traffic noise impacts of Grant Line Road. The applicant may chose to conduct a separate noise analysis to determine if a lower wall height is acceptable. The scope for any such noise analysis shall be prepared by the City Planning Department.

Implementation of the mitigation measures described above would lessen potential noise level impacts to a **less than significant** level.

b) Less than Significant. Future construction activities under the proposed project would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. **Table 5** displays vibration levels for typical construction equipment.

TABLE 5
TYPICAL CONSTRUCTION-EQUIPMENT VIBRATION LEVELS

Equipment	PPV at 25 feet (in/sec)[1]	Approximate Lv at 25 feet[2]
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

[1] *Where PPV is the peak particle velocity*

[2] *Where L_v is the velocity level in decibels (VdB) referenced to 1 i.t inch/second and based on the root mean square (RMS) velocity amplitude.*

Source: Federal Transit Administration 2006.

As discussed above, on-site construction equipment could include bulldozers and trucks. According to the Federal Transit Administration (FTA), vibration levels associated with the

use of a large bulldozer is 0.089 inches per second (in/sec) peak particle velocity (PPV) and 87 vibration decibels [VdB referenced to 1 microinch per second (gin/sec) and based on the RMS velocity amplitude] at 25 feet, as shown in **Table 5**. Using FTA recommended procedure for applying a propagation adjustment to these reference levels, predicted worst-case vibration levels of approximately 0.03 in/sec PPV and 81 VdB at approximately 50 feet from a project site's boundary could occur from use of a large bulldozer. These vibration levels would not exceed Caltrans' recommended standard of 0.2 in/sec PPV (Caltrans, 2002) with respect to the prevention of structural damage for normal buildings. Vibration levels at further distances would be substantially diminished.

Construction of the proposed project could expose neighboring residents to the west and southwest to noise levels in excess of 60 Ldn/CNEL, dB in outdoor activity areas (the maximum allowable noise exposure level for transportation noise sources) (Elk Grove, 2003a). Maximum noise level (db at 50 feet) for typical construction equipment ranges from 85 dB for a backhoe and pneumatic tools to 87 dB for bulldozers, and 88 dB for heavy trucks. As a result, residents surrounding the project site could be exposed to noise levels in excess of accepted City standards. Neighbors may also experience groundbourne vibration associated with site preparation. However, the duration would be short and end once the site has been graded and any necessary infrastructure installed. Furthermore, the evening and nighttime restrictions imposed by the City Noise Control Ordinance (Chapter 6.68 of the City Code) would mitigate any effects to **less than significant**.

d) ***Less than Significant.*** Project construction would result in a temporary increase in ambient noise levels in the vicinity of the project site. Construction noise typically occurs intermittently and varies depending upon the nature or phase (e.g., demolition/land clearing, grading and excavation, erection) of construction. Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges were found to be similar for all construction phases, the grading phase tends to involve the most equipment resulting in slightly higher average-hourly noise levels. Typical noise levels for individual pieces of construction equipment are summarized in **Table 6**. As depicted, individual equipment noise levels typically range from approximately 75 to 91 dBA at 50 feet, without noise control. With noise control, individual equipment noise levels typically range from approximately 75 to 80 dBA at 50 feet. Typical operating cycles may involve two minutes of full power, followed by three or four minutes at lower settings. Depending on the activities performed and equipment usage requirements, combined average-hourly noise levels at construction sites typically range from approximately 65 to 89 dBA L_{eq} at 50 feet (EPA, 1971).

TABLE 6
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Type of Equipment	Noise Level in dBA at 50 feet	
	Without Feasible Noise Control	With Feasible Noise Control [1]
Bulldozer or Tractor	80	75
Excavator	88	80
Compactor	82	75
Front-end Loader	79	75
Backhoe	85	75

Type of Equipment	Noise Level in dBA at 50 feet	
	Without Feasible Noise Control	With Feasible Noise Control [1]
Grader	85	75
Crane	83	75
Generator	78	75
Truck	91	75

1. Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds.

Sources: U.S. Environmental Protection Agency 1971; Federal Transit Administration 2006.

The City's General Plan Noise Element does not identify a short-term, construction-noise-level threshold. The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are inevitable from time to time in urban environments. Most residents of urban areas recognize this reality and expect to hear construction activities on occasion.

When noise levels generated by construction operations are being evaluated, activities occurring during the more noise-sensitive nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.) are the primary concern. Because exterior ambient noise levels typically decrease during the nighttime hours as community activities (e.g., commercial activities, vehicle traffic) decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of nearby residential dwellings. The impact would be considered **less than significant** based on the temporary nature of these activities, limits on the duration of noise and the evening and nighttime restrictions imposed by the City Noise Control Ordinance (Chapter 23.60 of the Municipal Code).

e) – f) Less than Significant. The Sunset Skyranch Airport, a privately owned, public use facility for light airplanes is located approximately 0.5 miles east of the site. The land uses designated in the East Elk Grove Specific Plan are consistent with the Sunset Skyranch CLUP (Elk Grove, 2003a) and the project site is not located within the designated Clear Zone or Approach – Departure safety zone. The CLUP indicates the project site is located within Safety Area 3 – Overflight Zone (Safety Area 3), which covers the widest area for flight safety. The CLUP indicates that single-family detached homes, duplex and multiple-family dwellings are compatible with this area (SACOG, 2000).

The 60 CNEL noise contour for the Sunset Skyranch Airport is considered the airport's noise impact boundary. The project site falls over a mile outside of this contour. Therefore, the proposed project would not be adversely affected by excessive noise from the airport and this impact is **less than significant**[1].

[1] It should be noted that in 2009 Sacramento County initiated the process to close the Sunset Skyranch Airport after the Board of Supervisors denied the renewal of the airport's use permit.

	Potentially Significant Impact	Less Than Significant with the Incorporated Mitigation	Less Than Significant Impact	No Impact
13. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

EXISTING SETTING

The City of Elk Grove's population in the year 2000 was 72,665 persons, compared to Sacramento's population of 1,223,499 (U.S. Census Bureau, 2000). Prior to the City's incorporation in 2000, the population of Elk Grove increased at an average rate of 7 percent annually, or a 70.5 percent increase since 1990 (Elk Grove, 2003a). Sacramento County experienced a much slower rate of growth during that time period, with population increasing only 17.5 percent from 1,041,219 in 1990 to 1,223,499 in 2000 (U.S. Census Bureau 2000, 1990). Elk Grove experienced rapid population growth after its incorporation in 2000.

Table 7 portrays both past and projected population growth in Elk Grove through the year 2035. Population growth in Elk Grove is anticipated to account for nearly 20 percent of the County's total growth between the years 2005 and 2010 and 23.4 percent of the County's total growth between the years 2010 and 2020. SACOG projects that the population of Sacramento County will increase to approximately 1,762,523 by the year 2027 (SACOG, 2006).

TABLE 7
CITY OF ELK GROVE POPULATION TRENDS

Year	Population	Change	Average Annual % Change
1990[1]	42,626	N/A	N/A
2000[1]	72,665	30,039	70.5
2005[2]	121,470	48,805	13.4
2007[2]	136,318	14,848	6.1
2015*[3]	164,403	28,085	2.5
2020*[3]	181,273	16,870	2.04
2035*[4]	183,070	33,640	1.5

Source:

[1] *U.S. Census Bureau. 1990. 1990 Census.*

[2] *State of California, Department of Finance. May 2007. E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2007, with 2000 Benchmark. Sacramento, California.*

[3] *SACOG Projections. March 15, 2001. www.sacog.org/demographics/projections/cities/sac.pdf. Note:* *The annexation of Laguna West in 2001 added an additional 14,973 persons to the City's population. Those persons have been added to the above Elk Grove totals (www.elkgrovecity.org, 2007).

[4] *SACOG Travel Model Run January 2007. SACOG DRAFT 2035 Projections for Households and Population by Housing Type and Employment by Sector. http://www.sacog.org/demographics/projections/files/2035_projections_010507.xls.*

* *SACOG Projections for 2035 based on Laguna and Elk Grove Regional Analysis Districts (RADs). A RAD is an area defined by SACOG. RADs may have the same name as community planning areas or city names, but the boundaries are not the same.*

In May 2007, the California Department of Finance released housing unit estimates for 2001 through 2007, which are shown in **Table 8** for the City of Elk Grove. As shown by the data, the total number of housing units increased an average of 11.17 percent each year and the majority of housing units built were single-family detached units and multi-family units with 5 or more units per structure.

TABLE 8
CITY OF ELK GROVE HOUSING UNITS ESTIMATES 2001-2007

Year	Total Housing Units	Single-Family		Multi-Family		
		Detached	Attached	2-4 Units	5+ Units	Mobile Homes
2001	25,057	22,196	919	525	1,144	273
2002	26,645	23,784	919	525	1,144	273
2003	28,323	25,462	919	525	1,144	273
2004	36,812	33,903	919	525	1,192	273
2005	40,932	37,687	919	525	1,528	273
2006	44,518	40,958	919	525	1,843	273
2007	46,495	42,281	1,327	525	2,089	273

Source: California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2007, with 2000 Benchmark. Sacramento, California, May 2007.

REGULATORY FRAMEWORK

There are no state and local regulations, plans, programs, and guidelines associated with population or housing that are applicable to the proposed project.

PROJECT IMPACTS AND MITIGATION MEASURES

a) **Less than Significant.** The proposed project will increase the total number of residential units included in the EEGSP to 129 single family units. Using the City's average of 3.07 persons per household, developing residential units on the project site is anticipated to result in a population increase of 396 persons. However, the proposed increase in units will still be consistent with land uses and population growth envisioned by the EEGSP, which anticipated future residential, commercial and industrial land uses and over 4,300 housing units within the EEGSP area. Guidelines and standards for the EEGSP were thus drafted to address all such future growth within the EEGSP area. The EEGSP was included in the Elk Grove General Plan (2003) and the environmental impacts of population growth within the EEGSP area were programmatically analyzed in the *Elk Grove General Plan Volume 1: Draft Environmental Impact Report SCH # 2002062082* (August, 2003).

Therefore, as the proposed project was already accounted for under the EEGSP growth projections. This impact would be **less than significant.**

b) & c) No Impact. The project site does not currently contain any residential units. The Fieldstone South project does not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. Therefore there is **no impact.**

Issues	Potentially Significant Impact	Less Than Significant with the Incorporated Mitigation	Less Than Significant Impact	No Impact
14. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

EXISTING SETTING

FIRE PROTECTION

In November of 2006, a merger between the Elk Grove Community Services District and the Galt Fire Protection District resulted in the creation of the Cosumnes Community Services District (CCSD). This change expanded the delivery of community services district fire protection and emergency medical services to the cities of Elk Grove, Galt, and unincorporated south Sacramento County areas—approximately 157 square miles. The CCSD provides emergency services such as fire suppression, emergency medical services, technical rescue, arson, and explosion investigations. CCSD currently has eight fully staffed stations, of which six are located in Elk Grove (EDAW, 2009, p. 4.5-4):

- Fire Station 45 is located at 229 5th Street in central Galt.
- Fire Station 46 is located at 1050 Walnut Avenue in northeast Galt.
- Fire Station 71 is located at 8760 Elk Grove Boulevard. This station maintains a minimum of five personnel, 24 hours a day; one four person engine, one two person medic, and one battalion chief.
- Fire Station 72, located at 10035 Atkins Drive in the East Franklin Specific Plan area. Currently, staff at this station includes five personnel, 24 hours a day. Primary equipment at this station includes one three person engine and one two person medic.
- Fire Station 73 is located at 9607 Bond Road. This station provides fire, emergency medical and ambulance transport services. This station also maintains a minimum of five personnel, 24 hours a day. Primary equipment at this station includes one three person engine and one two person medic.
- Fire Station 74 is located at 6501 Laguna Park Drive. This station provides fire, rescue, emergency medical, and ambulance transport services. Minimum staffing at this station includes six personnel, 24 hours a day. Primary equipment at this station includes one four-person truck, one three-person engine and one two person medic.

- Fire Station 75 is located at 2300 Maritime Drive. This station provides fire and emergency medical services. Minimum staff at this station includes one three person engine.

- Fire Station 76 is located at 8545 Sheldon Road. This station provides fire and emergency medical service. Staff at this station includes three personnel, 24 hours a day. Primary equipment located at this station includes one three person engine.

The nearest fire station to the project area is Fire Station 71 approximately 2.5 street miles to the northwest. The CCSD Fire Department is planning to construct Fire Station 70 to maintain service levels within the district. This station is currently planned to be located on Bruceville Road south of Kammerer Road. Fire Station 70 would be located approximately 5.5 street miles to the southwest of the potential project site.

The CCSD is staffed with more than 150 sworn personnel and eight engine companies, one ladder truck company, six ambulances, and a command vehicle each day on a 24-hour basis. Additionally, there are eight grass engines and other specialty apparatus, including one heavy foam unit, a heavy rescue engine, a technical rescue trailer, a mass decontamination trailer, a mass casualty incident trailer, and a swift water rescue boat, also staffed using these personnel as seasons and emergency circumstances dictate. The CCSD provides Advanced Life Support (ALS) and Basic Life Support (BLS) and ambulance transport services in the CCSD service boundaries, as well as the nearby communities of Wilton, Herald, and Courtland. All medical units are staffed with one paramedic and an emergency medical technician (EMT). The CCSD Fire Department operates three full-time medic units from Fire Stations 73, 74, and 75 in central Elk Grove, Laguna, and east Elk Grove, respectively. An additional medic unit is stationed at Fire Station 72 in Franklin and staffed by the station's engine company when needed. In addition to ambulance units, the EMS Division introduced a medic bike team in 1998 that is deployed at large-scale community events to provide rapid medical responses in heavily congested areas.

POLICE PROTECTION

The City of Elk Grove Police Department (EGPD) was formed in conjunction with the City's incorporation in July 2000 and operated as a full service law enforcement agency through Sacramento County's Sheriff's Department. The City created its independent police department on October 28, 2006. The service boundaries of the EGPD are contiguous with the City limits. The EGPD provides all law enforcement services including responding to all crime-related events, handling all traffic-related issues, and providing community services to the citizens of Elk Grove. All traffic accidents occurring on freeways that pass through Elk Grove (SR 99 and I-5) are handled by the California Highway Patrol (CHP) (EDAW, 2009, p. 4.5-5).

The EGPD currently operates out of three facilities. The main building is the 12,500-square-foot facility located in the City Hall complex at 8380 Laguna Palms Way, approximately five street miles northwest of the project site. This facility accommodates the administrative functions of the Department including administration; detectives; and K-9 divisions. Another 31,000-square-foot facility is located at 8400 Laguna Palms Way, approximately five street miles from the project site. This facility houses records, property and evidence, communications, professional standards, traffic, information technology, and fleet. A total of 112 employees are staffed in this facility. In addition, an approximately 8,069-square-foot facility is located at the Corporation Yard Site. The facility serves as a staging area for the EGPD's fleet and provides shower and equipment storage for sworn personnel. This facility includes 103 parking spaces for patrol vehicles, with no regular on-site staff assigned to this building.

The EGPD provides the full range of public safety services for the City. Patrol personnel handle calls for service from residents, businesses and visitors. The EGPD has a total staff of 191 including 125 sworn police officers, and 66 non-sworn management, administrative and technical positions. The Elk Grove Communications Center answers an average of 186,000 emergency and non-emergency calls annually. There are no adopted standards relative to sworn police officers per population amounts; however, the current average response time city-wide is 14 minutes. The department strives to maintain a 1 per 1,000 ratio of officers to residents and the current staffing ratio is 0.92 to 1,000 (EDAW, 2009, p. 4.5-6).

SCHOOLS

The City of Elk Grove is located within the service area of the Elk Grove Unified School District (EGUSD). The EGUSD covers 320 square miles and is the fifth largest school district in California and the largest in Northern California (EGUSD, 2010). The EGUSD boundaries encompass the entire City of Elk Grove, portions of the cities of Sacramento and Rancho Cordova, and most of southern Sacramento County. Currently, the district provides education to over 62,000 students and operates 64 schools: 40 elementary schools, 9 middle schools, 9 high schools, 4 alternative education schools, 1 adult school, and 1 charter school (EGUSD, 2010).

PARKS

The CCSD provides parks services to the Elk Grove community. The department plans and designs new parks; owns, operates, and maintains parks and community centers; manages rentals of community centers, picnic sites, and sports fields; and offers recreation programs. Currently, the CCSD manages 80 parks, 18 miles of off-street trails, two community centers, four recreation centers, and two aquatics complexes (CCSD, 2010).

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project:

- State Laws and Regulations
  - Uniform Fire Code
  - California Health and Safety Code
- Local Laws, Regulations, and Policies
  - Fire Codes and Guidelines

PROJECT IMPACTS AND MITIGATION MEASURES

a) **Less than Significant.** The project site is located in the Cosumnes Community Services District service area. The installation of on-site or off-site fire protection equipment including fire hydrants and water mains shall meet the standards of the Cosumnes Community Services District and the water purveyor having jurisdiction. In addition, all future facilities would be required to comply with State regulatory requirements as specified in the California Code of Regulations (CCR), as well as the CCSD Fire Department requirements. Increased demands for fire service are funded almost entirely

through property taxes. The proposed project would increase property taxes and thereby the amount of funding available for fire services.

The nearest fire station to the project sites is Fire Station 71, located approximately 2.5 street miles to the northwest. In addition, the CCSD Fire Department is planning to construct Fire Station 70 on Bruceville Road south of Kammerer Road in order to maintain service levels in the local area. Because the proposed project would be located near existing and planned fire stations, and would be consistent with existing and planned land uses in the area, the project's fire protection and emergency medical service impacts would be considered **less than significant**.

b) **Less than Significant**. The proposed project would result in an increase in population which would cause an associated increase in demand for police protection services. The project would be required to pay development impact fees and annex into the appropriate Community Facilities District (CFD) for police service. Fee programs are regularly evaluated and updated, consistent with the Elk Grove General Plan Policy PF-21, to ensure that adequate service levels are maintained. Payment of fees would mitigate the project's contribution to any increase in demand for law enforcement services and facilities. Therefore, impacts to police protection would be **less than significant**.

c) **Less than Significant**. According to the Facilities and Planning Manager of the EGUSD, the District is currently impacted, overcrowded and experiencing a high rate of growth. The District does not have the financial capability to purchase school sites nor construct and furnish needed school facilities created by this and or other development projects. In addition, State funding is unpredictable and inadequate and the developer fees and Mello-Roos taxes collected by the district are not sufficient to satisfy the need (City of Elk Grove, 2005).

According to the US Census Bureau, the City of Elk Grove consists of 27.3 percent people under the age of 18. Based on the Population and Housing section of this document, the development of 129 residential units on the project site is anticipated to result in a population increase of 396 persons, which would increase the number of students to be absorbed by the EGUSD. Due to the current overcrowded state of EGUSD schools, EGUSD may not be able to accommodate this increase in students under current conditions. However, the proposed project alone would not trigger the need for additional school facilities and exceeding school capacity is not considered to cause a physical impact under CEQA. California Government Code Section 65995(h) states that "the payment or satisfaction of a fee, charge or other requirement levied or imposed...[is] deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities." The proposed project would be subject to the EGUSD residential fee in place at the time an application is submitted for a building permit and under CEQA, payment of EGUSD residential development fees is considered to mitigate the need for school facilities generated by project implementation. Therefore, anticipated impacts to schools would be considered **less than significant**.

d) ***Less than Significant.*** The reader is referred to discussion and analysis of parks under impact discussions 15a) and 15b).

e) ***Less than Significant.*** The development of 129 residential units on the project site is anticipated to result in a population increase of 396 persons. This increase in population would cause an associated increase in demand for library services. Current library

services that would serve the project site include the Elk Grove Public Library, the Sacramento Public Library Elk Grove Branch, and the Franklin Community Library. According the EEGSP, a combined regional and community library facility network is planned to serve the EEGSP area. As the proposed increase in units would still be consistent with the land uses and population growth envisioned in the EEGSP, impacts to library services are considered **less than significant**.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the Construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

EXISTING SETTING

The Cosumnes Community Services District provides recreation services to the Elk Grove community. The District offers recreation programs for all ages including special events, preschools, summer camps, teen programs, special interest classes, before- and after-school recreation, non-traditional sports, therapeutic recreation, youth and adult sports, and aquatic programming (CCSD, 2010).

PROJECT IMPACTS AND MITIGATION MEASURES

a – b) Less than Significant. The City requires the dedication of land or in-lieu fees equivalent to 5.0 acres per 1,000 people. As previously stated the MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. The proposed project already includes mitigation measures to address potential impacts. Prior to the final map, the project area shall form or annex into a Mello-Roos CFD, assessment district, other financing district, or will provide some other funding mechanism, which is acceptable to the Finance Director of the City to fund the project's fair share of landscape maintenance costs which may include, but not be limited to, roadway corridors, interchanges, medians, drainage corridors, trails, open space, and parks, and maintenance costs of other community facilities. The project would increase the use of local neighborhood and regional parks and other recreational facilities through the addition of 396 persons to the area. The project would not trigger the need for new park areas as it is below the threshold of 5.0 acres of new park space per 1,000 persons. However, the project would contribute its fair share in the form of in-lieu fees to the satisfaction of the Cosumnes Community Services District. Therefore, impacts to recreation are considered **less than significant.**

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

EXISTING SETTING

ROADWAY SYSTEM

The following describes the freeway facilities and local roadways that serve the project site:

State Route 99 (SR 99) is a north-south freeway with interchanges at Elk Grove Boulevard and Grant Line Road. It consists of two lanes in each direction from south of Grant Line Road to just south of Elk Grove Boulevard, where a High Occupancy Vehicle (HOV) lane is added in each direction.

Waterman Road is a north-south two-lane roadway that extends from Grant Line Road to north of Calvine Road.

Grant Line Road is a major east-west roadway that extends from SR 99 to White Rock Road in unincorporated Sacramento County. Grant Line Road varies from two to six lanes.

REGULATORY FRAMEWORK

The following local regulations, plans, programs, and guidelines are applicable to the proposed project:

- Local Laws, Regulations, and Policies
  - City of Elk Grove Transportation Improvement Plan

PROJECT IMPACTS AND MITIGATION MEASURES

a), b) & f) **Less than Significant.** The EEGSP states that the urbanization of policy area will significantly increase traffic. This increase in traffic would be introduced on to a road system that is partially rural in character in the vicinity of the site but which has become heavily urbanized and utilized near new residential developments. The EEGSP EIR concluded that many planned road improvements would mitigate for most of the impacts of the cumulative plus project (EEGSP) scenario. The Transportation and Circulation Section of the EEGSP anticipates substantial traffic generation upon ultimate development of the identified Specific Plan area. Fieldstone South project is consistent with the land uses in the EEGSP and the trips generated by this project are included in the traffic and circulation analysis presented in the EEGSP, as verified by the Development Services-Public Works Department.

The MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. The proposed project already includes mitigation measures to address potential impacts. As stated in the MMRP for the original 2005 IS/MND, the Applicant shall dedicate and improve the western half of Grant Line Road 56 feet from the approved centerline. Improvements will be based on 130 feet equivalent special thoroughfare and designed and constructed in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of the Public Works Department. Improvements for this section shall be 2 lanes in each direction with a striped median. These improvements shall be coordinated with the City's Grant Line Road Widening Project. Upon approval of the Applicant and the Public Works Department, a payment in-lieu of construction may be provided to the City for the estimated cost of these required improvements, including all preliminary engineering costs as defined in the City's Capital Improvement Program. The in-lieu payment shall be made prior to the approval of the improvement plans or final map, whichever occurs first.

Furthermore, the MMRP for the original 2005 IS/MND states that the Applicant shall dedicate and improve a southbound right turn pocket on Grant Line Road into Cote D'or Drive. The right-turn pocket shall be 11 feet wide, 300 feet in length with a 90 feet bay taper. The improvement will be based on 130 feet equivalent special thoroughfare in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of the Public Works Department. The Applicant shall also dedicate and improve Pressac Drive based on 50 feet modified collector in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of the Public Works Department. The 4 foot sidewalk will be separated from the street with 6 feet of landscaping. All streets improvement will be constructed prior to the issuance of a building permit. This impact is **less than significant**.

c) **No Impact.** As previously discussed, there are no public airports in the City of Elk Grove and the only private airport in the vicinity of the project sites is the Sunset Skyranch

Airport. The project proposes single-family residential structures that would not interfere with air traffic patterns. Therefore, **no impact** would occur.

d) No Impact. The project has been designed in accordance to City road and improvement standards and the street sections approved in the EEGSP area. Therefore, there are no increases in hazards that can be attributed to transportation design features and the project would have **no impact** associated with hazards due to roadway design features.

e) No Impact. As described under d) above, the project has been designed in accordance to City road and improvement standards. Therefore the project would provide adequate emergency access and **no impact** would occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

EXISTING SETTING

WATER SUPPLY

The project site is located within the boundaries of Sacramento County Water Agency (SCWA) service areas Zone 41 and Zone 40 (Zone 41 includes all of Zone 40). Zone 40 generates revenue for its capital program through development fees and from special development capital fees collected bi-monthly from Zone 41 retail water service customers within Zone 40 and wholesale water service customers in the Elk Grove Water Service area. In April 1999, SCWA expanded Zone 40 boundaries and scope to include large areas in the southern part of Sacramento County and to include the use of recycled water in conjunction with groundwater and surface water. Upon completion of construction of Zone 40 water facilities, the facilities are granted over to Zone 41 for long-term operations and maintenance and eventually replacement as facilities become older (SCWA, 2005b). As of late 2004, Zone 41 facilities included a transmission and distribution system, 65 groundwater production facilities, and 6 million gallons per day (mgd) (expandable to 11 mgd) of non-dedicated surface water capacity from the Sacrament River Water Treatment Plant (SRWTP) (SCWA, 2005b). The SCWA WSMP, along with its companion document, the *Zone 40 Water System Infrastructure Plan* (WSIP) (2006) identify both current and

proposed water treatment plants, storage facilities, and distribution pipelines needed to serve the Zone 40 area through the year 2030 (SCWA, 2005a)(SCWA, 2006).

WASTEWATER COLLECTION AND TREATMENT

Sacramento Regional County Sanitation District

Wastewater treatment for the project area is provided by the Sacramento Regional County Sanitation District (SRCSD). SRCSD owns and operates the regional wastewater conveyance system and the Sacramento Regional Wastewater Treatment Plant (SRWTP), located at 8521 Laguna Station Road. SRCSD's contributing agencies – the Sacramento Area Sewer District (SASD) and the cities of Folsom, West Sacramento, and Sacramento – each collect wastewater, while SRCSD is responsible for major conveyance, wastewater treatment, and wastewater disposal. On an average day, 165 million gallons of wastewater are transported through more than 100 miles of SRCSD's interceptor pipe to the SRWTP, which is permitted to treat 181 million gallons per day (mgd) average dry weather flow. At the SRWTP, the wastewater undergoes a secondary treatment process, after which it is safely disposed of into the Sacramento River.

The *Sacramento Regional Wastewater Treatment Plant 2020 Master Plan* (2020 MP) for the SRWTP provides a phased program of recommended wastewater treatment facilities and management programs to accommodate planned growth and to meet existing and anticipated regulatory requirements in the SRCSD service area through the year 2020. The SRWTP 2020 MP uses Sacramento Area Council of Governments (SACOG) population projections multiplied by per capita flow and load values to determine future facilities needs (SRCSD, 2008, p. 14). The current SRWTP capacity of 185 mgd falls short of the projected 218 mgd average dry weather flow in 2020. Therefore, the SRWTP has been master planned to accommodate 350 mgd average dry weather flow (SRCSD, 2008, p. 15). In addition, the SRCSD has prepared a long-range master plan for the large-diameter interceptors that transport wastewater to the SRWTP. The *Regional Interceptor Master Plan 2000* includes interceptor upgrades/expansions to accommodate anticipated growth through 2035 (SRCSD, 2008, p. 5).

Sacramento Area Sewer District

The Sacramento Area Sewer District (SASD), formerly known as County Sanitation District-1, provides wastewater collection services in the urbanized unincorporated area of Sacramento County, in the cities of Citrus Heights, Elk Grove, and Rancho Cordova, and in a portion of the cities of Sacramento and Folsom. SASD owns, operates and maintains a network of 4,200 miles of main line and lower lateral pipes within a 268 square-mile area (SASD, 2010). The collection system pipelines are categorized and based on size, function and hydraulic capacity. Trunk sewers are pipes that function as conveyance facilities to transport the collected wastewater flows to the SRCSD interceptor system. The collection system within the project area includes trunks, which are designed to carry flows from 1 to 10 mgd, and laterals, which are designed to carry flows of less than 1 mgd. The existing Elk Grove trunk line extends southeast from the SRWTP influent diversion structure to Laguna Boulevard, then parallel to SR 99 along E. Stockton Boulevard extending close to the southern City boundary.

SOLID WASTE

Solid waste services in the City of Elk Grove are provided by Allied Waste Services. Commercial waste in the City of Elk Grove, which includes waste generated by multi-family residential developments, is an "open market", meaning that commercial and multi-family waste in the City is hauled by any permitted hauler selected by the development and is hauled to a variety

of permitted landfills chosen by the hauler. Solid waste generated in Elk Grove is taken to a variety of landfills. **Table 9** shows landfills used by the City of Elk Grove and the permitted and remaining capacities of those landfills. As shown, the majority of the landfills serving Elk Grove waste haulers have over 70 percent remaining capacity (CalRecycle, 2010).

TABLE 9
DISPOSAL FACILITIES USED BY ELK GROVE AND THEIR CAPACITIES 2005

Facility	Total Estimated Permitted Capacity (in cubic yards)	Total Estimated Capacity Used		Remaining Estimated Capacity	
		Cubic Yards	Percentage	Cubic Yards	Percentage
Altamont Landfill & Resource Recovery (01-AA-0009)	62,000,000	16,280,000	26.3%	45,720,000	73.7%
Hay Road Landfill, Inc. (B + J Landfill) (48-AA-0002)	28,240,000	5,763,569	20.4%	22,476,431	79.6%
Bakersfield Metropolitan (Bena) SLF (15-AA-0273)	53,000,000	8,181,042	15.4%	44,818,958	84.6%
Foothill Sanitary Landfill (39-AA-0004)	102,000,000	4,100,000	4%	97,900,000	96%
Forward Landfill, Inc. (39-AA-0015)	51,040,000	11,008,942	21.6%	40,031,058	78.4%
Keller Canyon Landfill (07-AA-0032)	75,018,280	6,738,610	9%	68,279,670	91%
L and D Landfill Co. (34-AA-0020)	6,031,055	1,931,055	32%	4,100,000	68%
North County Landfill (39-AA-0022)	17,300,000	-300,000	-1.7%	17,600,000	101.7%
Potrero Hills Landfill (48-AA-0075)	13,300,000	21,500,000	61.9%	8,200,000	38.1%
Sacramento County Landfill (Kiefer) (34-AA-0001)	117,400,000	4,500,000	3.8%	112,900,000	96.2%

Source: CalRecycle, 2010.

REGULATORY FRAMEWORK

The following state and local regulations, plans, programs, and guidelines are applicable to the proposed project.

- State Laws and Regulations
  - Urban Water Management Planning Act
  - Zone 41 Urban Water Management Plan
  - Porter-Cologne Water Quality Act
  - Waste Discharge Requirements Program
  - California Integrated Waste Management Act
- Local Laws and Regulations
  - SCWA Zone 40 Water Supply Master Plan
  - Central Valley Regional Water Quality Control Board

PROJECT IMPACTS AND MITIGATION MEASURES

a) – g) Less than Significant. The EEGSP Sewer Master Plan and EEGSP EIR determined that the entire Specific Plan area can be adequately served without the need for additional wastewater treatment facilities. Moreover, the policy determined no additional water or wastewater treatment facilities required to serve the EEGSP area. The proposed project would not have any additional impact beyond that identified in the EEGSP EIR.

The EEGSP would require development of drainage facilities and improvements; the environmental impacts of construction of these drainage facilities was found to be a potentially significant impact; the proposed Fieldstone South project would not result in impacts beyond those identified in the EEGSP EIR. The project is conditioned to provide adequate drainage for each parcel in conformance with applicable EEGSP and General Plan policies and City standards, thereby insuring a less than significant impact.

The EEGSP and EEGSP EIR identified groundwater as the primary source of water supply in the Specific Plan area. However, conditions from County Department of Water Resources, requiring individual connections to the water system, will be applied to the project. Moreover, the EEGSP Sewer Master Plan and EEGSP EIR determined that the entire Specific Plan area can be adequately served without the need for additional wastewater treatment facilities. The proposed project would not have any additional impact beyond that identified in the EEGSP EIR.

The Solid Waste Disposal Section in the EEGSP EIR concluded that the proposed 4,300 unit residential subdivision (entire EEGSP) would be expected to generate approximately 7,150 tons of solid waste per year (about 9.1 pounds/household/day). Using this equation the proposed project would result in the generation of 214 tons of solid waste each year. This amount of additional solid waste generation would not be considered significant in comparison to current disposal rate. No significant impacts to waste collection or disposal are expected from this project (EEGSP). As a component of the EEGSP, the Fieldstone South project would have no greater impacts to local solid waste disposal facilities than those already established by the EEGSP. Therefore, impacts associated with utilities and service systems would be **less than significant.**

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
18. MANDATORY FINDINGS OF SIGNIFICANCE. Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

DISCUSSION

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

a) – c) This initial study found that the proposed project will potentially impact the environment in the areas of Air Quality, Biological Resources, Cultural Resources, Noise, Transportation/Traffic, Public Services, Utilities and Services System, Population and Housing, Hydrology and Water Quality, and Geology and Soils. The MMRP for the original 2005 IS/MND has been recorded on the title of the property and is active. Therefore the proposed project includes proactive mitigation measures that are being followed currently. Potential impacts have been determined to be less than significant level or will be minimized to a less than significant level with implementation of identified, specific mitigation measures as detailed in the corresponding environmental section.

Coupled with previous and future development in accordance to the EEGSP, the Fieldstone South project poses cumulative impacts that have been identified to be less than significant. Moreover, these effects will not be substantially adverse on human beings. Mitigation measures will be applied on the project reducing impacts resulting from this project to a **less than significant** level.

REFERENCES

Au Clair Consulting. 2010. *Fieldstone South Interim Drainage Analysis.* August 2010.

Elk Grove, City of. 2010. *Elk Grove Municipal Code*. Passed April 14, 2010.

California Department of Conservation (DOC), Division of Land Resource Protection. 2004. *A Guide to the Farmland Mapping and Monitoring Program*. Sacramento, California.

California Department of Conservation (DOC), Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2006. *Table A-1526, Sacramento County 2004-06 Land Use Conversion*. Sacramento, California.

California Department of Conservation (DOC), Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2008. *Sacramento County Important Farmland 2008*. Sacramento, California.

California Department of Conservation (DOC). 2010. http://www.conservation.ca.gov/ (accessed June, 2010).

California Department of Conservation, California Geological Survey. 2002a. *California Geomorphic Provinces Note 36.*

California Department of Conservation, California Geological Survey. 2002b. *Geological Map of California.*

California Department of Toxic Substances Control (DTSC), Envirostor. 2010. http://www.envirostor.dtsc.ca.gov/public/ (accessed June, 2010).

California Department of Transportation. 2002. *Transportation Related Earthborne Vibrations.* Sacramento, California.

California Department of Water Resources (DWR). 2006. *California's Groundwater Update [Sacramento Valley Groundwater Basin, South American Sub-Basin], Bulletin No. 118.* Sacramento, California.

California Climate Action Team (CAT). 2009. *Climate Action Team Biennial Report to the Governor and Legislator.*

California Energy Commission (CEC). 2006a. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004.* Publication CEC-600-2006-013-D. http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF (accessed June 2007).

California Energy Commission (CEC). 2006b. *Climate Change Portal.* Last update December 22, 2006. http://www.climatechange.ca.gov (accessed January 2010).

California Energy Commission (CEC). 2006c. *Our Changing Climate: Assessing the Risks to California.* Publication CEC-500-2006-077.

California Department of Resources Recycling and Recovery (CalRecycle). 2010. http://www.calrecycle.ca.gov/ (accessed June, 2010).

California State Water Resources Control Board (SWRCB), Geotracker. 2010. http://geotracker.swrcb.ca.gov/ (accessed June, 2010).

City of Elk Grove, July 2005a. Negative Declaration/Initial Study: Fieldstone South. (EG-04-709)

City of Elk Grove, August 2005b. Negative Declaration/Initial Study: Franklin Crossings. (EG-04-727)

City of Elk Grove. Adopted November 19, 2003a. *City of Elk Grove General Plan.* Elk Grove, California.

City of Elk Grove. August 2003b. *City of Elk Grove General Plan, Volume 1: Draft Environmental Impact Report, SCH #: 2002062082.* Elk Grove, California.

City of Elk Grove. March 19, 2003c. *Elk Grove Design Guidelines.* Elk Grove, California.

City of Elk Grove. 1996. *East Elk Grove Specific Plan.* February 1996.

Consumnes Community Services District (CCSD). 2010. http://www.yourcsd.com/ (accessed March 12, 2010).

County of Sacramento. May 2009. *Draft Environmental Impact Report Sacramento County General Plan Update.* Sacramento, California.

EDAW/AECOM. July 2009. *Draft Environmental Impact Report for the Elk Grove Transfer Station Project, SCH #2009042008.* Sacramento, California.

Elk Grove Unified School District (EGUSD). 2010. http://www.egusd.net (accessed March 12, 2010).

Energy Information Administration (EIA). 2005a. CBECS Table US8. http://www.eia.doe.gov/emeu/recs/recs2005/c&e/summary/pdf/tableus8.pdf (Accessed June 2010)

Energy Information Administration (EIA). 2005b. CBECS Table US9. http://www.eia.doe.gov/emeu/recs/recs2005/c&e/summary/pdf/tableus9.pdf (Accessed June 2010)

Federal Transit Administration. May 2006. *Transit Noise and Vibration Impact Assessment.* Washington, D.C.

Foothill Associates. 2005 (updated 2010). *Biological Resources Assessment; Fieldstone South 28-Acre Site; Sacramento County, California.* May 6, 2005 (update March 10, 2010).

Intergovernmental Panel of Climate Change (IPCC). 2007. *National Greenhouse Gas Inventories Programme.* http://www.ipcc-nggip.iges.or.jp/ (accessed June 2007).

MacKay & Somps. 2007. *Drainage Study for Elk Grove Creek (Upstream of U.P.P.R. Crossing).* May 24, 2007.

Miller, Tyler G. 2000. *Living In the Environment, 11th Edition.* Thomson Learning.

National Aeronautical and Space Administration (NASA). 2007. *NASA Facts Online*. http://www.gsfc.nasa.gov/gsfc/service/gallery/fact_sheets/earthsci/green.htm (accessed June 2007).

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2009a. Website: *Air Quality Standards Attainment Status.* http://www.airquality.org/aqdata/attainmentstat.shtml (accessed June, 2010).

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2009b. Website: *Plans.* http://www.airquality.org/index.shtml (accessed June, 2010).

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2009c. *Guide to Air Quality Assessment in Sacramento County.* December 2009. http://www.airquality.org/ceqa/ceqaguideupdate.shtml (accessed June, 2010).

Sierra Nevada Arborists. 2009. *Updated Arborist Report and Tree Inventory Summary. Pappas Investments; Fieldstone Park Project; City of Elk Grove, California*. December 22, 2009.

United States Geological Survey (USGS). 2010. http://quake.usgs.gov/prepare/factsheets/SaferStructures/ (accessed June, 2010).

Sacramento Area Council of Governments (SACOG). 2000. *Sunset Skyranch Airport Comprehensive Land Use Plan. http://www.sacog.org/airport/maps/Elk_Grove_Sunset_SkyRanch.pdf*

Sacramento Area Council of Governments (SACOG). March, 2006. *2006 Metropolitan Transportation Plan for the SACOG Region – Table 1. Regional Growth, 2005-2027.* Sacramento, California.

Sacramento Area Sewer District (SASD). 2010. http://sacsewer.com/ (accessed June, 2010).

Sacramento County. May 30, 2007. *Sacramento County General Plan, Background to the 1993 General Plan As Amended*. Sacramento, California.

Sacramento County, Department of Water Resources (SCDWR). Fall 2007. *Sacramento County, California Groundwater Elevations Fall 2007*. Sacramento, California

Sacramento County Water Agency (SCWA). October 26, 2004. *SCWA Zone 40: Groundwater Management Plan*. Sacramento, California.

Sacramento County Water Agency (SCWA). February, 2005a. *Sacramento County Water Agency Zone 40 Water Supply Master Plan*. Sacramento, California.

Sacramento County Water Agency (SCWA). December, 2005b. *Sacramento County Water Agency Zone 41 Urban Water Management Plan.* Sacramento, California.

Sacramento County Water Agency (SCWA). April 2006. *Sacramento County Water Agency Zone 40 Water System Infrastructure Plan*. Sacramento, California.

Sacramento Regional County Sanitation District (SRCSD). May, 2008. *2020 Master Plan, Final Executive Summary*. Mather, California.

United States Census Bureau. 2006. *2006 American Community Survey*.

United States Census Bureau. 2000. Census 2000.

United States Census Bureau. 1990. 1990 Census.

United States Environmental Protection Agency (USEPA). December 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances.* Washington, DC.

APPENDICES

APPENDIX A – 2005 MITIGATION MONITORING AND REPORTING PLAN

Recording Requested By and When
Recorded, Mail To:

CITY OF ELK GROVE
Attn: City Clerk
8380 Laguna Palms Way
Elk Grove, CA 95758

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

AGREEMENT TO
MITIGATION MONITORING AND REPORTING PROGRAM
FOR
FIELDSTONE SOUTH
REZONE, TENTATIVE SUBDIVISION MAP

City Control Number: EG-04-709 - Fieldstone South

Assessor's Parcel Number(s): 134-0110-019 and 134-0110-032

Project Description:
- Rezone from AR10 to RD-4
- Tentative Subdivision Map to create 100 single-family residential lots

Location:
The site is located on Grant Line Road, south of Elk Grove Boulevard.

Project Applicant:

All references to "the Applicant" below, and in the attached mitigation measures, shall mean the individual property owner, project applicant or project representative of the parcel(s) described by the APN(s) shown in the legal description(s) and location shown in **Exhibits "A"** and **"B"** executing this Declaration of Agreement.

East Elk Grove 24, LLC
John L. Pappas
2020 L Street 5th Floor
Sacramento, CA 95814

Prepared by: City of Elk Grove
Development Services - Planning

Date: April 11, 2006

DECLARATION OF AGREEMENT

This Mitigation Monitoring and Reporting Program applies to certain real property, a Legal Description of which is attached as Exhibit "A" and located as shown in Exhibit "B". I (We) the undersigned agree that this Mitigation Monitoring and Reporting Program applies to the real property described in Exhibit "A" and "B". I (We) the undersigned am (are) the legal owner(s) of that property, and agree to comply with the requirements of this Mitigation Monitoring and Reporting Program (Summary and Mitigation Measures attached as Exhibit "C").

IN WITNESS WHEREOF, this declaration is hereby executed by the undersigned named legal owner(s)/ project applicant of the subject property on this ____ day of _____, 20___.

_____	_____
Print or type Company name	Print or type Company name
_____	_____
Signature	Signature
_____	_____
Print or type name	Print or type name

NOTARY'S ACKNOWLEDGEMENT

STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

On _____ before me, _____, a Notary Public in and for said county, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____

Signature of Notary Public

NOTARY'S ACKNOWLEDGEMENT

STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

On _____ before me, _____, a Notary Public in and for said county, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____

Signature of Notary Public

EXHIBIT "A" – LEGAL DESCRIPTION(S)

All that real property situated in a part of the South Half of Section 5 and the North Half of Section 8, Township 6 North, Ranch 6 East, Mount Diablo Base and Meridian in the City of Elk Grove, County of Sacramento, State of California, more particularly described as follows:

Beginning at the closing corner at the intersection of the south line of said Section 5 and the westerly line of Rancho Omochumnes, said point being on the existing centerline of Grant Line Road;

Thence, from the Point of Beginning, South, 39°45'01" West, a distance of 471.64 feet along said centerline;

Thence, South 39°45"53" West, a distance of 549.01 feet along said centerline;

Thence, North 50°14"06" West, a distance of 518.79 feet;

Thence, South 89°17'13" West, a distance 140.00 feet;

Thence, North 00°44'55" East, a distance of 460.34 feet;

Thence, North 00°34'03" East, a distance of 724.84 feet;

Thence, South 89°19'57" East, a distance of 146.54 feet;

Thence, South 69°58'14" East, a distance of 420.54 feet;

Thence, South 66°20'49" East, a distance of 210.49 feet;

Thence, South 60°40'22" East, a distance of 257.08 feet;

Thence, South 54°59'54" East, a distance of 172.46 feet;

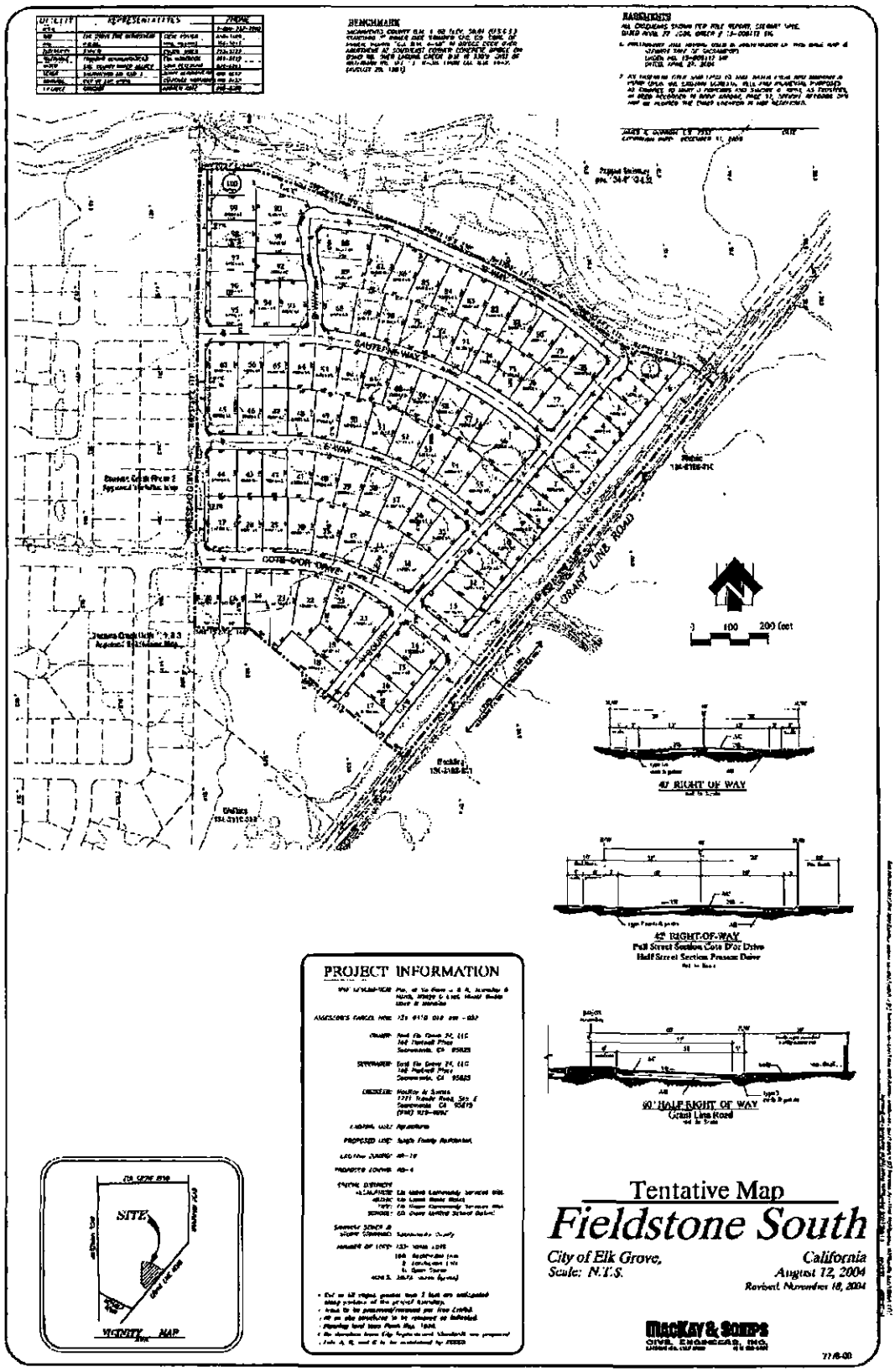
Thence, South 74°10'53" East, a distance of 179.93 feet;

Thence, South 50°13'02" East, a distance of 72.83 feet to the existing centerline of Grant Line Road;

Thence, South 39°45'01" West, a distance of 233.96 feet along said centerline to the Point of Beginning.

Containing 28.110 Acres, more or less.

EXHIBIT "B" – LOCATION/SITE MAP



SUMMARY CONDITIONS OF APPROVAL AND MITIGATION MEASURES

Pursuant to Section 21081.6 of the Public Resources Code and Chapter 20.02 of the City of Elk Grove Code, a Mitigation Monitoring and Reporting Program, City Project Number **EG-04-709**, has been established for the project entitled **FIELDSTONE SOUTH – REZONE AND TENTATIVE SUBDIVISION MAP.** The purpose of this program is to assure diligent and good faith compliance with the Mitigation Measures which have been recommended in the environmental document, and adopted as part of the project or made conditions of project approval, in order to avoid or mitigate potentially significant effects on the environment.

It shall be the responsibility of the project applicant to provide written notification to the Environmental Coordinator, in a timely manner, of the completion of each Mitigation Measure as identified on the following pages. The City of Elk Grove Development Services - Planning will verify, within ten (10) business days of notification that the project is in compliance. Any non-compliance will be reported to the project applicant, and it shall be the project applicant's responsibility to rectify the situation by bringing the project into compliance and re-notifying the Environmental Coordinator. Any indication that the project is proceeding without good-faith compliance could result in the imposition of administrative, civil and/or criminal penalties upon the project applicant in accordance with Chapter 20.02 of the City of Elk Grove Code.

It shall be the responsibility of the project applicant to reimburse the City for all expenses incurred in the implementation of the Mitigation Monitoring and Reporting Program, including any necessary enforcement actions. The initial estimate of City monitoring costs for this project is **$5,000.00,** which must be paid to the City of Elk Grove Development Services - Planning. If actual City monitoring costs are less than the initial estimate, the difference will be refunded to the applicant; and if the actual City monitoring costs exceed the initial estimate, a revised estimate and/or supplemental bill(s) will be submitted to the applicant.

Pursuant to Section 20.02.060 of the City of Elk Grove Code, upon the determination of the Environmental Coordinator that compliance with the terms of the approved Mitigation Monitoring and Reporting Program has been achieved, and that there has been full payment of all fees for the project, the Environmental Coordinator shall issue and the City Clerk shall record a Program Completion Certificate for the project.

In order to record the adopted Mitigation Monitoring and Reporting Program with the County Recorder as required by Section 20.02.050(b)(2) of the City of Elk Grove Code, the project applicant shall provide to the City of Elk Grove Planning Division a Legal Description for the real property that is the subject of the project.

The requirements of this adopted Program run with the real property that is the subject of the project, as described in **Exhibits "A" & "B"** Successive owners, heirs and assigns of this real property are bound to comply with all of the requirements of the adopted Program.

Prior to any lease, sale, transfer or conveyance of any portion of the real property that is the subject of the project, the record owner(s) at the time of the application for the project, or his or her successor's in interest, shall provide a copy of the adopted Program to the prospective lessee, buyer, transferee, or one to whom the conveyance is made.

Chapter 20.02 of the City of Elk Grove Code permits civil remedies and criminal penalties to be imposed in the event of non-compliance with an adopted Mitigation Monitoring and Reporting Program. The civil remedies, which are found in Section 20.02.090 of the City of Elk Grove Code, include injunctive relief, stop work orders, revocation of any special permit granted concurrently with the approval of a Program, and the abatement of any resulting nuisance. The criminal penalties, which are found in Section 20.02.080 of the City of Elk Grove Code, include a fine not to exceed five hundred dollars or imprisonment in the County jail not to exceed six months, or both.

STANDARD PROVISIONS

1. Any/all Preliminary Grading Plans, Improvement Plans and/or Building/Development Plans which are submitted to the appropriate City of Elk Grove department for this project, and revisions to those Plans which are subsequently submitted, shall be in full compliance with the adopted Mitigation Monitoring and Reporting Program (MMRP). If the Elk Grove Development Services - Planning determines that the Plans are not in full compliance with the adopted MMRP, the Plans shall be returned to the project applicant or responsible party with a letter specifying the items of non-compliance, and instructing the applicant or

responsible party to revise the Plans and resubmit them to the approving department.

EXHIBIT "C" – MITIGATION MEASURES

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
ON-GOING				
1.	The Applicant or Successors in Interest (hereby referred to as the Applicant) shall hold harmless the City, its Council Members, its Planning Commission, officers, agents, employees, and representatives from liability for any award, damages, costs and fees incurred by the City and/or awarded to any plaintiff in an action challenging the validity of this permit or any environmental or other documentation related to approval of this permit. Applicant further agrees to provide a defense for the City in any such action.	On-Going	Development Services - Planning	
2.	The development approved by this action is for a Rezone from AR-10 to RD-4 and a Tentative Subdivision Map to create100 single family lots as illustrated in the project plans. Deviations from the approved plans shall be reviewed by the City for substantial compliance and may require amendment by the appropriate hearing body.	On-Going	Development Services - Planning	
3.	This action does not relieve the Applicant of the obligation to comply with all ordinances, statutes, regulations, and procedures.	On-Going	Development Services - Planning	
4.	The Tentative Subdivision Map approval is valid for three years from the date of City Council approval, unless an extension of time is subsequently approved.	Three years, commencing with the date of City Council approval.	Development Services - Planning	
5.	Each lot shall have one driveway. Additional driveways may be approved by Public Works. Covenants, Conditions, and Restrictions shall be recorded over all parcels within the tentative map. The Covenants, Conditions, and Restrictions shall include the number of driveways each parcel is allowed.	On-Going	Public Works	
6.	If there are any discrepancies between the approved tentative map and the conditions of approval, the conditions of approval shall supersede the approved tentative map.	On-Going	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
7.	The Applicant shall pay all appropriate development fees charged by the City and other Special Districts providing services to the site.	On-Going	Public Works	
8.	Streets shall be closed to the public until Department of Public Works, Division of Traffic Engineering and the project engineer determine the appropriate traffic control devices to be installed and the devices are installed to the satisfaction of Public Works. Road closure devices shall be in place immediately and maintained in-place at all times upon completion of paving. Road closure may also require alternative accesses to both building and improvements construction traffic. The type of road closure devices shall be determined and approved by Public Works.	On-Going	Public Works	
9.	Street (trench) cuts into existing streets require a separate encroachment permit and the payment of street cut fees. Where multiple street cuts into the same street occur, a single, final surface (pavement) trench repair over all the trench cuts is required. Pavement grinding is required for the full length and width of the trenches.	On-Going	Public Works	
10.	The Applicant shall implement Best Management Practices to ensure that long-term water quality is protected. The Best Management Practices shall be designed, constructed and maintained to meet a performance standard established by the City. The City or project applicant shall retain a qualified specialist to monitor the effectiveness of the Best Management Practices selected. Monitoring activities, along with funding for monitoring, shall be established and shall include (but not be limited to) initial setup, yearly maintenance, and yearly monitoring. During project operation, the project shall implement actions and procedures established to reduce the pollutant loadings in storm drain systems.	On-Going	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
11.	The entrance/exit to the subdivision on Grant Line Road shall be restricted to a right-in/right out at the commencement of full width improvements (per circulation element) to Grant Line Road. This restriction may be implemented sooner if it is deemed necessary by Public Works.	On-Going	Public Works	
12.	The applicant shall include a disclosure on each residential lot informing all potential buyers of the Right to Farm operations that occur on the AR-10 parcel (APN 134-0110-029) to the south of lots 23-26 and southwest of parcels 17 and 18.	On-Going	Planning	
PRIOR TO FINAL MAP				
13.	The Applicant shall dedicate and improve the western half of Grant Line Road 56' from the approved centerline. Improvements will be based on 130' equivalent special thoroughfare and designed and constructed in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of Public Works. Improvements for this section shall be 2 lanes in each direction with a striped median. These improvements shall be coordinated with the City's Grant Line Road Widening Project scheduled for construction in 2006-2007. Upon approval of the applicant and Public Works, a payment in-lieu of construction may be provided to the City for the estimated cost of these required improvements, including all preliminary engineering costs as defined in the City's Capital Improvement Program. The in-lieu payment shall be made prior to the approval of the improvement plans or final map, whichever occurs first.	Prior to Approval of Final Map	Public Works	
14.	The Applicant shall dedicate and improve a southbound right turn pocket on Grant Line Road into Cote D'or Drive. The right-turn pocket shall be 11' wide, 300' in length with a 90' bay taper. For total improvements, west half section of 67' from the approved centerline, within the right-turn pocket. The cross-section shall allow for the future four	Prior to Approval of Final Map	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
	southbound travel lanes, half median, curb and gutter, and an 11' wide right-turn lane that is 300' in length with a 90' bay taper. Improvement will be based on 130' equivalent special thoroughfare in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of Public Works.			
15.	The Applicant shall dedicate and improve Pressac Drive based on 50' modified collector in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of Public Works. A minimum of 34' of pavement must be constructed excluding gutter pan. The 4' sidewalk will be separated from the street with 6' of landscaping. The back of sidewalk to back of sidewalk dimension will be 62'. All streets improvement will be constructed prior to building permit.	Prior to Approval of Final Map	Public Works	
16.	The Applicant shall dedicate in fee 36' landscape corridor along Grant Line Road to the City of Elk Grove to the satisfaction of Public Works. At the beginning of the taper for the right turn pocket the landscaping may transition from 36' to 30'. South of the Cote D'or Drive/Grant Line Road intersection the landscape corridor shall be 36'.	Prior to Approval of Final Map	Public Works	
17.	The Applicant shall dedicate and improve all internal streets as shown in the tentative subdivision map, in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of Public Works. All street improvements shall be constructed prior to the 1st building permit.	Prior to Approval of Final Map	Public Works	
18.	All improvements shall be designed in accordance with the City of Elk Grove Improvement Standards, as further conditioned herein, and to the satisfaction of Public Works.	Prior to Approval of Final Map	Public Works	
19.	The Applicant shall dedicate a 12.5 foot public utility easement for underground and appurtenances adjacent to all public and private streets, excepting the north side of "A" Way, adjacent to Elk Grove Creek.	Prior to Approval of Final Map	Public Works	
20.	Improvement plans must be approved by Public Works prior to City Council approval of Final Map.	Prior to Approval of Final Map	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
21.	For all single family corner lots an access restriction shall be placed on the property from the driveway around the corner to the property line of the side yard.	Prior to Approval of Final Map	Public Works	
22.	The subdivider shall participate in the design and construction of the proposed Elk Grove Creek improvements along the property frontage, including necessary transitions, plus any required expansion of the Hudson Ranch detention basin. Obligation for this required improvement may be met through posting of the payment of the cost of these improvements with the City in-lieu of construction of the improvements or through providing the City cost sharing agreements with the other property owners and/or developers and posting of acceptable security guaranteeing the improvements will be made. This condition can also be satisfied upon completion of all of the following: 1. Upon submission and concurrence by the City of a letter acknowledging acceptance of this project's obligations toward improvements of Elk Grove Creek by the property owner immediately north of this project (currently owned by applicant). 2. The applicant shall also provide an irrevocable offer of dedication (IOD) of the proposed creek property adjacent to this project's northern property line to the City of Elk Grove. The letter shall be recorded as an attachment to the IOD. The method of meeting this requirement as defined above is at the discretion of the applicant.	Prior to Approval of Final Map	Public Works	
23.	No Final Map shall be recorded on lots in Phase 2 as depicted on the tentative map, until information is provided to the satisfaction of the Public Works Director, demonstrating that this portion of the project can be constructed without restricting or adversely impacting drainage improvements to Elk Grove Creek as intended in the East Elk Grove Specific Plan.	Prior to Approval of Final Map	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
24.	The Applicant shall contribute a payment in-lieu of construction for the project's fair share (25%) to the design and construction of the bridge over Elk Grove Creek and Wyland Drive/Pressac Drive, based upon an estimate to the satisfaction of Public Works.	Prior to Approval of Final Map	Public Works	
25.	The project Applicant shall consult with the City when the project affects any water stream(s). The Applicant shall submit the proposed improvement designs and a drainage study to the City for review prior to the approval of the final map. The study shall include improvements to receiving water body(s) to mitigate the impacts of increased runoff from the project and any change in runoff including quality, quantity, and stream conveyance capacity short and long term, and building pad elevations. There shall be no net loss of storage for any fill placed within the 100-year floodplain with in-kind replacement, or other mitigation as deemed appropriate in the drainage study. Elk Grove Creek and the project is not a part of a financing plan. Due to the current Elk Grove Creek hydraulic constraints resulting from the absence of a Corps of Engineers (COE) permit that would permit improving Elk Grove Creek, it will be necessary to demonstrate by calculations that the 10-year flows from the Fieldstone South development can be accommodated the existing underground pipe system located in Sonoma Creeks 1, 2 and 3.	Prior to Approval of Final Map	Public Works, and Planning	
26.	The Applicant shall provide drainage easements (prior to recordation of final map) and install facilities (prior to the issuance of building permits) pursuant to the City of Elk Grove Floodplain Management Ordinance, Sacramento County Water Agency Code and City of Elk Grove Improvement Standards, including any fee required by the City of Elk Grove. The pertinent provisions of the above-referenced codes, standards, fees, and ordinances shall be applicable at the time of site improvement plan approval.	Prior to Recordation of Final Map and Prior to the Issuance of Building Permits	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
27.	Sewer easements will be required. All sewer easements shall be dedicated to CSD-1 in a form approved by the District Engineer. All CSD-1 sewer easements shall be at least 20 feet in width and ensure continuous access for installation and maintenance.	Prior to Final Map Approval	CSD-1	
28.	The Applicant shall provide separate public water service to each parcel and dedicate maintenance easements in all public and private streets over all water lines to the satisfaction of Sacramento County Water Agency prior to Final Map approval.	Prior to Final Map Approval	SCWA	
29.	CSD-1 shall require an approved sewer study prior to the approval of the Final Map or submittal of improvement plans for plan check to CSD-1, which ever comes first. The sewer study shall demonstrate capacity in the serving trunk facilities or provide capacity by construction of sewer infrastructure. This requirement will be omitted if the project does not connect prior to the completion of the Laguna Extension Interceptor.	Prior to Recordation of the Final Map or Approval of Improvement Plans	CSD-1	
30.	The Applicant shall reserve a minimum 100ft x 100ft water well site located on or adjacent to lot numbers 95 & 96 and necessary easements to the satisfaction of the Sacramento County Water Agency (SCWA). Acceptance and approval of the site shall be subject to meeting Department of Health Services (DHS) setback requirements and obtaining acceptable results from hydrogeologic evaluations (exploratory drilling). If these conditions cannot be satisfied, then an alternate site on the Fieldstone South Subdivision shall be selected by SCWA and similarly evaluated. Prior to final map approval or signing of improvement plans whichever occurs first, the Applicant shall grant right-of-entry to SCWA to conduct hydrogeologic evaluations. In addition, prior to final map recordation, the property owner shall enter into an agreement with SCWA consistent with Chapter 22.50 of the Sacramento County Code (City of Elk Grove Code) and Government Code Title 7, Division 2, Article 4.	Prior to Recordation of the Final Map or Approval of Improvement Plans	SCWA	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
31.	The Applicant shall locate, identify on maps and isolate any water wells, and locate and identify any septic system that may be located on the parcel. Any wells and septic systems under permits from Sacramento County Environmental Health shall be properly destroyed.	Prior to Final Map Approval	Community Enhancement & Code Compliance	
32.	Prior to final map approval, the project area shall annex into a Mello-Roos Community Facilities District (CFD) to fund a portion of the additional costs for police service related to serving the new development. The application fee for the annexation is due prior to the Resolution of Intention to Annex the Property and Levy the Special Tax	Prior to Final Map Approval	Finance	
33.	Prior to the final map, the project area shall annex into Street Maintenance Assessment District No. 1 to fund a portion of the additional costs for long-term roadway maintenance related to serving the new development. The application fee for the annexation is due prior to the Resolution of Intention to Levy Street Maintenance Assessments	Prior to Final Map Approval	Finance	
34.	Prior to the final map, the project area shall form or annex into a Mello-Roos CFD, assessment district, other financing district, or will provide some other funding mechanism, which is acceptable to the Finance Director of the City to fund the project's fair share of landscape maintenance costs which may include, but not be limited to, roadway corridors, interchanges, medians, drainage corridors, trails, open space, and parks, and maintenance costs of other community facilities.	Prior to Final Map Approval	Finance	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
PRIOR TO CONSTRUCTION ACTIVITIES /IMPROVEMENT PLANS				
35.	The Applicant shall record the Mitigation Monitoring and Reporting Program for the project. Prior to the issuance of any grading permits, comply with, record, and pay fees for the Mitigation Monitoring and Reporting Program (MMRP) associated with the project. Until the MMRP has been recorded and the estimated MMRP fee of $5000.00 has been paid, no grading, building, sewer connection, water connection, or occupancy permit from the City will be approved.	Prior to Issuance of a Grading Permit/Improvement Plans	Planning	Sign Date
36.	**MM 1 (AQ – Construction Mitigation)** Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from the SMAQMD prior to operation. The Applicant of a project that includes an emergency generator, boiler or heater should contact the District early to determine if a permit is required and to begin the permit application process. Portable construction equipment that has an internal combustion engine with a horsepower rating grater than 50 are required to have a District permit or a California Air Resources Board portable equipment registration. Other general types of uses that require a District permit are operations that generate airborne particulate emissions.	Prior to approval of Improvement Plan or Grading Permit	Planning & SMAQMD	Sign Date
37.	**MM 2 (AQ – Construction Mitigation)** Category 1: Reducing NOx emissions from off-road diesel powered equipment. The project shall provide a plan from approval by the City of Elk Grove and SMAQMD demonstrating that the heavy duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20% NOx reduction and 45% particulate reduction compared to the most recent CARB fleet average; and The project representative shall submit to the City of Elk Grove and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50	Prior to approval of Improvement Plan or Grading Permit	Planning & SMAQMD	Sign Date

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
	horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. And: Category 2: Controlling visible emissions from off-road diesel powered equipment. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40% opacity shall be repaired immediately, and the City of Elk Grove and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supercede other SMAQMD or state rules or regulations.			

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
38.	**MM 3 (BR – Western Spadefoot)** The project Applicant shall retain a qualified biologist approved by the City of Elk Grove to conduct a preconstruction survey no more than 30 days prior to ground disturbing activity (and following any break in site activity longer than two weeks in duration) to determine the presence of any Western Spadefoot species. Should no Western Spadefoot species be found onsite, a report should be prepared (as outlined below) and submitted to the City of Elk Grove. No further mitigation would be necessary. Should Western Spadefoot be found onsite during the preconstruction survey or any time during construction activities then the biologist shall prepare a mitigation plan. Mitigation for wetland impacts may satisfy this mitigation measure. Furthermore, the biologist shall prepare a written report to be submitted to the City of Elk Grove that includes a habitat assessment of the project site, survey methods and results, and maps as well as photographs of the area showing locations.	Prior to the issuance of permits, during construction activities, and post-construction.	Planning & CDFG	1. Survey Report _____ Sign _____ Date 2. Mitigation Plan & report (if applicable) _____ Sign _____ Date
39.	**MM 4 (BR – Burrowing Owls)** The project Applicant shall retain a qualified biologist approved by the City of Elk Grove to conduct a preconstruction burrow survey no more than 30 days prior to ground disturbing activity (and following any break in site activity longer than two weeks in duration) following procedures outlined in *Burrowing Owl Survey Protocol and Mitigation Guidelines* prepared by the California Burrowing Owl Consortium in April 1993. Should no owls be found onsite, a report should be prepared (as outlined below) and submitted to the City of Elk Grove. No further mitigation would be necessary. Should owls be found onsite during the preconstruction survey or any time during construction activities the following measures (as recommended in the guidelines) shall be implemented as soon as possible: An avoidance area shall be established around the occupied burrow, such that no disturbance (or ingress) into	Prior to the issuance of permits, during construction activities, and post-construction.	Planning & CDFG	1. Survey Report _____ Sign _____ Date 2. Monitoring (if applicable) _____ Sign _____ Date

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
	the buffer area shall be allowed. If construction occurs between September 1st and January 31st (the non-breeding season), the avoidance area shall be at least 50 meters surrounding the burrow. If construction occurs between February 1st and August 31st (the breeding season), the avoidance buffer shall be at least 75 meters surrounding the burrow; During the breeding season (February 1st through August 31st), occupied burrows shall not be disturbed unless the DFG verifies that the birds have not begun egg-laying and incubation or that the juveniles from those burrows are foraging independently and capable of independent survival; If destruction of occupied burrows is unavoidable, replacement burrows shall be installed at a minimum ratio of one burrow replaced for every burrow lost (1:1). Replacement shall occur in an area with a minimum of 100 meter radius of foraging habitat surrounding the new burrow that shall be retained in a long-term conservation easement; If owls are threatened and must be relocated from a construction site, passive relocation shall be attempted (if appropriate) before trapping. Passive relocation is defined (in the owl guidelines) as encouraging owls to move from an occupied burrow to an alternate natural or artificial burrow located beyond 50 meters from the zone of impact. Trapping shall only be attempted during the nonbreeding season by a qualified biologist approved by the DFG; DFG shall be consulted regarding the adequacy of onsite avoidance measures and mitigation. The project applicant shall implement DFG recommendations to the extent possible. Furthermore, the biologist shall prepare a written report to be submitted to the City of Elk Grove that includes a habitat assessment of the project site, burrow survey methods and			

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
	results, behavior of owls noted onsite (if applicable), and maps as well as photographs of the area showing habitat and burrow locations.			
40.	**MM 5 (BR – Nesting Raptors and Migratory Birds)** Unless proposed construction activities are planned to occur outside the nesting seasons for local avian species, the project Applicant shall retain a qualified biologist approved by the City to conduct a focused survey for active nests of raptors and migratory birds within and in the vicinity of the construction area no more than 30 days prior to ground disturbance. If active nests are located during pre-construction surveys, USFWS and/or DFG shall be notified regarding the status of the nests. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nests until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment) around the nest or alteration of the construction schedule. No action is necessary if construction will occur during the nonbreeding season (generally October 1st through January 31st).	Prior to the issuance of permits, during construction activities, and post-construction.	Planning, USFWS & CDFG	1. Survey Report _____ Sign _____ Date 2. Monitoring (if applicable) _____ Sign _____ Date
41.	**MM 6 (BR – Swainson's Hawk Foraging Habitat)** In order to mitigate for the loss of Swainson's hawk foraging habitat, the Applicant shall implement one of the following City of Elk Grove's approved mitigation alternatives. Prior to any site disturbance, such as clearing or grubbing, or the issuance of any permits for grading, building, or other site improvements, whichever occurs first, the project applicant shall: • Preserve 1.0 acre of similar habitat for each acre lost. This land shall be protected through a fee title or conservation easement acceptable to the City of Elk Grove as set forth In Chapter 16.130.040(a) of the City of Elk Grove Municipal Code as such may be amended from time to time and to the extent that said Chapter remains in effect, OR	Prior to any site disturbance, such as clearing or grubbing, or the issuance of any permits for grading, building, or other site improvements, whichever occurs first.	Planning	_____ Sign _____ Date

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
	• Submit payment of Swainson's hawk impact mitigation fee per acre of habitat impacted (payment shall be at a 1:1 ratio) to the City of Elk Grove in the amount set forth in Chapter 16.130 of the City of Elk Grove Code as such may be amended from time to time and to the extent that said chapter remains in effect.			
42.	**MM 9 (BR – Special Plan Species)** The project applicant shall retain a qualified biologist approved by the City of Elk Grove to conduct a preconstruction survey for special status plant species, including but not limited to Ahart's dwarf rush, Bogg's Lake hedge-hyssop, dwarf downingia, and legenere. The survey shall be conducted when these plant species would be in season and must be conducted prior to any site disturbance. If no special-status plant species are located during the preconstruction survey, no further mitigation is necessary. If sensitive plant species are found during the survey, measures shall be implemented including but not limited to: • Establishing an avoidance area (no ingress of workers or equipment) of a minimum of 10 feet around the plant population that shall be clearly marked with fencing and signage if appropriate; • Ensure the hydrology of the area shall remain consistent during construction and following project completion to reduce potential stress to the plant population; • If the plants cannot be avoided, the project applicant shall retain a qualified biologist approved by the City of Elk Grove to relocate the population under the direction of USFWS and/or DFG to a similar area (approved by the agencies) that shall be retained in a long-term conservation easement; • USFWS and/or DFG shall be notified regarding the location and status of the plant population.	Prior to the issuance of permits, during construction activities, and post-construction.	Planning, USFWS & CDFG	1. Survey Report _____ Sign _____ Date 2. Monitoring _____ Sign _____ Date

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
	• USFWS and/or DFG recommendations regarding appropriate avoidance or disturbance mitigation measures shall be incorporated into the project to the extent possible.			
43.	**MM 10 (BR – Trees) Prior** to the issuance of any permits for grading, building or any other site improvements, or the recordation of any Final Subdivision Maps on the subject property, whichever occurs a Tree Replacement Plan shall be prepared by a certified arborist or landscape architect to mitigate for the loss of native trees 6-inch dbh or larger and all non-native trees larger than 19-inch dbh or larger that are proposed for removal or that would be adversely affected by the project. The applicant shall not be responsible for the mitigation of Eucalyptus trees. The Plan shall comply with the City code and General Plan polices and be submitted to the City for review and approval. The current policies require that every trunk diameter lost shall be mitigated by an inch planted or funds placed in the tree mitigation fund. Mitigation funds for one-inch of native/ornamental tree removed shall be $200.00 per trunk diameter. Mitigation can occur on site or off site. The Plan shall include the following elements: • Species, size and locations of all replacement trees plantings. Replacement trees shall not be planted in lawn areas or in front yards of residential lots; • Method of irrigation, a 3 year monitoring program and a 3 year maintenance program and name contractor to maintain replacement trees. • The City of Elk Grove Standard Tree Planting Detail L-1, including the 10-foot depth boring hole to provide for adequate drainage. **The applicant is not responsible to mitigate for the loss of any trees due to the Grant Line Road widening project.**	Prior to the issuance of permits, during construction activities, and post-construction.	Planning	1. Replacement Plan _____ Sign _____ Date 2. Monitoring _____ Sign _____ Date

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
44.	**MM 7 (BR – Wetlands)** The Applicant shall ensure that the project will result in no net loss of any wetland habitat found on the site. No net loss shall be achieved by the following methods: a. Preserve and protect the existing 0.095 acres of wetlands. OR, if any wetlands are to be disturbed: b. Prior to any disturbance of on-site wetlands, submit a Wetland Habitat Mitigation Plan for 0.095 acres of identified wetland to the City of Elk Grove for review and approval. The Wetland Habitat Mitigation Plan shall provide a detailed description of the size, location and design of proposed wetland creation sites, and a detailed description of how the created wetlands will be monitored and managed to ensure the success of the mitigation effort, OR c. Prior to any disturbance of on-site wetlands, purchase credits at an approved wetland mitigation bank. Documentation of such purchase shall be submitted to City of Elk Grove Development Services – Planning for review and approval. **Note: This mitigation measure maybe satisfied in conjunction with the requirements of a United States Army Corps of Engineers 404 permit, if one is necessary.**	Prior to approval of Improvement Plan or Grading Permit	Planning	Sign Date

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
45.	**MM 8 (BR – CA linderiella, Vernal Pool Fairy Shrimp, Mid-Valley Fairy Shrimp, and Vernal Pool Tadpole Shrimp)** The Applicant shall conduct a focused survey for vernal pool fairy shrimp and vernal pool tadpole shrimp at the time of year when the species are both evident and identifiable, by a qualified biologist for the portions of the project site supporting wetland habitat. If either species is present on the site, a mitigation plan shall be prepared in consultation with U.S. Fish and Wildlife Service and any necessary permits or approvals shall be received prior to disturbance of the site. A copy of any/all required permits and verification of any required actions shall be submitted to the City.	Prior to approval of Improvement Plan or Grading Permit	Planning & USFWS	1. Survey Report _____ Sign _____ Date 2. Verification of Permits (if required) _____ Sign _____ Date
46.	Vertical curbs shall be designed and constructed adjacent to all planter strips.	Prior to Approval of Improvement Plan	Public Works	
47.	If the project is to be phased, the Applicant shall submit a phasing plan for Public Works review and approval, prior to the 1st improvement plan submittal.	Prior to 1st Improvement Plans Submittal	Public Works	
48.	This site is located south of Elk Grove Creek, a major drainage facility in the City of Elk Grove. The Applicant shall prepare and submit a comprehensive drainage study that addresses handling all flows generated by the project including but not limited to, defining the watershed boundary, defining the local controlling 100-year water level, method of flow conveyance with adequate supporting calculations, and detailed hydrologic and hydraulic analysis.	1st Improvement Plans Submittal	Public Works	
49.	Provide a temporary turnaround at the end of Pressac Drive, as needed.	Prior to approval of Improvement Plans	Public Works	
50.	Provide a temporary turnaround at the end of 'A' Way if construction is phased, as needed.	Prior to approval of Improvement Plans	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
51.	Provide a temporary turnaround at the end of 'D' Way, as needed.	Prior to approval of Improvement Plans	Public Works	
52.	All drainage system shall be designed to accommodate runoff from the ultimate development according to the City's storm water Design Standards, and City's Flood Plain Management Ordinance. No adverse or adjacent storm drain system may occur due to this development.	Prior to approval of Improvement Plans	Public Works	
53.	The Applicant shall comply with all NPDES Permit and City's Stormwater Ordinance requirement before, during, and after construction as require by the Permit and the Ordinance and in accordance with the latest version of the Guidance Manual of On-site Stormwater Quality Control Measure.	Prior to Grading Permit issuance and/or deemed necessary by Public Works	Public Works	
54.	The Applicant shall comply with all NPDES Permit and City's Stormwater Ordinance requirement before, during, and after construction as require by the Permit and the Ordinance and in accordance with the latest version of the Guidance Manual of On-site Stormwater Quality Control Measure.	Prior to the Issuance of any permits for grading, building or any other site improvements.	Public Works	
55.	The Applicant shall obtain applicable State Fish and Game, U.S. Army Corps of Engineers, and State Water Board permits prior to issuance of grading permits.	Prior to the Issuance of any permits for grading, building or any other site improvements.	Public Works	
56.	The Applicant shall submit for the City's review the language and provisions of any required conservation easement(s), if any, as specified by other entities, if any, including providing maintenance access in accordance with the Improvement Standards and shall establish a perpetual endowment fund to provide for the conservation easement provisions and requirements.	Prior to Issuance of Grading Permits	Public Works	
57.	In order to mitigate erosion and sediment control problems on the project site, the project shall comply with the City's Land Grading and Erosion Control Ordinance. If the project size is more than one acre, a Notice of Intent (NOI) must be filed prior to construction to obtain coverage under the State's General Construction Activity Storm Water Permit.	Prior to Issuance of Grading Permits	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
58.	Prior to the issuance of grading permits, the project applicant shall prepare a Storm Water Pollution and Prevention Plan (SWPPP) to be administered through all phases of grading and project construction. The SWPPP shall incorporate Best Management Practices to ensure that potential water quality impacts during construction phases are minimized. The SWPPP shall address spill prevention and include counter measure plan describing measures to ensure proper collection and disposal of all pollutants handled or produced on the site during construction, including sanitary wastes, cement, and petroleum products. These measures shall be consistent with the City's Improvement Standards and Land Grading and Erosion Control Ordinance and may include but not necessary limited to: (1) restricting grading to the dry season; (2) protecting all finished graded slopes from erosion using such techniques as erosion control matting and hydroseeding; (3) protecting downstream storm drainage inlets from sedimentation; (4) use of silt fencing and hay bales to retain sediment on the project site; (5) use of temporary water conveyance and water diversion structures to eliminate runoff into any receiving water body; and (6) any other suitable measures The SWPPP shall be submitted to the Central Valley Regional Water Quality Control Board and to the City for review. A copy of the SWPPP must be kept accessible on the project site at all times.	Prior to issuance of Grading Permits.	Public Works	
59.	Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from the SMAQMD prior to operation. The applicant, developer or operator of a project that includes an emergency generator, boiler or heater should contact the District early to determine if a permit is required and to begin the permit application process. Portable construction equipment that has an internal combustion engine with a horsepower rating grater than 50 are required to have a District permit or a California Air Resources Board portable equipment registration. Other general types of uses that	Prior to Issuance of Grading/Improvement Plans	Planning	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
	require a District permit are operations that generate airborne particulate emissions.			
60.	The Applicant shall connection to the District's sewer system to the satisfaction of CSD-1. Sacramento County Improvement Standards apply to sewer construction.	Prior to Issuance of the Improvement Plans	CSD-1	
61.	Destroy all abandoned wells on the proposed project site in accordance with the requirements of the Sacramento County Environmental Health Division. Clearly show all abandoned/destroyed wells on the improvement plans for the project. Prior to abandoning any existing agricultural wells, the Applicant shall use water from agricultural wells for grading and construction.	Prior to Issuance of Improvement Plans	SCWA	
62.	Provide metered connections on transmission mains to the satisfaction of the Sacramento County Water Agency	Prior to Issuance of Improvement Plans	SCWA	
PRIOR TO ISSUANCE OF BUILDING PERMITS				
63.	The Final Map shall be completed, approved and recorded prior to 1st building permit.	Prior to issuance of 1st Building Permit	Public Works	
64.	At all street intersections, public or private, within one block of the proposed project, applicant shall install and/or replace street name signs in accordance with the City of Elk Grove Standard Details.	Prior to issuance of 1st Building Permit	Public Works	
65.	Landscaping shall be installed prior to the issuance of the first building permit within the subdivision. If weather prevents the installation at the time of first building permit, up to 25% of the building permits may be issued at staff discretion upon demonstration of a fully executed landscape contract for the work. Additionally, should the timing and construction of the City's Grant Line Widening Project delay or limit the ability to construct the landscape improvements, building permits may be issued upon mutual agreement of a revised schedule of improvements and posting of a satisfactory form of security.	Prior to issuance of 1st Building Permit	Public Works	
66.	All improvements shall be constructed in accordance with the City of Elk Grove Improvement Standards and to the satisfaction of Public Works.	Prior to 1st Building Permit	Public Works	

	CONDITIONS OF APPROVAL / MITIGATION MEASURE	TIMING/ IMPLEMENTATION	ENFORCEMENT/ MONITORING	VERIFICATION (DATE AND SIGNATURE)
67.	Each parcel and each building with a sewage source shall have a separate connection to the CSD-1 sewer system.	Prior to Finalization of Building Permit	CSD-1	
68.	Prior to the issuance of any building permits, the applicant shall construct a noise barrier as specified below which are required to meet the thresholds for acceptable noise levels prior to residential occupancy. A combination of berm and wall is required. Construct an 11-foot high noise barrier at the rear property lines of lots 1-17 to reduce the traffic noise impacts of Grant Line Road. The applicant may chose to conduct a separate noise analysis to determine if a lower wall height is acceptable. The scope for any such noise analysis shall be prepared by the Planning Department.	Prior to Issuance of Building Permit	Planning & Building	
69.	The Applicant shall pay all applicable City of Elk Grove administered development impact fees prior to building permit issuance	Prior to Building Permit Issuance	Finance	
PRIOR TO CERTIFICATE OF OCCUPANCY				
70.	The Applicant shall submit Flood Elevation Certification for each structure or appropriate documents as determined by Public Works.	Prior to Occupancy	Public Works	
71.	Any improvements, public or private, damaged in construction shall be replaced in-kind or with new improvement.	Prior to Occupancy	Public Works	
72.	All driveways shall require an encroachment permit. At that time the curb, gutter, sidewalk and all public improvements shall be evaluated to determine if those improvements need to be repaired/reconstructed.	Prior to issuance of Encroachment Permit	Public Works	

Compliance Items for Building Permit

1. Permits and/or fees are required for the following reviews: civil plans, architectural plans, fire sprinkler plans and fire alarm plans. Additional permits and fees may apply depending upon the scope of the project.
2. Dead-end streets in excess of 150 feet require emergency vehicle turn-a-rounds.
3. Wholesale water supply will be provided by the Sacramento County Water Agency.
4. All required roadways, street signs, addresses, water mains, fire hydrants, and fire flows shall be provided prior to the existence of any combustible construction or storage. The slope of access roadways shall not exceed 10% for asphalt and 15% for concrete. The roadways shall be constructed to a 20-foot minimum width with a minimum of three (3) inches AC over six (6) inches AB with good drainage.
5. The installation of on-site or off-site fire protection equipment including fire hydrants and water mains shall meet the standards of the Elk Grove Fire Department and the water purveyor having jurisdiction.

APPENDIX B – BIOLOGICAL RESOURCES ASSESSMENT

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

March 10, 2010

Thad Johnson
Pappas Investments
2020 L Street, 5th Floor
Sacramento, CA 95814

Dear Thad:

The purpose of this letter is to update the May 6, 2005 Biological Resource Assessment prepared for the Fieldstone South project. A copy of that report is attached.

The 2005 report found the following biological resource issues on the project site:

- Potential habitat for special-status wetland plant species (low potential);
- Potential habitat for special-status invertebrates (low potential);
- Potential foraging and nesting habitat for Swainson's hawk, a state-listed species (high potential);
- Potential habitat for western burrowing owl (low potential);
- Potential breeding habitat for western spadefoot (low potential);
- Potential nesting sites and foraging habitat for raptors (high potential);
- Sensitive habitats (farmed wetlands); and
- Protected trees.

Subsequent to the preparation of that report, site surveys conducted for special-status wetland plants, special-status and listed wetland animals, and nesting raptors were negative. Wetland mitigation credits were purchased, and agricultural operations resulted in fill of the farmed wetlands (see enclosed mitigation credit sales receipt).

Thus, Mitigation Measures 38 (western spadefoot toad surveys), 42 (special-status wetland plant surveys), 44 (wetland mitigation), and 45 (invertebrate surveys) have been completed or are no longer applicable.

A field inspection of the property was conducted on December 2, 2009 to evaluate current site conditions. The site was walked and general site conditions were noted. The results of this inspection follow.

General Site Conditions

The site is currently in a dry farming operation (winter wheat production). The farmed wetlands formerly occurring on the site have been filled, and there is no evidence of any wetland habitat remaining within the project boundary.

A number of large eucalyptus trees in the central portion of the site have been removed, but the oaks and ornamental trees located in the vicinity of the old building site still remain, as do the walnut trees located along Grant Line Road.

Remaining Biological Resource Issues

With the fill of the wetland habitat, all of the wetland-related biological issues reported in 2005 are no longer a concern for the Fieldstone South project site.

The remaining issues are discussed below.

1) Potential foraging and nesting habitat for Swainson's hawk.

   The site remains potential for nesting and foraging habitat for Swainson's hawk. The removal of the large eucalyptus trees on the project site reduced potential nesting sites, but many trees of appropriate size remain.

   Mitigation Measures 40 (general raptor survey) and 41 (Swainson's hawk mitigation) apply.

2) Potential habitat for western burrowing owl.

   Although most of the site is actively farmed and not suitable nesting habitat for burrowing owls, the untilled portions of the site could support burrowing owl nesting in ground squirrel burrows or in old debris (e.g. concrete rubble).

   Mitigation Measures 39 (burrowing owl survey) and 40 (general raptor survey) apply.

3) Potential nesting sites and foraging habitat for other raptors.

   Although past surveys have not identified nesting raptors on the project site, a 2007 nesting raptor survey found an active red-tailed hawk nest just north of the project site. Note that the presence of active red-tailed hawk nests reduces the likelihood of Swainson's hawk nesting in the vicinity (see above).

   Mitigation Measure 40 (general raptor survey) applies.

4) Protected trees.

   The site supports native oak trees, located primarily in association with the old residence area. Since the original biological survey in 2005, at least two large oaks have died.

   Mitigation Measure 43 (tree replacement) applies.

There are specific actions the project applicant must take to be in compliance with the mitigation measures listed above. For on-site actions to be consistent with these measures, we recommend the following actions be taken prior to the onset of construction:

1) Nesting raptor survey, consistent with Mitigation Measure 40.

2) Update tree survey and revise tree replacement plan accordingly, consistent with Mitigation Measure 43.

Please contact me if you have any questions, or if you need any additional information.

Sincerely,

Kenneth D. Whitney, Ph.D.

Enclosures

Biological Resources Assessment

Fieldstone South 28-Acre Site
Sacramento County, California

Prepared for: East Elk Grove 24, LLC

May 6, 2005

Submitted by:

FOOTHILL ASSOCIATES

Table of Contents

List of Tables

List of Figures

1.0 EXECUTIVE SUMMARY

Foothill Associates biologists conducted a biological resources assessment on February 9, 2005 on the Pappas Grantline site that occurs within the City of Elk Grove immediately southwest of the intersection of Grantline Road and Bradshaw Road. The purpose of this document is to summarize the general biological resources on the site, to assess the suitability of the site to support special-status species and sensitive habitat types, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring on the site.

Vegetation communities on the site include irrigated pasture. Within this vegetation community are wetland features. The surrounding land uses include new residential developments to the north and west, Grantline Road, commercial nurseries, and residential areas to the south, and residential areas and agricultural fields to the east. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status wetland plant species (low potential);
- Potential habitat for special-status invertebrates (low potential);
- Potential foraging and nesting habitat for Swainson's hawk, a state-listed species (high potential);
- Potential habitat for western burrowing owl (low potential);
- Potential breeding habitat for western spadefoot (low potential);
- Potential nesting sites and foraging habitat for raptors (high potential);
- Sensitive habitats (farmed wetlands); and
- Protected trees.

2.0 INTRODUCTION

This report summarizes the findings of a biological resources assessment completed for a ±28-acre site located within the City of Elk Grove, California. This document addresses the onsite physical features as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring on the site. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are made for any regulatory permitting or further analysis that may be required prior to development activities occurring on the site.

3.0 REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process. The CEQA significance criteria are also included in this section.

3.1 Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered or threatened species or results in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, FESA would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

3.2 Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

3.3 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing CEQA documents. The purpose is to ensure that the lead agency's actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur and allows CDFG to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFG to authorize exceptions to the state's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

3.4 CDFG Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFG and lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by CDFG. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

3.5 California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

- List 1A: Plants presumed Extinct in California
- List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- List 3: Plants about which we need more information – A Review List
- List 4: Plants of limited distribution – A Watch List

3.6 Jurisdictional Waters of the United States

3.6.1 Federal Jurisdiction

The Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. "Discharges of fill material" are defined as the addition

of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

3.6.2 State Jurisdiction

CDFG is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Section 1602, a private party must notify CDFG if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds...except when the department has been notified pursuant to Section 1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFG identifying the approved activities and associated mitigation measures.

3.7 Wildlife Migration Corridors

Wildlife migration corridors are important for the movement of migratory wildlife populations. Corridors provide foraging opportunities and shelter during migration. Generally, wildlife migration corridors are established migration routes for many species

of wildlife. In wooded areas, these corridors often occur in open meadow or riverine habitats and provide a clear route for migration in addition to providing ample food and water sources during movement.

3.8 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan; and

An evaluation of whether or not impacts to a biological resource would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

4.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the References section. Site-specific information was reviewed including the following:

- California Department of Fish and Game (CDFG). *California Natural Diversity Data Base.* (CNDDB: 2004) Sacramento, California;
- Natural Resource Conservation Service (NRCS). 1993. *Soil Survey of Sacramento County, California.* U.S. Department of Agriculture;
- U.S. Fish and Wildlife Service. 2005. Federal Endangered and Threatened Species that may be affected by Projects in the Elk Grove 7.5 minute series quadrangle. Sacramento, California; and
- U.S. Geological Survey. 1968 (photorevised 1979). *Elk Grove, California.* 7.5-minute series topographic quadrangle. United States Department of Interior.

Foothill Associates biologists conducted field surveys on the site on February 9, 2005. The site was systematically surveyed on foot to ensure total search coverage, with special attention given to identifying those portions of the site with the potential for supporting special-status species and sensitive habitats. During the site survey, plant and animal species observed were recorded and biological communities on the site where categorized.

As part of this assessment, Foothill Associates conducted formal wetland delineation for all potentially jurisdictional wetland features or waters of the U.S. The boundaries of these features were recorded with a sub-meter GeoXT global positioning system (GPS). The general descriptions of wetland features found on the site are summarized in this biological resource assessment.

5.1 Site Location and Description

The site is located in the City of Elk Grove, California within Township 6 North, Range 6 East, Sections 5 and 8 of the USGS 7.5-minute series Elk Grove quadrangle (**Figure 1**). The site primarily consists of irrigated pastures with large eucalyptus trees scattered through portions of the site. The surrounding land uses include new residential developments to the north and west, Grantline Boulevard, commercial nurseries, and residential areas to the south, and residential areas and agricultural fields to the east.

5.2 Physical Features

5.2.1 Topography and Drainage

Topography on the site is relatively level with elevations ranging from 50 to 55 feet above mean sea level. Surface runoff generally enters Elk Grove Creek to the north of the site and a temporary ditch immediately to the west of the site. In addition, there are farmed wetlands on the site that capture some limited amount of surface runoff.

5.2.2 Soils

The Natural Resources Conservation Service (NRCS) has mapped two soils on the site (**Figure 2**). The soils that occur on the site include the following: **San Joaquin silt loam, leveled, 0 to 1 percent slopes** and **San Joaquin-Galt Complex, leveled, 0 to 1 percent slopes**. General characteristics associated with these soils types are described below.

- **San Joaquin silt loam, leveled, 0 to 1 percent slopes**: This soil unit is found on low terraces at an elevation of 20 to 125 feet above mean sea level. San Joaquin silt loam is a moderately deep, moderately well drained soil formed in alluvium derived from dominantly granitic rocks. Permeability is very slow and runoff is very slow. Available water capacity is low. Vegetation typically found on this soil unit consists of non-native annual grasses and herbaceous plant species, and a few scattered native oaks (*Quercus* spp.). The hydric soils list for Sacramento County does not identify any hydric inclusions within this soil type.
- **San Joaquin-Galt Complex, leveled, 0 to 1 percent slopes:** This soil unit is found on low terraces at an elevation of 20 to 85 feet above mean sea level. This unit is approximately 45 percent San Joaquin soil and 40 percent Galt soil. The San Joaquin soil is moderately deep and moderately well drained. Permeability and runoff are very slow. The Galt soil is moderately deep and moderately well drained. Permeability is slow and runoff is very slow. Vegetation typically found on this soil unit is annual grasses and herbaceous plant species. The hydric soils list for Sacramento County lists the Galt hydric component found in depressions and the Clearlake hydric inclusion found on basin floors as occurring within this soil unit.

5.3 Biological Communities

The site has a long history of cultivation, and the predominant plant community on site is currently a hay crop. There are a few windrows of eucalyptus trees on site (with several of the trees dead or in poor condition), along with a remnant area of cultivated woody plant species around the former location of farm structures. A few oaks, primarily located along Grantline Road, also occur on site.

The dryland hay crop provides some habitat to a number of common species of wildlife and may provide potentially suitable habitat for special-status species. The biological community, including associated common plant and wildlife species observed or that are expected to occur in within this community, is described below. Within this community are small areas of farmed wetlands.

5.3.1 Dryland HayFields

The plant community covering the majority of the site is a dryland hay crop, which is characterized primarily by a mix of small grains and legumes, with various weedy non-native grasses and forbs intermixed. The plant species in this community are common to the Central Valley. In addition to planted species, other grass species consists of soft chess (*Bromus hordeaceous*), ripgut brome (*Bromus diandrus*), foxtail fescue (*Vulpia myuros*), and wild oat (*Avena* sp.). Common dominant herbaceous non-natives include yellow star-thistle (*Centaurea solstitialis*), woolly mullein (*Verbascum thapsus*), California horkelia (*Horkelia californica*), and Italian thistle (*Carduus pycnocephalus*). Valley oaks (*Quercus lobata*), California black walnuts (*Juglans hindsii*), and blue gum eucalyptus trees (*Eucalyptus globulus*) are scattered throughout site within the dryland hay fields.

This landscape provides breeding, foraging, and shelter habitat for several common species of wildlife. Species observed in this habitat on the site include American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), white-crowned sparrow (*Zonotrichia leucophrys*), black phoebe (*Sayornis nigricans*), and black-tailed jackrabbit (*Lepus californicus*).

5.3.2 Wetlands

Farmed Wetlands

A total of **0.095 acre** of farmed wetlands was delineated on the site. Farmed wetlands are wetland features that have been manipulated for production of food or forage but that retain sufficient wetland features (e.g. flora, hydrology) to qualify as jurisdictional wetlands under the Clean Water Act.

These wetlands support a mix of wetland species (e.g. curly dock, sedge, loosestrife hedge-hyssop). Because they are periodically manipulated the wetland plant communities do not develop any consistent pattern of vegetation development, and some areas of these wetlands are sparsely vegetated.

Since the soils on the project site are all mapped as leveled soils, these wetlands are likely the result of onsite manipulation during the leveling process, or some other subsequent agricultural activity.

5.4 Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, state, or local resource agencies or organizations. Special-status species are defined as:

- Listed or proposed for listing under CESA and/or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- Listed by CDFG as a Species of Special Concern;
- Listed by the USFWS as a Species of Concern;
- Listed by CNPS as being rare (a ranking of 1A, 1B, or 2); or
- Any other species that would receive consideration according to the CEQA Guidelines.

Special-status species considered for this analysis are based on queries of the CNDDB for the Elk Grove quadrangle and surrounding eight quadrangles, the USFWS Online Species List for the Elk Grove quadrangle, and the CNPS Inventory of Rare and Endangered Plants list for the Elk Grove quadrangle (online version) (**Table 1**). **Table 1** includes the common name and scientific name for each species, regulatory status (federal, state, local, CNPS), habitat descriptions, and potential for occurrence on the project site. **Figure 3** depicts the locations of special-status species recorded in the CNDDB within 5 miles of the site. The following set of criteria has been used to determine each species' potential for occurrence on the site:

- **Present**: Species known to occur on the site, based on CNDDB records, and/or was observed on the site during the field survey(s).
- **High**: Species known to occur on or near the site (based on CNDDB records within 5 miles, and/or based on professional expertise specific to the site or species) and there is suitable habitat on the site.
- **Low**: Species known to occur in the vicinity of the site, and there is marginal habitat on the site.-**OR**-Species is not known to occur in the vicinity of the site, however there is suitable habitat on the site.
- **No**: Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.-**OR**-Species was surveyed for during the appropriate season with negative results.

Only those species that are known to be present or that have a high or low potential for occurrence will be discussed in further detail following **Table 1**.

TABLE 1 — LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING ON THE SITE OR IN THE VICINITY

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Plants			
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	--;--;--;4	Found on margins of vernal pools.	**Low.**
Bogg's Lake hedge-hyssop *Gratiola heterosepala*	--;CE;--;1B	Shallow ponds and margins of vernal pools.	**Low.**
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	--;--;--;1B	Freshwater and brackish marsh habitats.	**No.** There is no suitable habitat for this species on the site.
Dwarf downingia *Downingia pusilla*	--;--;--;2	Vernal pools and roadside ditches.	**Low.**
Legenere *Legenere limosa*	--;--;--;1B	Moist areas and vernal pools.	**Low.**
Mason's lilaeopsis *Lilaeopsis masonii*	--;--;--;1B	Brackish and freshwater marshes and riparian woodlands.	**No.** There is no suitable habitat for this species on the site.
Rose-mallow *Hibiscus lasiocarpus*	--;--;--;2	Freshwater marshes and swamps.	**No.** There is no suitable habitat for this species on the site.
Sanford's arrowhead *Sagittaria sanfordii*	--;--;--;1B	Found on margins of marshes and riparian areas.	**No.** There is no suitable habitat for this species on the site.
Slender orcutt grass *Orcuttia tenuis*	FE;--;--;1B	Vernal pools with annual grasslands and blue oak woodlands from Siskiyou to Sacramento Counties.	**No.** The vernal pool habitat on the site is not of suitable depth or quality to support this species.
Wildlife			
Invertebrates			
California linderiella *Linderiella occidentalis*	FSC;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	**Low.**
Mid-valley fairy shrimp *Branchinecta mesovallensis*	FSC;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	**Low.**
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT;--;--;--	Blue elderberry shrubs usually associated with riparian areas.	**No.** The site does not contain elderberry shrubs that are required by this species.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**Low.**

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Vernal pool tadpole shrimp *Lepidurus packardi*	FE;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	**Low.**
Amphibians/Reptiles			
California horned lizard *Phrynosoma coronatum frontale*	FSC;CSC;--;--	Found in open oak and conifer woodlands, grasslands, and riparian areas. Most often found in areas with sandy soil types.	**No.** The site does not have suitable habitat for this species and the frequency of disturbance associated with agricultural practices precludes this species from occurring.
California red-legged frog *Rana aurora draytonii*	FT; CSC; --; --	Requires a permanent water source and is typically found along quiet slow moving streams, ponds, or marsh communities with emergent vegetation.	**No.** Site lacks suitable permanent water source for breeding pools.
California tiger salamander *Ambystoma californiense*	FT;CSC;--;--	Ponded water required for breeding. Adults spend summer in small mammal burrows.	**No.** Site is outside known range for this species and site lacks appropriate permanent water source for breeding.
Giant garter snake *Thamnophis gigas*	FT; CT; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**No.** The site is adjacent to, but does not contain, potential aquatic habitat for this species.
Western pond turtle *Clemmys marmorata*	FSC;CSC;--;--	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**No.** Site does not contain suitable habitat for this species.
Western spadefoot *Spea hammondii*	FSC;CSC;--;--	Open grasslands and woodlands. Requires vernal pools or seasonal wetlands for breeding.	**Low.**
Fish			
Central Valley spring-run Chinook salmon *Oncorhynchus tshawytscha*	FT;CT;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No.** Site does not contain suitable habitat for this species.
Winter run Chinook salmon *Oncorhynchus tshawytscha*	FE;CE;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No.** Site does not contain suitable habitat for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Central Valley steelhead *Oncorhynchus mykiss*	FT;--;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No**. Site does not contain suitable habitat for this species.
Delta smelt *Hypomesus transpacificus*	FT;CT;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No**. Site does not contain suitable habitat for this species.
Green sturgeon *Acipenser medirostris*	--;CSC;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No**. Site does not contain suitable habitat for this species.
Longfin smelt *Spirinchus thaleichthys*	FSC;CSC;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No**. Site does not contain suitable habitat for this species.
River lamprey *Lampetra ayresi*	--;CSC;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No**. Site does not contain suitable habitat for this species.
Sacramento splittail *Pogonichthys macrolepidotus*	FSC;CSC;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**No**. Site does not contain suitable habitat for this species.
Birds			
Aleutian Canada goose *Branta Canadensis leucopareia*	FD (FSC); CSC; -- (Wintering)	Winter resident of agricultural lands.	**Low.**
American peregrine falcon *Falco peregrinus anatum*	FD(FSC);CE;--;--	Nests on high cliffs, banks, dunes, or mounds in woodland, forest, and coastal habitats near permanent water sources.	**No**. There is no suitable nesting habitat for this species on the site.
Bald eagle *Haliaeetus leucocephalus*	FT;CE;--;--	Nesting restricted to the mountainous habitats near permanent water sources in the northernmost counties of California, the Central Coast Region, and on Santa Catalina Island. Winters throughout most of California at lakes, reservoirs, river systems, and coastal wetlands.	**No**. There is no suitable habitat for this species on the site.
Bank swallow *Riparia riparia*	FSC; CT;--;--	Nests in riverbanks and forages over riparian areas and adjacent uplands.	**No**. There is no suitable nesting habitat for this species on the site.
Cooper's hawk *Accipiter cooperii*	--;CSC;--;--	Nests in riparian corridors. Forages in woodlands and riparian areas.	**No**. Site does not contain suitable habitat for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Ferruginous hawk *Buteo regalis*	FSC;CSC;--;--	A winter resident of open habitats in California including grasslands, shrubsteppes, sagebrush, deserts, saltbush-greasewood shrublands, and outer edges of pinyon-pine and other forests.	**Low.**
Greater sandhill crane *Grus Canadensis tabida*	FSC;CT;--;--	Nests in wet meadows interspersed with emergent marsh habitat. Winters in agricultural croplands, marshlands, and irrigated pastures.	**Low.**
Lawrence's goldfinch *Carduelis lawrencei*	FSC;--;--;--	Nests in open oak or other arid woodland and chaparral habitats near water.	**No.** There is no suitable habitat for this species on the site.
Lewis' woodpecker *Melanerpes lewis*	FSC;--;--;--	Coniferous forests and oak woodlands.	**No.** There is no suitable habitat for this species on the site.
Little willow flycatcher *Empidonax traillii brewsteri*	FSC;CE;--;--	Nests in dense riparian vegetation such as willows and alders.	**No.** There is no suitable habitat for this species on the site.
Loggerhead shrike *Lanius ludovicianus*	FSC; CSC;--;--	Found in a variety of woodland and grassland habitats throughout California.	**Low.**
Long-billed curlew *Numenius americanus*	FSC;CSC;--;-- (Nesting)	Mudflats and shallow marsh areas.	**No.** There is no suitable habitat for this species on the site.
Mountain plover *Charadrius montanus*	FSC;CSC;--;--	Winters in California in agricultural fields and grasslands.	**No.** There are no known occurrences in the vicinity of the site and there is only marginal habitat on the site for this species.
Nuttall's woodpecker *Picoides nuttallii*	FSC;--;--;--	Permanent resident of low-elevation riparian deciduous and oak habitats.	**Low.**
Oak titmouse *Baeolophus inornatus*	FSC;--;--;--	Oak savannah and oak woodlands.	**Low.**
Purple martin *Progne subis*	--;CSC (Nesting);--;--	Summer resident in low elevation woodlands and riparian areas.	**No.** Site does not contain suitable breeding habitat for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Rufous hummingbird *Selasphorus rufus*	--;CSC;--;--	Nests within berry tangles, shrubs, and conifers in areas north of California and in the Trinity Mountains of Trinity and Humboldt County. Migrates through portions of Sierras and mountains of Southern California in spring and fall.	**No**. There is no suitable nesting habitat for this species on the site.
Swainson's hawk *Buteo swainsoni*	FSC; CT; -- (Nesting)	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands, etc.).	**High**.
Tricolored blackbird *Agelaius tricolor*	FSC;CSC;--;--	Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands throughout the Central Valley and foothills surrounding the valley.	**No**. There is no suitable nesting habitat for this species on the site.
Vaux's swift *Chaetura vauxi*	FSC;CSC(Nesting);--;--	Nests within large hollow trees and snags in redwood and Douglas-fir habitats. Migrates throughout much of California.	**No**. There is no suitable nesting habitat for this species on the site.
Western burrowing owl *Athene cunicularia hypugaea*	FSC;CSC; (burrow sites);--;--	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat.	**Low.**
White-faced ibis *Plegadis chihi*	FSC;CSC;--;--	Nests colonially in riparian areas with large trees.	**No**. Site does not contain suitable habitat for this species.
White-tailed kite *Elanus leucurus*	FSC;CFP;--;--	Nests in isolated trees or woodland areas with suitable open foraging habitat.	**High.**
Other Raptors (Hawks, Owls and Vultures)	MBTA and §3503.5 Department of Fish and Game Code	Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, and urban communities.	**High.**
Mammals			
American badger *Taxidea taxus*	--;CSC;--;--	Found throughout most of California in dry shrub and forest habitats with friable soils.	**No**. There is no suitable habitat for this species on the site.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Long-legged myotis *Myotis volans*	FSC; --; --; --	Woodland and forest communities above approximately 4,000 feet above mean sea level. Roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves.	**No.** There is no suitable roosting habitat for this species on the site.
Pacific western big-eared bat *Corynorhinus townsendii townsendii*	FSC;CSC;--;--	Roosts in a wide variety of habitats (i.e., riparian, scrub, woodland), in abandoned buildings, and bridges.	**No.** There is no suitable roosting habitat for this species on the site.
Riparian brush rabbit *Sylvilagus bachmani riparius*	FE;CE;--;--	Found in mature riparian forest habitat.	**No.** There is no suitable habitat for this species on the site and the site is outside the known range of the species.
Riparian woodrat *Neotoma fuscipes riparia*	FE;CSC;--;--	Found in mature riparian forest habitat.	**No.** There is no suitable habitat for this species on the site and the site is outside the known range of the species.
San Joaquin pocket mouse *Perognathus inornatus*	FSC;--;--;--	Annual grassland and scrub habitats with fine-textured soil conditions.	**No.** There is no suitable habitat for this species on the site.
Small-footed myotis *Myotis ciliolabrum*	FSC;--;--;--	Roosts in a wide variety of habitats (i.e., riparian, scrub, woodland), in abandoned buildings, and bridges.	**No.** There is no suitable roosting habitat for this species on the site.
Yuma myotis *Myotis yumanensis*	FSC; CSC; --; --	Reside in open forests and woodland habitats with sources of water over which to feed. Roost in buildings, mines, caves, and crevices.	**No.** There is no suitable roosting habitat for this species on the site.

Federally Listed Species:

FE = federal endangered

FT = federal threatened

FSC = federal species of concern

FC = candidate

PT = proposed threatened

FPD = proposed for delisting

FD = delisted

California State Listed Species:

CE = California state endangered

CT = California state threatened

CR = California state rare

CSC = California Species of Special Concern

CFP = California Fully Protected Species

CNPS* List Categories:

1A = plants presumed extinct in California

1B = plants rare, threatened, or endangered in California and elsewhere

2 = plants rare, threatened, or endangered in California, but common elsewhere

3 = plants about which we need more information

4 = plants of limited distribution

Other Special-status Listing:

SLC = species of local or regional concern or conservation significance

Source: Foothill Associates

5.4.1 Listed and Special-Status Plants

Based on a records search of the CNDDB and the USFWS list, special-status plant species have the potential to occur on the site or in the vicinity. Based on field observations and literature review specific to the special-status plants listed in **Table 1**, the potential for occurrence has been determined for each species. No special-status plant species are considered to have a high potential to occur on the site due to the high level of disturbance within potential habitat that has occurred from agricultural and grazing activities. The species that are considered to have a low potential to occur on the site include the following: Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), and legenere (*Legenere limosa*).

Plant Species with a Low Potential to Occur

Ahart's Dwarf Rush

Ahart's dwarf rush is an annual grass-like herb. It occurs on the margins of vernal pools in grassland areas. The flowering period for this species is April through May. There are no CNDDB records of this species occurring within five miles of the project site (CNDDB 2004) and this species was not observed on the site during the biological assessment, however, the biological assessment was conducted outside of the blooming period for this species. While the farmed wetlands on the site provide potential habitat for this species, the initial disturbance by land leveling, and the subsequent frequent disturbance by agricultural practices make for a low potential for this species to occur on the site.

Bogg's Lake Hedge-hyssop

Bogg's Lake hedge-hyssop is an annual herb. It is typically found on the margins of vernal pools or shallow ponds. The flowering period is May through June. There are three records for this species occurring within five miles of the project site (CNDDB 2004). This species was not observed on the site during the biological assessment, however, the biological assessment was conducted outside of the blooming period for this species. While the farmed wetlands on the site provide potential habitat for this species, the initial disturbance by land leveling, and the subsequent frequent disturbance by agricultural practices make for a low potential for this species to occur on the site.

Dwarf Downingia

Dwarf downingia is a small annual herb. It occurs in vernal pools often in pools with a short hydrological period. The flowering period is March through May. There are three CNDDB records for this species within five miles of the project site (CNDDB 2004). This species was not observed on the site during the biological assessment, however, the biological assessment was conducted outside of the blooming period for this species. While the farmed wetlands on the site provide potential habitat for this species, the initial

disturbance by land leveling, and the subsequent frequent disturbance by agricultural practices make for a low potential for this species to occur on the site.

Legenere

Legenere is a small annual herb. It is found in vernal pools and seasonal marsh habitat. The flowering period is April through May. There are four CNDDB records for this species within five miles of the project site (CNDDB 2004). This species was not observed on the site during the biological assessment, however, the biological assessment was conducted outside of the blooming period for this species. While the farmed wetlands on the site provide potential habitat for this species, the initial disturbance by land leveling, and the subsequent frequent disturbance by agricultural practices make for a low potential for this species to occur on the site.

5.4.2 Listed and Special-Status Animals

Based on a records search of the CNDDB and the USFWS list, special-status animal species have the potential to occur on the site or in the vicinity. Based on field observations and literature review specific to the special-status animals listed in **Table 1**, the potential for occurrence has been determined for each species. Species that are known to be present or that are considered to have a high potential to occur on the site include the following: Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), as well as other raptor species. The species that are considered to have a low potential to occur on the site include the following: Aleutian Canada goose (*Branta canadensis leucopareia*), California linderiella (*Linderiella occidentalis*), ferruginous hawk (*Buteo regalis*), greater sandhill crane (*Grus canadensis tabida*), loggerhead shrike (*Lanius ludovicianus*), mid-valley fairy shrimp (*Branchinecta mesovallensis*), Nuttall's woodpecker (*Picoides nuttallii*), oak titmouse (*Baeolophus inornatus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Branchinecta packardi*), western burrowing owl (*Athene cunicularia hypugaea*), and western spadefoot (*Spea hammondii*).

Animal Species with a High Potential to Occur

Swainson's Hawk

Swainson's hawks migrate from their wintering grounds to their breeding grounds, including the Central Valley of California, from early March through early April (Bloom and De Water 1994). On breeding grounds, Swainson's hawks prefer open habitats including mixed and short grass grasslands, with scattered trees or shrubs for perching; dry grasslands; irrigated meadows, and edges between two habitat types. Breeding occurs from late March to late August, peaking in late May through July (Zeiner et. al. 1990). Swainson's hawks nest in stands with few trees in juniper-sage flats, riparian woodlands, and oak woodlands. This species nests in close proximity to suitable foraging habitat. Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and De Water 1994). There are several records for this species in the CNDDB within five miles of the site (CNDDB

2004). This species was not observed on the site during the biological assessment. However, foraging habitat for this species occurs within the annual grassland communities on the site. In addition, large trees on the site provide potential nesting habitat for this species. Consequently, this species has a high potential to occur on the site.

White-tailed Kite

The white-tailed kite is a medium sized raptor that is a yearlong resident in coastal and valley lowlands in California. White-tailed kites are monogamous and breed from February to October, peaking from May to August (Zeiner et. al. 1990). This species nests near the top of dense oak, willow, or other large trees. There is one CNDDB record for white-tailed kite listed within five miles of the project site (CNDDB 2004). This species was not observed on the site during the biological assessment. However, the grassland habitat on the site provides good potential foraging habitat for this species and there are trees on the site that provide potential nesting habitat. Therefore, the potential for this species to occur on the site is high.

Other Raptor Species

Other raptor species forage and nest in a variety of habitats throughout Sacramento County. Raptor nests are protected under the MBTA and Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. Large trees on the site provide potential nesting habitat for raptor species. In addition, foraging habitat for raptors occurs within the annual grassland habitat on the site. Consequently, raptors and other migratory birds have a high potential to forage and nest on the site.

Animal Species with a Low Potential to Occur

Aleutian Canada Goose

The Aleutian Canada goose winters in wet meadows and agricultural fields throughout the Central Valley. This subspecies of Canada goose does not breed in California. It feeds primarily on grasses and other emergent wetland vegetation. There are no CNDDB records for this species within five miles of the project site (CNDDB 2003) and the species was not observed onsite during the biological resource assessment. However, the wetlands within the annual grasslands on the site provide marginal potential wintering habitat for this species. Therefore, the potential for this species to winter on the site is low. This species would only be expected to occur during the rainy season. Therefore, no significant impacts to this species are expected since initial grading would not be expected to occur during the rainy season. Therefore, no impacts to this species are expected and no mitigation is expected to be necessary.

Ferruginous Hawk

Ferruginous hawk is a winter resident and migrant of California. In the winter, this species can be found throughout California, with the exception of the extreme northeastern and northwestern regions (Zeiner et. al. 1990). Ferruginous hawks migrate to California in August or September and return to their breeding grounds in late February or early March. This species occurs in open habitats including grasslands, shrubsteppes, sagebrush, deserts, saltbush-greasewood shrublands, and outer edges of pinyon-pine and other forest. There are no CNDDB records of ferruginous hawk within five miles of the project site (CNDDB 2004) and it was not observed during the assessment. There is suitable wintering habitat for ferruginous hawk in the annual grassland on the site. Consequently, this species has a low potential to occur on the site. This species would only be expected to occur during the rainy season. Therefore, no significant impacts to this species are expected since initial grading would not be expected to occur during the rainy season. Therefore, no impacts to this species are expected and no mitigation is expected to be necessary.

Greater Sandhill Crane

Greater sandhill cranes winter in wet meadows and agricultural fields of the Central Valley. They only breed in extreme northeastern California (Zeiner et. al. 1990). They feed on grasses, herbs, and small invertebrates such as frogs, snakes, and crayfish. There are no CNDDB records for this species within five miles of the project site (CNDDB 2004) and this species was not observed on the site during the biological resource assessment. However, some of the wetland features within the annual grassland community on the site provide potential wintering habitat for this species. Therefore, the potential for this species to winter on the project site is low. This species would only be expected to occur during the rainy season. Therefore, no significant impacts to this species are expected since initial grading would not be expected to occur during the rainy season. Therefore, no impacts to this species are expected and no mitigation is expected to be necessary.

Loggerhead Shrike

The loggerhead shrike utilizes open habitats with scattered shrubs and trees, posts, fences, utility lines, and occurs often in cropland (Zeiner et. al. 1990). This species nests from March to May, building twig nests within the dense foliage of shrubs or trees that conceal the nest. There are no CNDDB records for loggerhead shrike within five miles of the project area (CNDDB 2004) and the species was not observed on the site during the biological assessment. However, annual grasslands on the site and adjacent to the site provide potential habitat for this species. However, there is limited nesting habitat for this species on the site due to the lack of significant shrub communities. Therefore, the potential for this species to nest on the site is low. No impacts to this species' nesting habitat are expected to occur and no further discussion of mitigation for this species is expected to be necessary.

Nuttall's Woodpecker

The Nuttall's woodpecker is a year-round resident in oak woodlands and riparian woodlands throughout the Central Valley, Coast Ranges, and lower elevations of the Sierra Nevada and Cascades. It is a cavity nester in snags. Breeding typically occurs between March and July (Zeiner et. al. 1990). There are no records of Nuttall's woodpecker within five miles of the project area and the species was not observed on the site during the biological assessment. However, the scattered oaks on the site provide marginal habitat for the species. Therefore, the potential for this species to nest within the boundaries of the site is low. Any impacts to this species' nesting habitat are expected to be appropriately mitigated through tree preservation or tree replacement. Therefore, no mitigation for this species is expected to be necessary.

Oak Titmouse

The oak titmouse is a year-round resident in oak woodlands and mixed conifer habitats. It nests in tree cavities or old woodpecker holes. Breeding typically occurs between March and July (Zeiner et. al. 1990). There are no records of oak titmouse within five miles of the project area and the species was not observed on the site during the biological assessment. However, the scattered oaks on the site provide potential nesting habitat for the species. Therefore, the potential for the species to occur on the site is low. Any impacts to this species' nesting habitat are expected to be appropriately mitigated through tree preservation or replacement. Therefore, no mitigation for this species is expected to be necessary.

Western Burrowing Owl

Western burrowing owl is a small ground-dwelling owl that occurs in western North America from Canada to Mexico, and east to Texas, and Louisiana. Although in certain areas of its range western burrowing owls are migratory, these owls are predominantly non-migratory in California (Zeiner et. al. 1990). The breeding season for western burrowing owls occurs from February to August, peaking in April and May (Zeiner et. al. 1990). Western burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. This owl is also known to use artificial burrows including pipes, culverts, and nest boxes. There are no CNDDB records for this species within five miles of the site (CNDDB, 2004) and no western burrowing owls were observed during the biological assessment. However, the grassland habitats on the site provide potential habitat for this species. Suitable burrows for this species were not observed during the biological assessment and the frequency of disturbance on the site associated with grazing and agricultural practices lowers the potential for this species to occur. Therefore, the potential for burrowing owls to occur on the site is low.

Western Spadefoot

The western spadefoot is found throughout the Central Valley south to Baja Mexico. It is found in a variety of habitats including grasslands, washes, and floodplains. It breeds in seasonal depressional wetlands and deep vernal pools (Stebbins 2003). During the

summer months, adults will seek out upland refugia such as small mammal burrows. The breeding period is typically January through May (Stebbins 2003). There are no records for this species in the CNDDB within five miles of the project site (CNDDB 2004) and this species was not observed on the site during the biological assessment. However, the farmed wetlands on the site provide potential breeding habitat for this species and there are small mammal burrows on the site suitable for use as upland refugia. However, the farmed wetlands on the site have been impacted by agricultural and grazing practices that have historically occurred on the site. Therefore, the potential for this species to occur on the site is low.

Special-Status Invertebrates

Four species of special-status invertebrates, California linderiella, mid-valley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp have a low potential to occur on the site. These species occur in seasonally inundated depressions such as vernal pools or depressional seasonal wetlands and each of these freshwater invertebrates are recorded in the CNDDB within five miles of the project site (CNDDB 2004). None of these species were observed within the farmed wetland habitat on the project site during the field reconnaissance. While the farmed wetlands on the site provide potential habitat for these species, these wetlands on the site originated following historic land leveling and have since been impacted by ongoing agricultural practices that have historically occurred on the site. Therefore, these species have a low potential to occur on the site. Further, the project site is not located in either the designated critical habitat for listed vernal pool crustaceans, nor is it located in the draft recovery plan area for these species.

5.5 Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the Sacramento County General Plan. Sensitive habitats within the site include waters of the U.S., which include farmed wetlands (**Figure 4**).

5.5.1 Potential Jurisdictional Waters of the U.S.

The site contains a total of **0.095 acres** of potential jurisdictional wetlands consisting of farmed wetlands (**Figure 4**). Potential jurisdictional areas in the project area have been formally delineated. However, the Corps has not verified the results of the wetland delineation.

Jurisdictional Waters of the U.S. include jurisdictional wetlands as well as all other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Corps 1987). The majority of jurisdictional wetlands in the United States meet three wetland assessment criteria: hydrophilic vegetation, hydric soils, and wetland hydrology,

Jurisdictional waters of the U.S. can also be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). As discussed in the Regulatory Framework section of this document, jurisdictional waters of the U.S. are subject to Section 404 of CWA and are regulated by the Corps.

On January 9, 2001 the U.S. Supreme Court rendered a decision that has potentially reduced the Corps of Engineer's ability to regulate isolated wetland/waters (some vernal pools, depressional seasonal wetlands, etc.) under the federal Clean Water Act. Based on review of that decision and other relevant documents, although the mapped wetlands on the site met the jurisdictional criteria in effect prior to the Supreme Court's decision, they may be precluded from regulation by the Corps. However, note that the Corps has not yet issued formal policy guidance based on the Supreme Court's decision. Until such guidance is issued, the federal jurisdictional status of these wetlands remains unclear.

6.0 DISCUSSION AND RECOMMENDATIONS

As discussed previously, the site consists of ±28 acres of land that supports primarily irrigated pasture within which are various wetland features. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status wetland plant species (low potential);
- Potential habitat for special-status invertebrates (low potential);
- Potential foraging and nesting habitat for Swainson's hawk, a state-listed species (high potential);
- Potential habitat for western burrowing owl (low potential);
- Potential breeding habitat for western spadefoot (low potential);
- Potential nesting sites and foraging habitat for raptors (high potential);
- Sensitive habitats (farmed wetlands); and
- Protected trees.

6.1 Special-Status Plants

As discussed, farmed wetlands on the site represent potential habitat for special-status plant species including Ahart's dwarf rush, Bogg's Lake hedge-hyssop, dwarf downingia, and legenere. Given the land use history of the site and the continual disturbance to the wetland habitats over the years, there is a low potential for these species to occur on the project site, and we do not recommend any additional surveys for these species.

6.2 Special-Status Invertebrates

As discussed previously, the farmed wetlands on the site provide potential habitat for special-status invertebrate species including California linderiella, mid-valley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp. If the proposed project avoids impacts to special-status invertebrate habitat, then no mitigation would be required.

If the project will result in placement of fill into the farmed wetlands, see Section 6.7 below regarding the need to obtain applicable Clean Water Act permits from the U.S. Army Corps of Engineers. In the event a Corps permit is required, then potential impacts to these species can be addressed through Section 7 consultation with the USFWS, which is initiated by the U.S. Army Corps of Engineers.

6.3 Swainson's Hawk

Although no Swainson's hawks were observed on the property, the site is likely to be considered foraging habitat for this species since they are known to nest within five miles of the site. Currently, CDFG recommends that impacts to suitable Swainson's hawk foraging habitat within 10 miles of an active nest should be mitigated by securing a

conservation easement or fee title on suitable Swainson's hawk foraging habitat in the region. Currently, this translates to the following: (1) for projects within a one-mile radius of an active nest site, the project proponent should preserve 1.0 acre of similar habitat for each acre lost, (2) for projects within a one to five-mile radius of an active nest site, the project proponent should preserve 0.75 acre of similar habitat for each acre lost, and (3) for projects within a five to ten-mile radius of an active nest site, the project proponent should preserve 0.5 acre of similar habitat for each acre lost.

CDFG and the project applicant may agree to acquire suitable Swainson's hawk foraging habitat and obtain a conservation easement for maintaining appropriate habitat in perpetuity equivalent to the decided upon acreage that would be impacted by a proposed project. When acquiring a conservation easement, the applicant should prepare and implement a Swainson's hawk mitigation plan to the satisfaction of CDFG that includes the preservation of Swainson's hawk foraging habitat.

The lead agency may allow payment of a fee to a habitat acquisition bank in place of a conservation easement. The City of Elk Grove should be contacted to determine the currently applicable fee schedule at the time of project implementation.

6.4 Western Burrowing Owl

Although burrowing owls were not observed during the biological assessment, the site contains annual grassland habitat that is suitable foraging and nesting habitat for burrowing owl. No suitable burrows were observed during the biological assessment, but the grassland habitat is still considered potential habitat for this species. For this reason, it is recommended that a burrowing owl survey be conducted no more than 30 days prior to the onset of construction. Burrowing owls can be present during all times of the year in California, so this survey is recommended regardless of the time construction activities occur. If active owl burrows are located during the pre-construction survey, it is recommended that a 250-foot buffer zone be established around each burrow with an active nest until the young have fledged and are able to exit the burrow. If occupied burrows are found with no nesting occurring, if active burrows are found after the young have fledged, or if development commences after the breeding season (typically February-August), passive relocation of the birds should be performed. Passive relocation involves installing a one-way door at the burrow entrance, which encourages the owls to move from the occupied burrow. CDFG should be consulted for current guidelines and methods for passive relocation of any owls found on the site. Mitigation for project impacts that result in relocation of burrowing owls and loss of burrows and/or foraging habitat may be required for CEQA projects (CDFG recommends 6.5 acres of foraging habitat be preserved for each active burrow that would be impacted by project activities). The lead agency under CEQA, in coordination with CDFG, is responsible for prescribing appropriate mitigation for any project-related impacts to burrowing owls. These mitigation measures would only apply in the event that burrowing owls were encountered during the pre-construction survey.

6.5 Western Spadefoot

The farmed wetlands on the site provide marginal potential breeding habitat for this species. It is assumed that the farmed wetlands on the site would either be avoided or impacts would be mitigated because of the potential for these habitats to contain special-status plant and invertebrate species. If farmed wetland habitat is avoided, then significant impacts to western spadefoot breeding habitat should also be avoided. If farmed wetlands are impacted on the site and a mitigation program is implemented, then potentially significant impacts to western spadefoot would also presumably be mitigated. It is recommended that a pre-construction survey for this species be conducted prior to any ground disturbance activity. The pre-construction survey should be conducted by a qualified biologist familiar with the identification of western spadefoot. If western spadefoot are found on the site during pre-construction survey, then CDFG should be consulted for mitigation measures that may be required for western spadefoot. If western spadefoot are not found during the pre-construction survey, then mitigation measures would not be considered necessary for this species.

6.6 Raptors

As discussed, several species of raptors may forage and nest on the site including red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk, and white-tailed kite. Several stick nests were observed within the existing eucalyptus canopy during the biological assessment and a pair of red-tailed hawks was observed soaring over the site during the biological assessment. Active raptor nests are protected by the California Fish and Game code Section 3503.5 and the MBTA. For this reason, if construction is expected to occur during the nesting season (February-August), a pre-construction raptor survey is recommended to determine if active raptor nests are present within 500 feet of the site. The survey should be conducted by a qualified biologist no more than 30 days prior to the onset of construction. If active nests are found, construction activities should not occur within 500 feet of the nests, or up to 0.5 mile in the case of an active Swainson's hawk nest, until the young have fledged or until the biologist determines that the nest is no longer active. If construction activities are proposed to occur during non-breeding season (September-January), a pre-construction survey is not required and no further studies are necessary.

6.7 Sensitive Habitats

The site contains potentially jurisdictional waters of the U.S. features in the form of farmed wetlands (**Figure 4**). These areas are potentially regulated by the Corps, and it is recommended that any required Section 404 permit be obtained for any project-related discharge of fill material into features that are determined to be jurisdictional by the Corps. Any waters of the U.S. that would be lost or disturbed should be replaced or rehabilitated on a "no-net-loss" basis in accordance with the Corps' mitigation guidelines. Impacts to these features would also require a water quality certification from the Regional Water Quality Control Board.

6.8 Protected Trees

As mentioned previously, the site contains numerous large eucalyptus trees, valley oaks, and black walnuts. Many of these trees are protected under the City of Elk Grove tree ordinance. Typically, all trees with a DBH of 6 inches or greater are subject to their review. It is recommended that the City of Elk Grove be consulted for any trees that would have to be removed as a result of project implementation. A tree survey was previously conducted for the site. The results of this survey can be presented to the City of Elk Grove so that the City can assess the project-related impacts to trees on the site and prescribe appropriate mitigation measures for project-related impacts to trees on the site.

7.0 REFERENCES

Bloom, P. and D. Van De Water. 1994. *Swainson's Hawk* in Life on the Edge: A Guide *to California's Endangered Natural Resources: Wildlife*. BioSystems Books, Santa Cruz, CA.

California Department of Fish and Game (CDFG). *California Natural Diversity Data Base.* (CNDDB: Elk Grove quadrangle, 2004) Sacramento, CA.;

California Department of Fish and Game (CDFG). 1988. *A Guide to Wildlife Habitats of California*. Sacramento, CA.;

California Native Plant Society (CNPS). 2001. *Inventory of Rare and Endangered Plants of California* (sixth edition). Sacramento, CA.;

Hickman, James C. 1993. *The Jepson Manual: Higher Plants of California.* University of California Press, Berkeley, California;

Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation.* California Native Plant Society (CNPS), Sacramento, CA.;

Soil Conservation Service. 1993. *Soil Survey of Sacramento County, California.* U.S. Department of Agriculture;

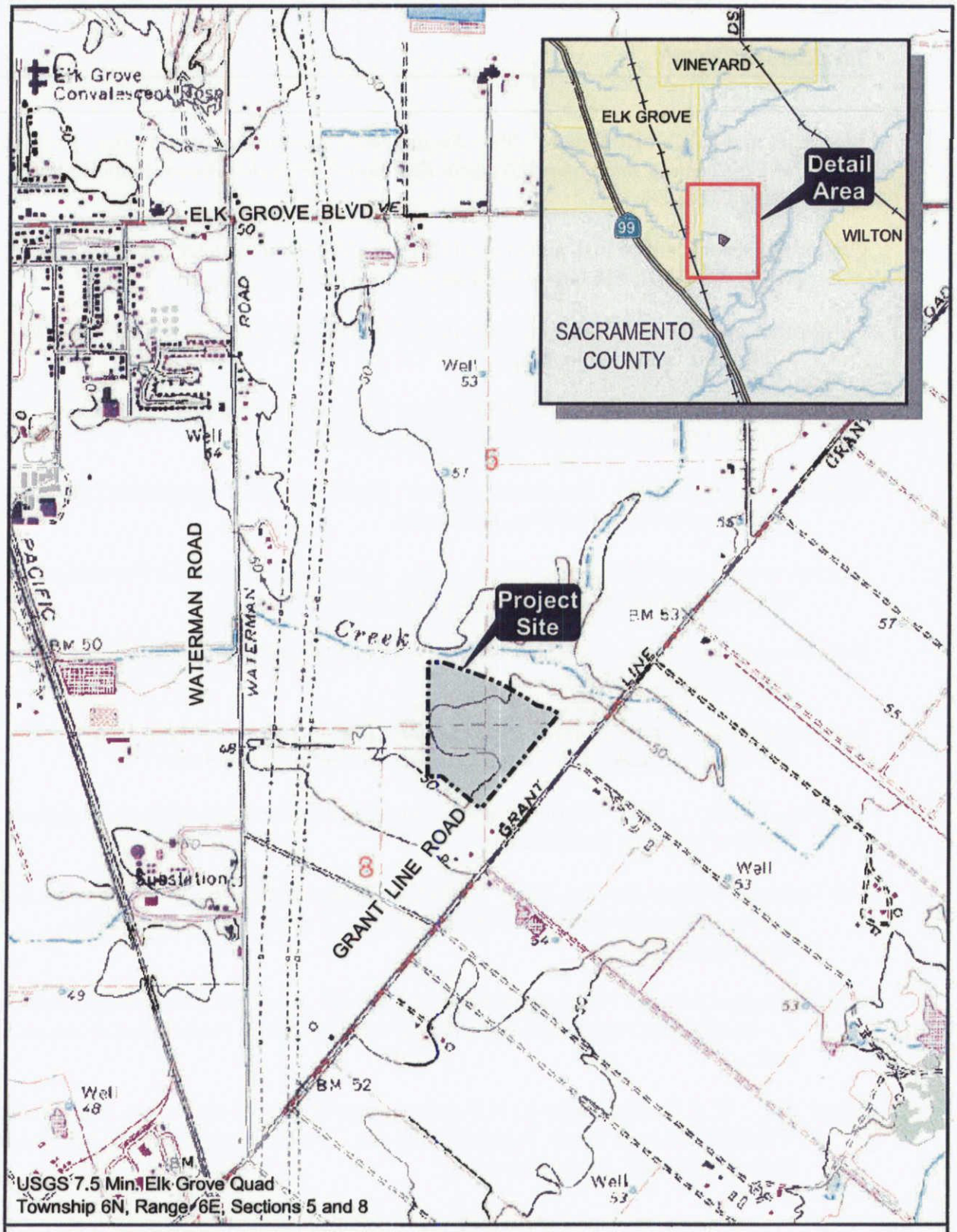
Soil Conservation Service. March 1992. *Official List of Hydric Soil Map Units for Sacramento County*. California. U.S. Department of Agriculture;

Stebbins, Robert C. 2003. *Western Reptiles and Amphibians* (third edition). Houghton Mifflin Company, Boston, MA;

U.S. Fish and Wildlife Service. 2004. *Federal Endangered and Threatened Species that may be affected by Projects in the Elk Grove 7.5 minute series quadrangle.* Sacramento, CA.;

U S. Geological Survey. 1968 (photorevised 1979). *Elk Grove Quadrangle California. 7.5-minute series topographic quadrangle*. United States Department of Interior.; and;

Zeiner, D.C., W.R. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife Volume II: Birds*, State of California: The Resource Agency, Department of Fish and Game, Sacramento, CA.



SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING
LANDSCAPE ARCHITECTURE

N

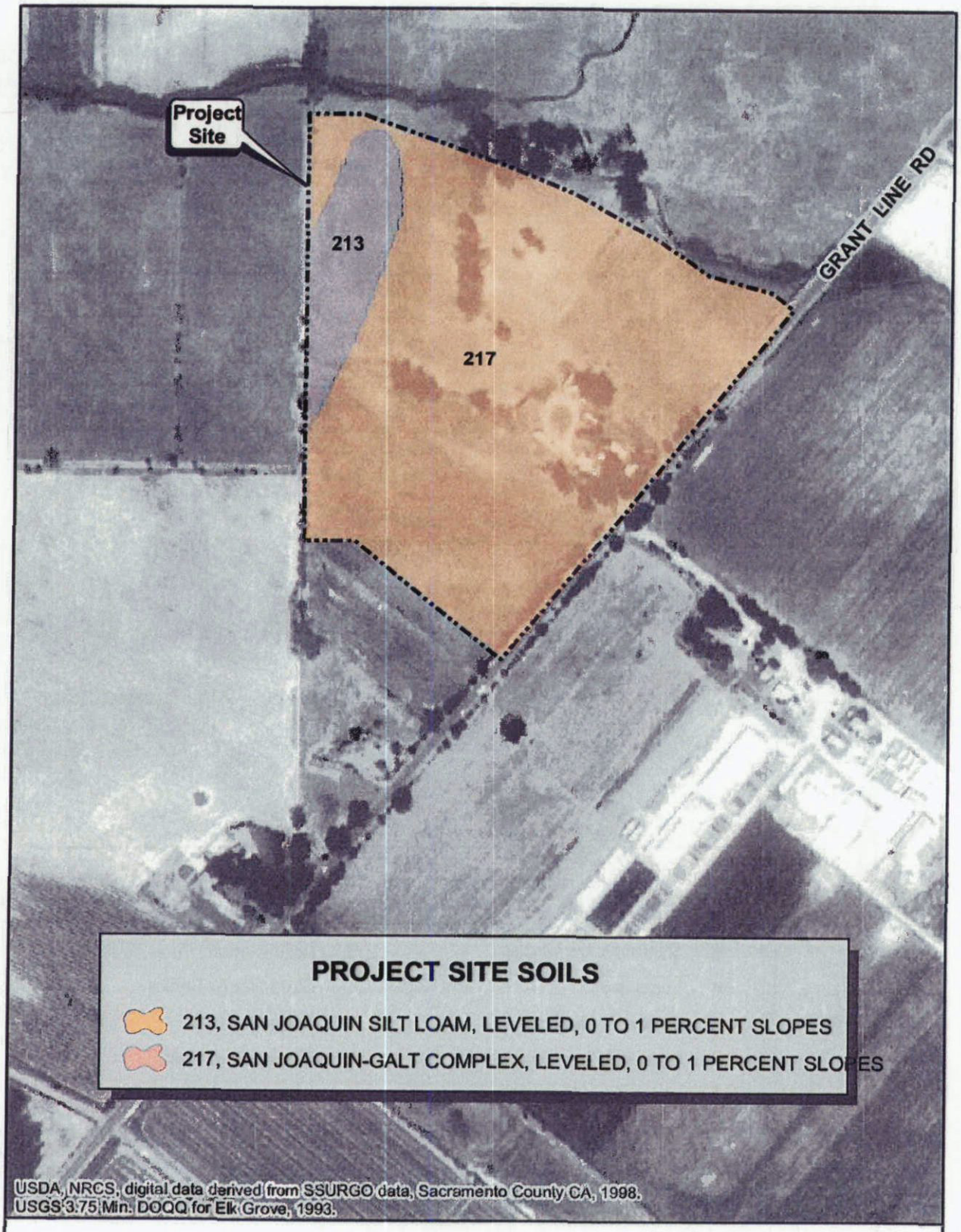
0 750 1500
SCALE IN FEET

Drawn By: AH
Date: 02/15/05

FIGURE 1

FIELDSTONE SOUTH

site_and_vicinity.mxd



SOILS

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING
LANDSCAPE ARCHITECTURE

N

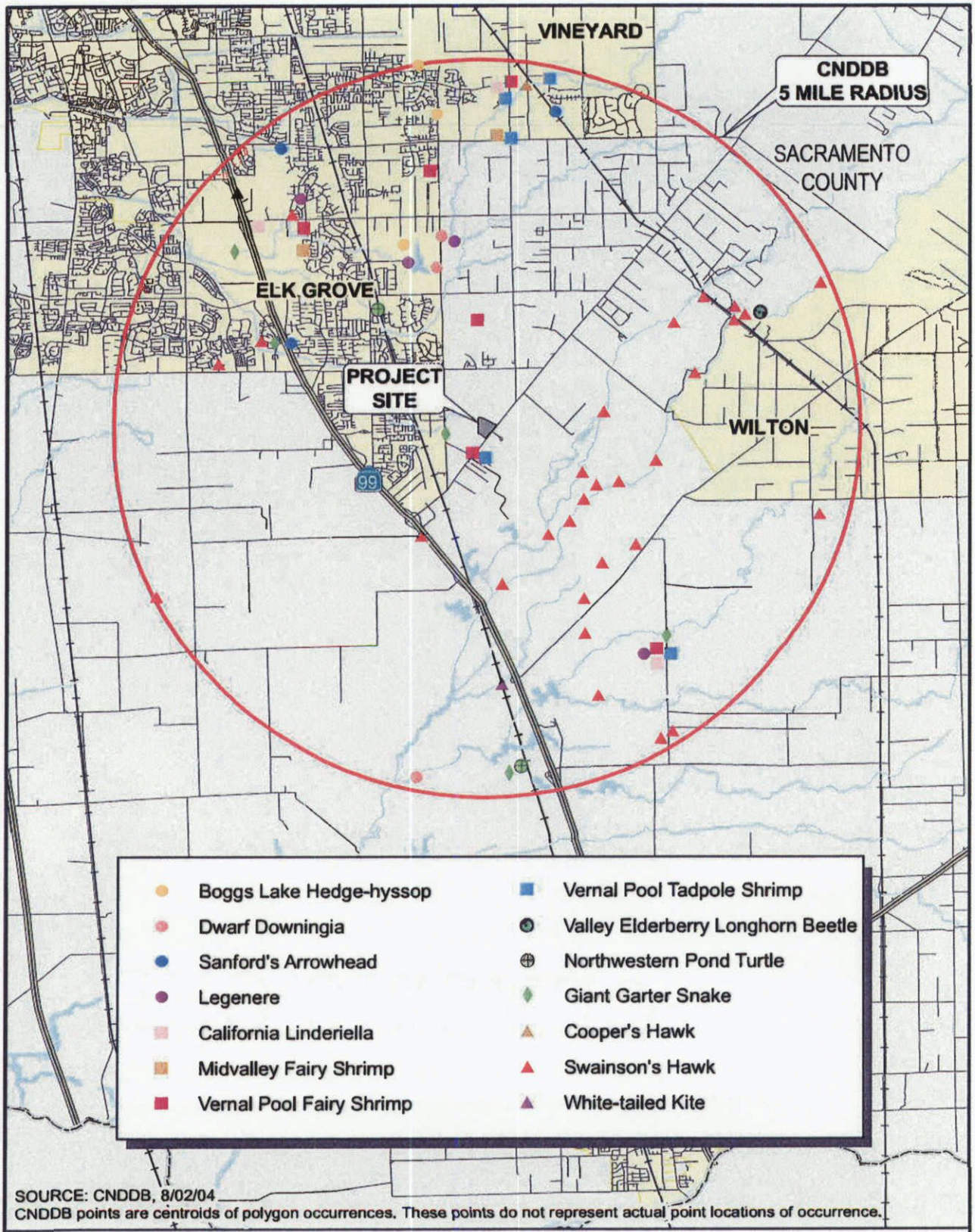
0 200 400
SCALE IN FEET

Drawn By: AH
Date: 02/24/05

FIGURE 2

FIELDSTONE SOUTH

soil.mxd



SOURCE: CNDDB, 8/02/04
CNDDB points are centroids of polygon occurrences. These points do not represent actual point locations of occurrence.

CNDDB

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING
LANDSCAPE ARCHITECTURE

N

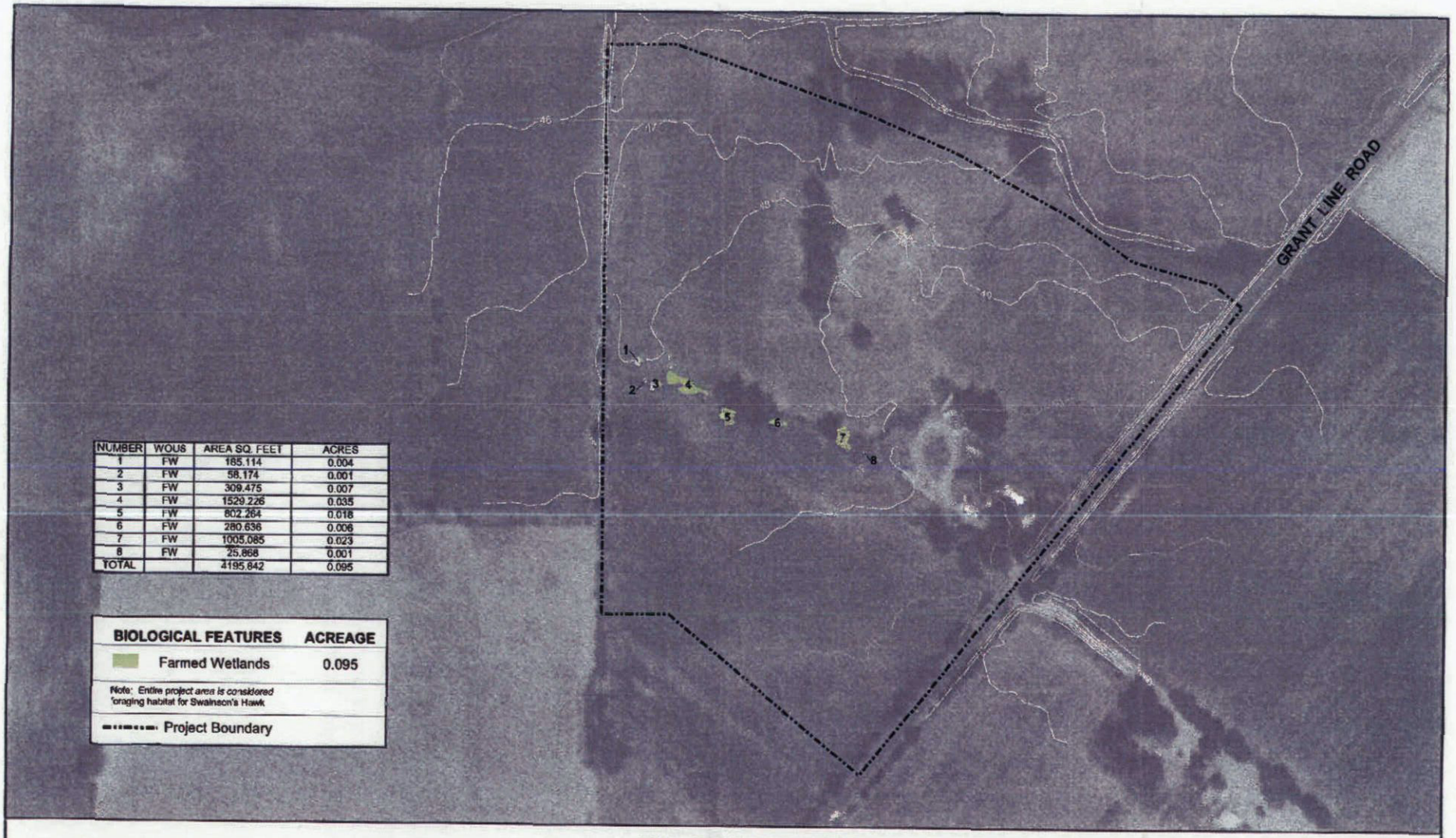
0 1 2
SCALE IN MILES

Drawn By: AH
Date: 02/15/05

FIGURE 3

FIELDSTONE SOUTH

cnddb.mxd



NUMBER	WOUS	AREA SQ. FEET	ACRES
1	FW	185.114	0.004
2	FW	58.174	0.001
3	FW	309.475	0.007
4	FW	1529.226	0.035
5	FW	802.264	0.018
6	FW	280.636	0.006
7	FW	1005.085	0.023
8	FW	25.868	0.001
TOTAL		4195.842	0.095

BIOLOGICAL FEATURES	ACREAGE
Farmed Wetlands	0.095
Note: Entire project area is considered foraging habitat for Swainson's Hawk	
Project Boundary	

BIO CONSTRAINTS

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING
LANDSCAPE ARCHITECTURE

Elk Grove DOQQ, 1993
Digital base data provided by McKay & Somps.
Project boundary is approximate and was moved to the DOQQ.

N

0 200 400
SCALE IN FEET

Drawn By: MMJ
Date: 04/21/05

FIGURE 4

FIELDSTONE SOUTH

bio_constraints_04-21-05.mxd

WETLAND RESOURCES LLC

ELSIE GRIDLEY MITIGATION BANK

Army Corps File number 200000614

BILL OF SALE

In consideration of full payment, receipt of which is hereby acknowledged, Wetland Resources LLC hereby bargain, well and transfer to East Elk Grove 24, LLC,0.1 (10/100) acres of seasonal wetlands in the Elsie Gridley Mitigation Bank in Solano County, California, developed, and approved by the U. S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Sacramento Valley Central Sierra Region, U.S. Army Corps of Engineers, San Francisco District, California Department of Fish and Game, Environmental Protection Agency, Region Nine

Wetland Resources LLC represents and warrants that it has good title to the acres, has good right to sell the same, and that they are free and clear of all claims, liens, or encumbrances.

Wetland Resources LLC covenants and agrees with the buyer to warrant and defend the sale of the credits hereinbefore described against all and every person and persons whomsoever lawfully claiming or to claim the same.

DATED: 8/02/2006
Wetland Resources LLC

By: _____
Ed Flynn

APPENDIX C – URBEMIS VER 9.2.4 MODEL

6/14/2010 9:23:25 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Fieldstone South

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

6/14/2010 9:23:25 AM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.06	0.44	0.25	0.00	1.68	0.02	1.71	0.35	0.02	0.37	41.99
2011 TOTALS (tons/year unmitigated)	3.71	1.66	2.64	0.00	0.50	0.11	0.61	0.11	0.10	0.21	357.50

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.99	0.47	5.03	0.01	0.71	0.68	599.03

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.89	2.24	21.87	0.02	3.10	0.60	1,830.88

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	3.88	2.71	26.90	0.03	3.81	1.28	2,429.91

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2010	0.06	0.44	0.25	0.00	1.68	0.02	1.71	0.35	0.02	0.37	41.99
Fine Grading 11/30/2010-01/11/2011	0.05	0.40	0.23	0.00	1.68	0.02	1.71	0.35	0.02	0.37	37.76
Fine Grading Dust	0.00	0.00	0.00	0.00	1.68	0.00	1.68	0.35	0.00	0.35	0.00
Fine Grading Off Road Diesel	0.05	0.40	0.21	0.00	0.00	0.02	0.02	0.00	0.02	0.02	36.09
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67
Asphalt 12/28/2010-01/11/2011	0.01	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.22
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45

2011	3.71	1.66	2.64	0.00	0.50	0.11	0.61	0.11	0.10	0.21	357.50
Asphalt 12/28/2010-01/11/2011	0.02	0.07	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	7.39
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.96
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.65
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78
Fine Grading 11/30/2010-01/11/2011	0.01	0.11	0.06	0.00	0.49	0.01	0.50	0.10	0.01	0.11	11.01
Fine Grading Dust	0.00	0.00	0.00	0.00	0.49	0.00	0.49	0.10	0.00	0.10	0.00
Fine Grading Off Road Diesel	0.01	0.11	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.53
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
Building 01/11/2011-08/22/2011	0.33	1.48	2.49	0.00	0.01	0.10	0.11	0.00	0.09	0.10	334.72
Building Off Road Diesel	0.27	1.25	0.87	0.00	0.00	0.09	0.09	0.00	0.08	0.08	129.70
Building Vendor Trips	0.01	0.16	0.16	0.00	0.00	0.01	0.01	0.00	0.01	0.01	38.99
Building Worker Trips	0.04	0.06	1.47	0.00	0.01	0.00	0.01	0.00	0.00	0.01	166.03
Coating 08/08/2011-10/05/2011	3.36	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.38
Architectural Coating	3.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.38

Phase Assumptions

Phase: Fine Grading 11/30/2010 - 1/11/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 28.1

Maximum Daily Acreage Disturbed: 7.02

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

6/14/2010 9:23:25 AM

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 12/28/2010 - 1/11/2011 - Default Paving Description

Acres to be Paved: 7.02

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 1/11/2011 - 8/22/2011 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 8/8/2011 - 10/5/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

6/14/2010 9:23:25 AM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.03	0.37	0.16	0.00	0.00	0.00	477.01
Hearth	0.48	0.09	4.35	0.01	0.71	0.68	121.19
Landscape	0.09	0.01	0.52	0.00	0.00	0.00	0.83
Consumer Products	1.06						
Architectural Coatings	0.33						
TOTALS (tons/year, unmitigated)	1.99	0.47	5.03	0.01	0.71	0.68	599.03

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.89	2.24	21.87	0.02	3.10	0.60	1,830.88
TOTALS (tons/year, unmitigated)	1.89	2.24	21.87	0.02	3.10	0.60	1,830.88

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

6/14/2010 9:23:25 AM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	28.10	8.93	dwelling units	129.00	1,151.97	9,849.00
					1,151.97	9,849.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.6	1.1	98.7	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0
Light Truck 3751-5750 lbs	22.5	0.9	98.7	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	62.9	37.1	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

APPENDIX D – GREENHOUSE GAS EMISSIONS

Fieldstone South
GHG Emission Calculations

Land Use	Dwelling Units (DU) / Square Feet (SF) Proposed Project		Electricity Demand (kWh) per unit	Proposed Project	
Residential (DU)	129	-	6,992	901,968	-

Sources:

Energy Information Administration. 2005. http://www.eia.doe.gov/emeu/recs/recs2005/c&e/summary/pdf/tableus8.pdf (Accessed April 2010)

Land Use	Dwelling Units (DU) / Square Feet (SF) Proposed Project		Natural Gas Demand (converted to kWh) per unit	Proposed Project	
Residential (DU)	129	-	13,540	1,746,660	-

Sources:

Energy Information Administration. 2005. http://www.eia.doe.gov/emeu/recs/recs2005/c&e/summary/pdf/tableus9.pdf (Accessed April 2010)

Direct Emissions

Proposed Project	URBEMIS CO2 Output		Conversion Factor		Total CO2 Emissions	
Area Source	599	tons/year	0.907	metric ton/English ton	543	MT/yr
Mobile Source	1,830	tons/year	0.907	metric ton/English ton	1,660	MT/yr

Indirect Emissions

Indirect Emissions from Electricity and Natural Gas Consumption

		CO2 Emissions		CH4 Emissions		N2O Emissions		Total
	MWh/yr	lb/MWh	GWP	lb/MWh	GWP	lb/MWh	GWP	CO2e MT/yr
Proposed Project	2,649	724.12	1	0.03020	23	0.0081	296	874

Project Total Direct and Indirect Long-Term Emissions **3,077 CO2e metric tons per year**

Sources:

California Climate Action Registry. 2009. General Reporting Protocol v 3.1.

APPENDIX E – DRAINAGE STUDY

MACKAY & SOMPS
CIVIL ENGINEERING • LAND PLANNING • LAND SURVEYING
1771 Tribute Road Suite E Sacramento, CA. 95815-4487
916-929-6092

Drainage Study

For

Elk Grove Creek

(Upstream of U.P.R.R. Crossing)

Within the
City of Elk Grove
Sacramento County, CA

May 24, 2007
Job No. 7789-00

Prepared for:
East Elk Grove South Owners Group

TABLE OF CONTENTS

List of Figures in Appendix A:

List of Tables:

Abbreviations And Acronyms:

Ac	Acres
Approx.	Approximately
Cfs	Cubic feet per second
Design standards	Sacramento County Improvement Standards & Sacramento County Hydrology Standards
DS	Downstream
EASDMP	East Area Storm Drainage Master Plan
EEGSOG	East Elk Grove South Owners Group
EEGSP	East Elk Grove Specific Plan
EGC	Elk Grove Creek
FF	Finished floor
Ft	Feet
HEC	Hydrologic Engineering Center
HEC-RAS	Hydrologic Engineering Center- River Analysis System
HGL	Hydraulic Grade Line
NRCS	Natural Resources Conservation Service
RAS	River Analysis System
SacCalc	Sacramento County Hydrologic Calculator
UPRR	Union Pacific Railroad
US	Upstream
USACE	U.S. Army Corps of Engineers
WS	Watershed
WSEL	Water Surface Elevation
XP-Storm	Expert Stormwater and Wastewater Management Model by XP Software.

1 Executive Summary

The primary purpose of the Drainage Study for Elk Grove Creek Watershed is to provide a hydrologic and hydraulic analysis of Elk Grove Creek upstream of the Union Pacific Railroad (UPRR) to demonstrate that the proposed developments consisting of The Reserve, Fieldstone South Units 1 and 2 and the Carson Industrial Park (interim projects) can be developed without causing an adverse flooding impact to proposed or existing development along the north and south of Elk Grove Creek, as well as maintaining or reducing peak 100-year design flows within Elk Grove Creek downstream of Waterman Road.

These projects fall within the East Elk Grove Specific Plan, which envisioned improving the Elk Grove Creek channel to accommodate increased flows from the upstream developments. It was anticipated in the East Elk Grove Specific Plan that Elk Grove Creek would be improved as a trapezoidal channel to contain the 100-year storm flows. However due to concerns raised by the U.S. Army Corps of Engineers (USACE), the USACE has required that the existing creek be left in its natural condition which has resulted in preserving a buffer corridor that serves to contain the 100 year floodplain. This study presents a functioning solution to allow the interim projects to proceed while the details of ultimate conditions are being finalized.

The proposed improvements required to accommodate the interim projects consist of the following elements:

a) Increasing the flood control and water quality storage requirements of the existing Hudson Ranch Detention Basin from 30 acre-feet to 50 acre-feet by lowering the basin bottom to elevation 32.0 feet from 39.3 feet.
b) Accommodating all runoff flows from the south of Elk Grove Creek directly into the Hudson Ranch Detention Basin via pipe or overland flow within the streets for the existing as well as proposed development.
c) Accommodating runoff flows from the north side of Elk Grove Creek to the capacity of the existing 48-inch that flows into the Hudson Ranch Detention Basin with the remainder going overland directly to Elk Grove Creek.
d) The existing 100-year floodplain will be modified to accommodate construction of lots on the north side (The Reserve) and south side (Fieldstone South) of Elk Grove Creek that are currently in the 100-year floodplain by elevating the lots with fill. Modifying the existing 100-year floodplain does not impact developments currently constructed. This can only happen by the enlargement of the stormwater storage component of the existing Hudson Ranch Detention Basin from 24.5 acre-feet to 36.6 acre-feet.
e) The outlet of the existing Hudson Ranch Detention Basin requires modification by enlarging the outlet pipe and structure from a single 36-inch pipe to two-36 inch pipes and installing a flap gate on the outlet end of each pipe.

f) The perimeter berm for the Hudson Ranch Detention Basin will be raised to elevation 48.6 feet to ensure that there remains 1 foot of freeboard for the 100-year flow condition which was determined to be elevation 47.1 feet in the basin.
g) Kent Street located on the north side of Elk Grove Creek will be elevated to remain dry under the 10-year flow condition. This is only an interim solution until such time as the ultimate solution is constructed.
h) Elk Grove Creek 100 year flows will be limited to approximately 499 cfs on the west side of Waterman Road. This will be accomplished by enlarging the Hudson Ranch Detention Basin to accommodate 36.6 acre feet of flood control storage and routing flows as described in items b and c above.
i) Lowering the existing outlet structure wall to elevation 39.3 feet to create 36.6 acre-feet of detention storage will modify the inlet structure of the existing Hudson Ranch Detention Basin. Currently detention storage in the basin starts at elevation 42.0 feet.
j) A 450-foot long berm to elevation 49.8 will be constructed on the south side of Elk Grove Creek adjacent to Sonoma Creek Phase 2 to provide freeboard due to 100-year flows in Elk Grove Creek.
k) Increasing the water quality storage in the Hudson Ranch Detention Basin to 16± acre-feet by deepening the basin from elevation 39.3 feet to elevation 32 feet to accommodate existing development, as well as Fieldstone South 1 and 2, The Reserve and the Carson Industrial Park developments.

The methodology used to analyze the hydrology and hydraulics of Elk Grove Creek to accommodate the proposed projects (Fieldstone South Units 1 and 2, The Reserve and the Carson Industrial Park) is described in the body of this report along with supporting tables, figures and maps. This study is limited to accommodating only the proposed projects of Fieldstone South Units 1 and 2, The Reserve and the Carson Industrial Park and those already constructed. Separate study and analysis will be required for any other projects proposed in the Elk Grove Creek Watershed upstream of the Union Pacific RR.

The existing 100-year flood flows were determined using SacCalc and HEC RAS modeling to establish the baseline for design. The existing 100-year design flow just downstream of Waterman Road was determined to be 497± cfs. Also, the maximum stage in Hudson Basin was found to be 47.0 ft with a detention storage of 24.5 ac-ft. Using the existing baseline models, the impact of interim developments including interim mitigation measures (expanded basin and outlet) was calculated. The interim condition 100-year flows were determined to be 499± cfs while the maximum stage in Hudson Basin was found to be 47.1 ft at a storage of 36.6 ac-ft. The results for the interim and existing conditions are comparable and less than 513 cfs determined to be the existing flow in Elk Grove Creek west of Waterman Road in the EEGSP. The Hudson basin will also provide stormwater treatment with a 14.0 ± ac-ft portion below the interim outlet invert of 39.3 ft dedicated for this purpose.

Hence, the findings as presented in detail in this report indicate that the interim developments will meet or exceed the City of Elk Grove design standards.

2 Purpose Of Study

The purpose of this study is to assist the City of Elk Grove in the evaluation of the adequacy of the proposed interim drainage facilities planned for the development of the proposed projects draining to the Elk Grove Creek (EGC) in the East Elk Grove Specific Plan (EEGSP) area. The proposed residential subdivision projects in this area are comprised of Fieldstone South and the Reserve at Elk Grove Creek (AKA Crooked Creek); plus the proposed Carson Industrial development located along the easterly side of Waterman Road north of Elk Grove Creek. These projects have been collectively referred to as the East Elk Grove South Owners Group (EEGSOG) properties in this report and a location map is provided in Figure 1. This study establishes an existing baseline for the 100-year flow and water surface elevations at critical locations. These are:

1. 100-year flow within Elk Grove Creek downstream of the Waterman Road and the Hudson basin outlet.
2. The maximum 100-year water surface elevation in Hudson basin.
3. The 100-year water surface elevations in the modeled reach of Elk Grove Creek.

The study identifies the hydrologic and hydraulic conditions for the existing creek and upstream watershed conditions, and recommends improvements for interim drainage facilities necessary for the developments to proceed within the EEGSOG properties. The intent of this study is to demonstrate that the Reserve at Elk Grove Creek, Fieldstone South and Carson Industrial area can be developed per the City of Elk Grove's hydrologic/hydraulic design criteria without modifying the Elk Grove Creek channel. However, it should be noted that this study does not address the ultimate conditions (fully developed) of the Elk Grove Creek watershed upstream of UPRR. Additional studies will be required to address any modifications to creek channel and/or development of areas in the creek watershed not listed in this report.

3 Study Area Description

The headwaters of Elk Grove Creek (EGC) are near the intersection of Jetmar Way and Grantline road. Figure 2 Existing Conditions Watershed Map, shows an aerial photograph of the study reach with contributing watershed areas. The creek crosses under Bradshaw Road and emerges just south of the southern end of Helenite Court in what is known as the 'bubble up'. The creek flows southwest for about half a mile in an approximately 10-foot wide channel to join a creek branch coming from the east side of Grant Line Road (This junction point is referred to as the "Confluence Point"). From here, the creek generally flows 0.6 miles west to Waterman Road at an invert slope of about 1%. There are three existing 36-inch CMP culverts under Waterman Road with an estimated capacity of 160cfs. A total of 1270± acre area drains to Elk Grove Creek from upstream of Waterman Road. Downstream of Waterman Road, the creek has two sharp bends at 90° then flows west through an improved trapezoidal section to the Union Pacific Railroad (UPRR) crossing.

The detailed creek analysis contained in this study is limited to the section of Elk Grove Creek from the UPRR to the "confluence point" and from the "confluence point" to Grant Line Road.

The drainage area for this reach of the Elk Grove Creek is identified as the 'Southern Drainage Shed' in the East Elk Grove Specific Plan (EEGSP). A combination stormwater detention/water quality basin commonly known as the Hudson Basin was built with previous projects just south of Elk Grove Creek east of Waterman Road. The Hudson Basin receives direct pipe and overland flow from Sonoma Creek Units 1, 2 and 3, and Newton Ranch Unit 1 projects on the south side of the creek. It also receives piped flow from the north side of the creek from Newton Ranch Unit 2 through a 48-inch concrete culvert. Two 30-inch pipes were used to cross under the creek due to cover problems.

4 Previous Studies

This reach of Elk Grove Creek was studied in the EEGSP prepared by MacKay & Somps and the Sacramento County Planning Department. The EEGSP identified an existing 100-year flow of 513 cfs west of Waterman Road. Reducing or maintaining this flow is a primary criteria in developing the interim drainage improvements. The City of Elk Grove has re-studied the Study Reach in its East Area Storm Drainage Master Plan (EASDMP) for developed conditions. More accurate topographic mapping available for the EASDMP revealed that the watershed area was larger than referred to the East Elk Grove Creek Specific plan. The drainage shed areas used for this analysis are consistent with those used in the EASDMP.

5 Existing Conditions

Existing flows and hydraulic conditions were analyzed to establish a base line condition to determine necessary interim drainage improvements referenced for the proposed projects.

Existing watershed conditions for Elk Grove Creek upstream of the UPRR were determined based on recent aerial photography from March 2005. The existing condition also includes the approved but unconstructed Hearthstone 2 project located in EGC1 at the upper end of the drainage shed. Figure 2 shows the existing shed area and level of development. Existing developed areas east of Waterman Road include Fieldstone (EGCFLD), Newton Ranch 2 (NTR 2), and Sonoma Creek / Newton Ranch 1 (EGC10).

The Hudson Basin was constructed in two phases with the Sonoma Creek and Newton Ranch projects to mitigate for project impacts to water quality and increased runoff. According to the EEGSP, the basin was intended to divert peak flows from an improved and realigned Elk Grove Creek via a weir arrangement operating as an offline basin. However, the channel improvements could not be constructed as originally planned due to Army Corp of Engineers wetland permitting issues. Because of the permitting issues and timing of development, the basin does not function as originally intended. The basin currently functions as an in-line detention basin receiving both piped and overland flow from the development south of the Creek whereas; only the piped flow from the development north of the Creek enters the basin. The actual condition was modeled in this analysis.

5.1 Existing Hydrology

A hydrologic model of the Elk Grove Creek watershed was created using the SacCalc computer program. The SacCalc computer program utilizes hydrologic criteria specified by the Sacramento County Hydrology Standards. The SacCalc model for the study reach was developed by modifying a draft version of the Elk Grove Creek SacCalc model originally created by Storm Water Consulting Inc. as a part of the EASDMP study. The watersheds west of Bradshaw Road were modified to more closely represent existing conditions in detail. The contributing watersheds were identified from available topographic information, field reconnaissance, and previous studies. Figure 2, shows the watershed delineations and naming convention followed for the SacCalc model. The areas and detailed input parameters along with model files are included in Appendix D of this report.

The Elk Grove Creek watersheds EGC1, EGC2, EGC3 and EGC5 lying within the Elk Grove Triangle Planning area have scattered rural residences in addition to agricultural land uses. The watershed areas to the east of Grant Line Road- EGC4, EGC9 and EGC11 are largely agricultural uses. EGCFLD, NTR2, EGC6, EGC7, EGC8 and EGC10 lie within the EEGSP. EGC12, EGC13 and EGC15 constitute watershed areas draining to

Elk Grove Creek between Waterman Road and UPRR and have primarily industrial land uses.

The storm drain system in the existing Fieldstone residential subdivision (EGCFLD) drains to the Waterman Ranch detention basin (Figure 2) while the 100-year overland release has been directed south to Elk Grove Creek. The Waterman Ranch basin was allowed to be constructed by the County in lieu of constructing a 54-inch pipe down Wyland Drive and now is being used to accommodate drainage from the Fieldstone 3a and 3b developments. The diversion element (NOFLD) was used to limit the storm drain flows (approximately 30.5 cfs) going to the Waterman Basin from watershed EGCFLD. Also, as previously mentioned, the storm drain from the Newton Ranch Unit 2 is connected to the Hudson Basin by a pipe while the overland release flows directly to Elk Grove Creek. The capacity of the storm drain system across the creek was estimated to be 26 cfs for the existing conditions. This estimate is based on pipe capacity between Newton Ranch 2 determined from assumed water surface elevations in Newton Ranch 2 (upper end) and the Hudson Basin (lower end). The assumed water surface in Newton Ranch 2 is the gutter flowline elevation at the south end of the Black Swan Drive. The water surface elevation in the Hudson Basin was assured to be the top of pipe. Details of this calculation are presented in Appendix C. A maximum capacity of 26 cfs contained within the storm drain system was defined for the SacCalc diversion element DVNTR2 to account for the piped flow into the basin. All storm runoff from watershed EGC10 drains directly to the Hudson Basin. The total flow reaching the Hudson Basin is represented by the junction node JNC004.

The entire Elk Grove Creek watershed area upstream of UPRR has been classified as Hydrologic Soil Group D by the Natural Resources Conservation Service (NRCS) in the Soil Survey of Sacramento County. A soils survey map including soils classification is included in Appendix B.

The SacCalc model results for existing conditions are presented in Appendix D and have also been included in electronic format on the accompanying CD. The SacCalc program was primarily used to generate flow hydrographs for respective watersheds while the flow routing through the creek channel and the Hudson basin was performed utilizing HEC-RAS. SacCalc program is based on the HEC-1 program and does not incorporate advanced detention and routing capabilities available within HEC RAS.

5.2 Existing Hydraulics

Runoff from the upper reaches of the drainage shed (EGC1, EGC2, EGC3, EGC5, EGC11, and EGC4) is conveyed through ditches and culverts to a drainage system in Bradshaw Road. The piped drainage system heads west from Bradshaw Road along the south side of Fieldstone Unit 3B and discharges into the upper tributary of Elk Grove Creek through a bubble-up structure near the south end of Helenite Court. This channel also receives overland flow from shed EGCFLD that is comprised of the existing Fieldstone development west of Bradshaw Road. As previously discussed, the piped

flow from shed EGCFLD is directed to the Waterman Ranch Basin. Flows exceeding the pipe capacity from shed EGCFLD travel overland to the reach of creek downstream of the "bubble up". The runoff flows southwest in a natural channel to the confluence point with Elk Grove Creek, approximately 1000 feet west of Grant Line Road.

Runoff from the remaining shed area east of Grant Line Road (EGC9) is conveyed across Grant Line Road through two 48-inch CMP culverts. The flow is then conveyed through a natural channel to the aforementioned confluence point. The flow travels westerly through a natural channel to the Waterman Road culvert crossing. This crossing consists of three 36-inch diameter CMP culverts. This stretch of channel receives runoff from drainage sheds (EGC6, EGC7, EGC8). In addition, this section of channel also receives overland flows exceeding the pipe capacity from drainage shed NTR2. As previously discussed, piped flows from drainage shed NTR2 flow directly to the Hudson Basin on the south side of Elk Grove Creek.

Pipe and overland runoff from drainage shed EGC10 are directed into the Hudson Basin and do not flow directly into Elk Grove Creek east of Waterman Road. There is an undeveloped drainage shed south of the Hudson Basin (EGC16) that drains north. For the purposes of this analysis it was assumed that runoff from this drainage shed entered Elk Grove Creek on the east side of Waterman Road. Storm drains from drainage shed EGC12 discharge into the channel immediately west of Waterman Road.

West of Waterman Road the creek becomes a uniform trapezoidal channel with a concrete bottom. The channel then turns south and runs parallel to Waterman Road for approximately 400 feet. The channel then turns west along the south side of an existing industrial park toward the Union Pacific Railroad tracks. Runoff from drainage sheds EGC13 and EGC15 enters the channel within this reach.

To establish the detailed hydraulic conditions and determine the adequacy of drainage facilities, the reach of Elk Grove Creek from the Grantline Road to the UPRR was modeled in HEC-RAS in unsteady state mode. The model extended from Grant Line Road on the upstream end to the Union Pacific Railroad (UPRR) crossing on the downstream end. Cross-sections of Elk Grove Creek were surveyed from Grant Line road to the UPRR at regular intervals. The cross-sections between Grantline Road and Waterman Road were surveyed in 2003, prior to the development of Sonoma Creek Phase 2 and construction of the Hudson basin. The locations of these cross-sections are shown in Figure 4 and Figure 5 in Appendix A. These cross-sections were imported to the HEC-RAS geometric data to define Elk Grove Creek. The surveyed cross-sections were modified with grading information from the subdivision grading plans to represent true existing conditions. Blocked obstructions were placed on some of the cross-sections to represent the raised pads of existing developed lots in the Sonoma Creek subdivision. Also, the channel cross sections obtained from the field survey were supplemented by aerial survey for extending the cross-sections on either side of the creek in the floodplain. The ineffective flow area option was defined for cross-sections in the vicinity of bridges to restrict active flow area within the channel sections prior to bridge deck overtopping.

A Manning's Roughness Coefficient 'n', of 0.06 as required by the Sacramento County Improvement Standards was specified for the entire reach to approximate the roughness of a natural channel. The hydrographs for the SacCalc elements- EGC9, JNC003, JNEGC8, JNC004, EGC12, EGC13, EGC15 and EGC16 were imported via DSS interface to the HEC-RAS unsteady flow data. These nodes are also illustrated in Figure 6 Existing 100yr Model SacCalc Nodes.

The existing outlet from the Hudson Basin consists of a 54" RCP, which connects to a 36" RCP carrying the flows across Waterman Road. The culvert outlet does not have a flap gate and hence flow can occur in either direction depending on the relative depths in Elk Grove Creek west of Waterman Road and the Hudson Basin. This culvert is defined as a lateral structure connection within the HEC-RAS model. A starting downstream boundary control for the creek was defined using the normal depth method with a friction slope of 0.0007. Since this is an unsteady run, the internal boundaries such as the flow depth within the creek and the basin stage is calculated automatically at each time-step.

The existing Hudson Basin adjacent to the Waterman Road has water quality volume storage to an elevation of 42 feet. Available detention storage in the basin starts at elevation 42 feet to the top of the basin at 48 feet. The 42-foot elevation is maintained by a weir structure at the outlet of the basin. A stage-storage relationship for this detention basin was developed from the grading plan and introduced to the HEC-RAS model. The existing stage-storage relationship for the Hudson Basin is provided in Appendix D.

The detailed HEC-RAS modeling results for existing conditions are presented in Appendix D and the model is included in the project CD in Appendix F. Figure 8 Existing & Interim Conditions 100-year Floodplain Boundaries contains the limits of the 100-year floodplain. Critical findings of the existing conditions model are:

- The 100 year-24 Hr duration design storm generates the highest peak flows and required detention volumes
- Waterman Road is overtopped at the existing Elk Grove Creek crossing with 424± cfs flowing over the road with a maximum depth of 0.5 ft.
- The flow in the creek just downstream of Waterman Road (EGC station 4359) is 497± cfs with a maximum stage of 46.5 ft.
- Flow just upstream of the UPRR crossing (EGC station 2530) is 529± cfs with a maximum stage of 44.8 ft
- Peak detention storage in Hudson Basin is 24.5± ac-ft and the max. stage is 47.0 ft
- A backflow is expected through the Hudson basin outlet pipe from Elk Grove Creek at peak flow in the Creek.
- There is at least one-foot of freeboard between the 100 year Water Surface Elevations and the finished floor (FF) elevations as illustrated in Figure 6 Existing 100yr Model .

Additionally, the model for the existing system was run with the 10-year, 24 hour and the 50 year 24 hour storm events. The results for these scenarios are also presented in Appendix D. The high water mark for the Hudson Ranch Detention Basin from the

December 31, 2005 and January 1, 2006 storm was surveyed by the City of Elk Grove and found to be at 45.26 feet. According to the city of Elk Grove staff, the December 31, 2005 and January 1, 2006 storm was classified as a 45-year event for the East Elk Grove area. This elevation falls within the calculated maximum stage results of 46.4 ft and 45.1 ft for the 50 year 24 hour and 10 year 24 hour storm events.

6 Interim Conditions

The interim conditions represent the scenario in which the Fieldstone South, Carson Industrial Park and the Reserve at Elk Grove Creek will be developed while the Elk Grove Creek channel remains in its existing condition. These development areas are outlined in Figure 3 Interim Conditions Watershed Map. This situation arises since as the timing of the developments is expected prior to the USACE's issuance of a permit for creek modifications. Interim improvements are necessary for any of these projects to proceed without changing the configuration of Elk Grove Creek.

The Fieldstone South project located south of the Elk Grove Creek along Grant Line Road is proposed to be graded such that the overland release is conveyed westerly in the road section towards the Hudson Basin through the existing Sonoma Creek subdivision. The storm drains for Fieldstone South will also be connected to the existing piped storm drain system within the Sonoma Creek subdivision. The Reserve at Elk Grove Creek and the Carson Industrial Park developments will be graded to release overland flows towards Elk Grove Creek. However, the storm drain system within these developments will convey flows to the Hudson Basin to provide water quality treatment. In this situation, the portion of drainage shed EGC8 north of proposed Kent Street will be intercepted by the storm drain system and conveyed to Hudson Basin.

The following improvements are proposed to accommodate the aforementioned developments:

1. Place fill as necessary to raise the proposed developments above the local 100-year flood plain.
2. Increase the capacity of the Hudson Basin by increasing the depth of the basin approximately 7 feet.
3. Modify the outlet structure by lowering the outlet weir from elevation 42 feet to 39.3 feet.
4. Add an additional 36-inch outfall pipe from Hudson Basin across Waterman Road.
5. Install flap gates at the discharge end of the 2-36-inch Hudson basin outlet pipes.
6. Raise the service road at the northwest corner of the Hudson Basin to approximately elevation 48.6 ft.
7. Construct a berm to elevation 49.8 between the basin and Rhone River Drive along the south side of the creek.

6.1 Interim Hydrology

The existing conditions SacCalc model was modified to represent the interim conditions. The land use designations for the areas outlined in Figure 3 Interim Conditions Watershed Map were modified to represent developed conditions. The Fieldstone South area (EGC7) was included within EGC10. Shed EGC8 was reduced to about 28 acres

representing only the area along the creek corridor draining directly to the creek. The element EGC8DV was introduced to represent the developed portion of the watershed in interim conditions, which includes Newton Ranch Unit 2, Carson Industrial Park and the Reserve at Elk Grove Creek. As previously discussed, these projects are connected to the Hudson Basin for water quality purposes. In interim conditions the flows in the storm drain will be increased due to the development of Carson Industrial Park and the Reserve at Elk Grove Creek. The flows diverted across the creek to the Hudson basin were estimated to be 48cfs for the interim condition. This is increased from 26cfs assumed in the existing condition. The increase in flow is due to additional pipes and inlets proposed with the new developments north of the creek. The additional drainage facilities allow more runoff to reach the pipes crossing under Elk Grove Creek. The background calculations for the 48cfs capacity are also presented in Appendix C. Input and results for the existing conditions scenario are presented in Appendix E. Key SacCalc model elements along with the peak 100-year flows are listed in Figure 7 Interim 100yr Model .

6.2 Interim Hydraulics

Similar methodology as explained for the existing conditions model was utilized for the interim conditions. The flow hydrographs computed by the SacCalc model were input to the HEC-RAS model. Additionally, the cross-sections adjacent to the proposed Fieldstone South and the Reserve at Elk Grove Creek subdivisions were modified with blocked obstructions representing the proposed grading in this area. The elevation-volume relationship for the Hudson Basin was redefined in the HEC-RAS model to simulate the proposed changes in the basin. The detention volume for interim conditions was obtained from the proposed plan for the Hudson Basin (Figure 7). The basin outlet culvert was defined to consist of 2-36" RCPs with an inlet invert elevation of 39.3 feet. The existing 36-inch and the proposed 36-inch culvert will be provided with a flap gate at the outlet. The SacCalc and HEC-RAS input and results are provided in Appendix E and the model files are included in project CD Appendix F. The interim condition model is called Plan-EgCkUnIntr-17 on the disk. Figure 8 Existing & Interim Conditions 100-year Floodplain Boundaries contains the limits of the interim 100-year floodplain.

Critical findings of the interim conditions results are:

- The 100-year flow over Waterman Road is reduced to 397± cfs with a maximum depth of 0.5 ft.
- Flow in the creek just downstream of Waterman Road (EGC station 4359) is 499± cfs with a maximum stage of 46.5 ft.
- Flow just upstream of the UPRR crossing (EGC station 2530) is 530± cfs with a maximum stage of 44.8 ft
- Peak detention storage in Hudson Basin is 36.6± ac-ft and the max. stage is 47.1 ft
- Due to pad grading, the 100-year flood plain adjacent to Fieldstone South shifts north onto the adjacent property north of the Creek. Prior to grading at Fieldstone South, the owner of this property must acknowledge and accept, in writing, the change in flood plain.

In order to test the sensitivity of the models to the defined flow of 48 cfs going across the creek, the models were run with a flow capacity of 30 cfs and 60 cfs. It was observed that this change does not considerably affect the final model results with regards to downstream peak flow or maximum stage in Hudson Basin. The following table provides the results of this analysis.

Table 1 Sensitivity Analysis Results With Varying Peak Flows Across Creek

Description	Peak Flow Across Creek		
	30 cfs	48 cfs	60 cfs
100-year flow downstream of Waterman Road	498 cfs	499 cfs	500 cfs
100-year maximum stage in Hudson Basin	47.1 feet	47.1 feet	47.2 feet
Peak Detention storage in Hudson Basin	36.4 Ac.-ft	36.6 Ac.-ft	36.7 Ac.-ft

A comparison of key flows, water surface elevations and storage requirements for the existing and interim conditions is presented in the following table:

Table 2 Existing and Interim Conditions Comparison Table

Description	Existing Conditions	Interim Conditions
100-year flow downstream of Waterman Road	497 cfs	499 cfs
100-year maximum stage in Hudson Basin	47.0 feet	47.1 feet
Peak Detention storage in Hudson Basin	24.5 Ac.-ft	36.6 Ac.-ft

The results of this analysis show that implementation of the proposed interim improvements mitigate for the drainage impacts due to the proposed developments. The results shown in the table show a slight increase in the flow downstream of Waterman Road and water surface elevation in Hudson Basin. Though the interim calculated flow is approximately 2 cfs greater than the existing flow, it is still below the 513 cfs threshold set in the EEGSP drainage study. According to the calculation, the maximum water surface elevation in the Hudson Basin in interim conditions increases by 0.1 feet. This is minimal and will not impact any lot pads adjacent to the pond.

7 Stormwater Quality

The Hudson Basin will be designed to accommodate stormwater quality volume in addition to the detention storage capacity required for attenuation of peak flows from the site. An illustration of the water quality shed areas is provided in Figure 9 Water Quality Shed Areas. The runoff storage depth for water quality was determined from Sato Chart listed in the Volume II of Sacramento County Hydrology Standards. The required water quality volume was increased 25% due to it being a wet basin. The stormwater quality volume required for developments in these areas is listed in the following table:

Table 3 Storm Water Quality Requirements

	Approx. Area	% Impervious	Sato runoff depth	Required Storage Volume
	ac.		ft	ac-ft
Hudson Basin				
Existing Development				
Sonoma Ck + Newton Ranch 1 + Developed parcel S E of Sonoma Ck	86.6	50%	0.04	3.5
Newton Ranch 2	26.9	50%	0.04	1.1
Proposed Development				
Fieldstone South	28.4	50%	0.04	1.1
Parcel S. of Fieldstone South	6	50%	0.04	0.2
The Reserve at EGC less the park site and lots south of Kent St.	29.1	50%	0.04	1.2
Carson Industrial Development + Industrial area North of Charolais Wy.	21.7	85%	0.08	1.8
Sonoma Creek 2.2	7.8	50%	0.04	0.3
The Reserve at EGC (lots south of Kent St.)	1.8	50%	0.04	0.1
Future Industrial S. of Hudson excluding utility easements	23.0	85%	0.08	1.9
Total WQV for Hudson Basin				11.2
Total WQV for Hudson Basin + 25%				**14.0**

The total water quality volume of 14.0 ac-ft required within the Hudson Basin will be provided below the outlet pipe invert of 39.3 feet. The Hudson Basin will be excavated to a depth of 32 feet to accommodate this water quality volume. The stage-storage relationship for Hudson Basin in interim conditions developed from the proposed grading plan is provided in the following table:

Table 4 Stage-Storage For Hudson Basin In Interim Conditions

Stage	Area	Incremental Vol. Ac-ft	Cumulative Vol. Ac-ft	
48.0	5.6	2.8	41.4	Detention Storage
47.5	5.5	2.7	38.6	
47.0	5.4	2.7	35.8	
46.5	5.3	2.6	33.1	
46.0	5.2	2.6	30.5	
45.5	5.1	2.5	27.9	
45.0	5.0	2.5	25.4	
44.5	4.9	2.4	22.9	
44.0	4.8	2.4	20.4	
43.5	4.7	2.4	18.0	
43.0	4.6	2.3	15.7	
42.5	4.6	2.3	13.4	
42.0	4.5	2.2	11.1	
41.5	4.4	2.2	8.9	
41.0	4.3	2.1	6.8	
40.5	4.2	2.1	4.7	
40.0	4.1	1.9	2.6	
39.5	3.7	0.7	0.7	
39.3	3.3	0.9	16.0	Water Quality Storage
39.0	2.9	1.4	15.1	
38.5	2.8	1.4	13.7	
38.0	2.6	1.3	12.3	
37.5	2.5	1.3	11.1	
37.0	2.4	1.2	9.8	
36.5	2.3	1.2	8.6	
36.0	2.2	1.1	7.5	
35.5	2.1	1.1	6.4	
35.0	2.1	1.0	5.3	
34.5	2.0	1.0	4.3	
34.0	1.9	0.9	3.4	
33.5	1.8	0.9	2.5	
33.0	1.7	0.8	1.6	
32.5	1.6	0.8	0.8	
32.0	1.5	0.0	0.0	

The areas to the east of Bradshaw Road and east of Grantline Road will have to consider separate water quality treatment facilities for development as gravity flow to the Pappas Basin via storm drains is difficult to achieve. Also, additional detention storage will be required if this area is developed to a higher density land use than RD-1.

8 Floodplain Issues

The design standards require that the finished floor (FF) elevations of future residences be raised a minimum of 1' above the 100-year water surface elevations in conformance with the FEMA criteria. The 100-year results for the interim conditions are plotted alongside the proposed pad elevations in Figure 7 Interim 100yr Model . This exhibit shows that the pad elevations in the vicinity of the creek are generally more than 1' higher than the WSEs. The FF is generally 0.7' higher than the pad, which brings an added level of safety in design.

9 Conclusions / Recommendations

Overall, the findings presented in this study indicate that the development of the proposed projects along with the recommended drainage facilities represent workable alternatives in interim conditions.

The results herein have been achieved in accordance with the constraints and criteria designated by the City of Elk Grove. The findings indicate that the proposed drainage system for EEGSOG properties will provide adequate capacity for the 100-year event. It is the request of Mackay & Somps that the City of Elk Grove accept the proposed drainage system design as described in this report.

10 References

1. MacKay & Somps, *East Elk Grove Specific Plan*, February 1996.
2. City of Elk Grove, *East Area Storm Drainage Master Plan,* November 18, 2005.
3. Sacramento County Water Resources, *Hydrology Standards Volume 2*, December 1996.
4. U.S. Army Corps of Engineers, *HEC-RAS Hydraulic Reference Manual,* November 2002.

Submitted by,

MACKAY & SOMPS CIVIL ENGINEERS, INC.

Jagdeep Sidhu, M.S.,P.E.

Ken Giberson, P.E.

Appendices

Appendix A. Figures

Appendix B. Soils Survey Information

Appendix C. Pipe Flow calculations from North Side of Elk Grove Creek

Appendix D. Existing Conditions Models

Existing SacCalc Model data and results
Hudson Basin State Storage Relationship
Existing Conditions HEC RAS results tables

Appendix E. Interim Conditions Models

Interim SacCalc Model data and results
Hudson Basin State Storage Relationship
Interim Conditions HEC RAS results tables

Appendix F. Project CD

APPENDIX F – INTERIM DRAINAGE ANALYSIS

Au ClairConsulting
ENGINEERS AND SURVEYORS

204-001

August 12, 2010

Darren Wilson
Engineering Division
City of Elk Grove
8401 Laguna Palms Way
Elk Grove, CA 95758

Subject: Fieldstone South Interim Drainage Analysis

Dear Mr. Wilson,

Per your request of the Fieldstone South Project Applicant, I have analyzed whether the existing 100 year floodplain boundary analyzed in the May 24, 2007, Elk Grove Creek Drainage Study prepared by MacKay and Somps Engineers (Drainage Study) will expand beyond the Fieldstone North parcel as a result of the proposed grading in Fieldstone South and the proposed drainage improvements as recommended in the Drainage Study. This letter provides confirmation that the 100 year flood plain expansion is confined to Fieldstone North.

The current application being reviewed by the City of Elk Grove staff consists of a reapplication of the approved Fieldstone South project for an increase in the number of lots within the proposed project. The Drainage Study provided for improvements to the Hudson Drainage Facilities and other interim improvements that will mitigate flow increases and allow Fieldstone South as well as The Reserve and Carson Creek Industrial Park projects to develop prior to the ultimate improvements to Elk Grove Creek.

I submit the following facts and conclusions from the approved Drainage study:

- The Drainage Study includes Figure 8 which provides the mapping of the existing 100 year flood plain in its current location and the interim 100 year flood plain after the subject projects are developed and the interim improvements identified in the Interim Study are constructed
- The Drainage study confirmed that properties downstream of Waterman Road are not impacted.
- Figure 8 not only shows the physical limits of the existing and interim flows, that is also a table that identifies cross sections of Elk Grove Creek and the associated existing and interim water surface elevations and flow volumes
- Figure 8 not only shows the physical limits of the existing and interim flows, it also contains a table that identifies cross sections of Elk Grove Creek and the associated existing and interim water surface elevations and flow volumes.
- The only cross sections where the water surface increases in the interim 100 year flow condition is at sections 7774, 8267, 8741 and 9196. All these cross sections occur along Fieldstone North and Fieldstone South.

- Given that the water surface does not increase in the interim condition downstream of Waterman Road, the following can be concluded:
    - The development flows from Fieldstone South will be lower than the anticipated development flow conditions expected with all the projects in the original Interim study
    - The Fieldstone South project flows will result in an interim flood plain that will be less than the existing flood plain on the downstream properties.
    - The only increase in the Flood plain width will occur on the Fieldstone North property as originally modeled
    - Given the flows are lower; the impact will be lower from Fieldstone South on Fieldstone North. By using the originally mapped interim condition on Fieldstone North, all the impact from Fieldstone south will be mitigated.

We would therefore submit the following conclusions for staff consideration and concurrence:

1. The above summary provides documentation that except for Fieldstone North there are no impacts to properties either downstream or upstream of Waterman Road.
2. The flow impacts from Fieldstone South will be contained in the existing floodplain except in Fieldstone North
3. Pappas Investments and the City have an agreed upon means whereby ownership of Fieldstone North has agreed to accept the incremental encroachment of the interim flood plain on Fieldstone North.
4. The Drainage Study provided for mitigation measures accepted and approved by the City

As demonstrated by the above analysis, the Drainage Study provides sufficient documentation that Fieldstone South can be developed on its own with the proposed mitigation measures resulting in an interim 10-0 year flood plain that is within the Drainage Study approved by the City.

Respectfully,

Au Clair Consulting Inc.

Stephen Au Clair, PE 30197
Principal

EXHIBIT "B" – FIELDSTONE SOUTH MITIGATION MEASURES EG 10-018

	MITIGATION MEASURES	TIMING, IMPLEMENTATION AND NOTIFICATION (ACTION BY THE PROJECT APPLICANT):	MONITORING / VERIFICATION (ACTION BY THE CITY): **(DATE & SIGN)**
GRADING PERMIT AND IMPROVEMENT PLAN			
1.	**MM 3b-1:** The following SMAQMD's *Basic Construction Emission Control Practices* shall be implemented: • Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.	Prior to and during construction activities	City of Elk Grove Development Services, Planning Department
2.	**MM 4e-1:** The following General Preservation strategies identified in the arborist report and tree inventory summary prepared for the proposed project shall be implemented: • The critical root zone area' for a tree shall be fenced prior to any activities	During development and construction activities	City of Elk Grove Development Services, Planning Department

	MITIGATION MEASURES	TIMING, IMPLEMENTATION AND NOTIFICATION (ACTION BY THE PROJECT APPLICANT):	MONITORING / VERIFICATION (ACTION BY THE CITY): (DATE & SIGN)
	on the site and should remain in place throughout construction. The root zone area for a tree should include the dripline radius measurement taken from the tree trunk to the tip of the farthest reaching branch, plus one foot. • Cuts within a dripline of a tree should be maintained at less than 20 percent of the critical root zone area. Grade cuts shall be supervised by a Certified Arborist and any damaged roots encountered shall be root pruned and properly treated as soon as possible after excavation by a Certified Arborist. Root cuts which will be exposed for more than one day shall be covered with dense burlap fabric and watered to maintain soil moisture on a daily basis or as directed by the Certified Arborist. • Fill materials in excess of one foot in depth of up to 20 percent of the critical root zone area shall trigger the installation of aeration systems as directed by a Certified Arborist. Should it be necessary to build fill materials on two or three sides of a tree, the use of retaining walls shall be employed in order to reduce encroachment and the degree of fill beneath the tree. • In cases in which it is necessary for a proposed structure to encroach into the critical root zone area, encroachment shall be maintained at less than 20 percent and a slab foundation with an aeration system shall be installed beneath the slab and footings, excavated by hand. In cases in which encroachment of a proposed structure equated to more than 20 percent of the critical root zone area of a tree, the tree shall be considered for removal or continued post-construction monitoring and health evaluation by a Certified Arborist. • Where possible, dry utilities shall be routed on the opposite side of the street from project tree locations.		
3.	**MM 7a-1:** The following emissions reduction measures shall be implemented: 1. The following measures shall be implemented during construction: • Limit idling of construction equipment and delivery vehicles; • Limit the vehicle trips of construction deliveries by consolidating material loads; • Delivery of materials should take place during non-rush hours, in order to increase vehicle fuel efficiency; • Provide opportunity for construction workers to carpool, and	Prior to start of construction and during project construction	City of Elk Grove Development Services, Planning Department

	MITIGATION MEASURES	TIMING, IMPLEMENTATION AND NOTIFICATION (ACTION BY THE PROJECT APPLICANT):	MONITORING / VERIFICATION (ACTION BY THE CITY): (DATE & SIGN)
	• Gasoline and diesel-run equipment and machinery should be well maintained and in good working condition. 2. Following consultation with SMAQMD, and to the extent agreed upon by the project applicant and SMAQMD, construction vehicles shall use retrofit emission control devices, such as diesel oxidation catalysts and diesel particulate filters verified by the California Air Resources Board. 3. No wood-burning fireplaces, woodstoves, or similar wood-burning devices will be used in association with the project. 4. For low-impact areas and surfaces, the lowest-emitting architectural coatings feasible shall be used during construction. Zero-VOC coatings shall be used. For areas of high use that will require frequent cleaning, such as door frames or kitchen room walls, low-VOC coatings shall be used. Design review submittals shall include information concerning the coatings products proposed for use in the project.		
4.	**MM 8.1:** Prior to start of construction, the construction contractor shall designate staging areas where fueling and oil-changing activities will take place. The staging area(s) shall be reviewed and approved by City's Planning Department and the Storm Water pollution Prevention Plan (SWPPP) Manager prior to the start of construction. No fueling and oil-changing activities shall be permitted outside the designated staging areas. The staging areas, as much as practicable, shall be located on level terrain and away from sensitive land uses such as residences, day care facilities, and schools. Staging areas shall not be located near any stream, channel, or wetlands. The proposed staging areas shall be identified in the SWPPP.	Prior to start of construction and during project construction	City of Elk Grove Development Services, Planning Department
BUILDING PERMIT			
5.	**MM 9-1:** The project applicant shall: • Increase the capacity of the existing Hudson Ranch Detention Basin (located to the west of the proposed project just west of the existing Sonoma Creek • Subdivision) lowering the basin bottom approximately 7 feet (to elevation 32.0 feet from 39.3 feet). • Modify the Hudson Basin outlet structure by lowering the outlet weir from	Prior to issuance of building permits	City of Elk Grove Development Services, Planning and Building Departments

	MITIGATION MEASURES	TIMING, IMPLEMENTATION AND NOTIFICATION (ACTION BY THE PROJECT APPLICANT):	MONITORING / VERIFICATION (ACTION BY THE CITY): (DATE & SIGN)
	elevation 42 to 39.3 feet. • Add an additional 36-inch outfall pipe from Hudson Basin across Waterman Road. • Install flap gates at the discharge end of the two 36-inch Hudson Basin outlet pipes. • Raise the service road at the northwest corner of the Hudson Basin to approximately elevation 48.6 ft. • Construct a berm to elevation 49.8 between the basin and Rhone River Drive along the south side of the creek. These improvements must be constructed prior to issuance of the first building permit for the project.		
FINAL OCCUPANCY			
6.	**MM 7a-2** The following energy efficiency and renewable energy measures shall be implemented: 1. Include energy-efficient window glazings, wall insulation, and efficient ventilation methods. 2. Energy efficient lighting (e.g., fluorescent lighting, which uses approximately 75% less energy than incandescent lighting to deliver the same amount of light) shall be used. 3. To the extent feasible, promote passive solar building design and landscaping conducive to passive solar energy use (i.e., building orientation in a south to southwest direction, encouraging planting of deciduous trees on western sides of structures, landscaping with drought-resistant species, and including groundcovers rather than pavement to reduce heat reflection) where energy modeling indicates that these measures will reduce energy consumption. 4. Landscaping plans shall prohibit the use of liquidambar and eucalyptus trees that produce smog-forming compounds (high emission factors for isoprenes). 5. Establish building guidelines that require the use of low-absorptive coatings on all building surfaces and Energy Star roofing products on all roofs if commercially available at the time building permits are issued	Prior to issuance of certification of occupancy	City of Elk Grove Development Services Department and Sacramento Metropolitan Air Quality Management District

	MITIGATION MEASURES	TIMING, IMPLEMENTATION AND NOTIFICATION (ACTION BY THE PROJECT APPLICANT):	MONITORING / VERIFICATION (ACTION BY THE CITY): **(DATE & SIGN)**
	and compliant with the California Building Code. 6. To the extent feasible, require reuse and recycling of construction and demolition waste. 7. Preserve and create open space and parks. Preserve existing healthy heritage trees, or in the event that preservation cannot be achieved, replace with similar species to the greatest extent possible (5 gallon container trees or larger size shall be planted for each healthy heritage tree removed). Payment of in-lieu fees for tree mitigation shall be allowed only after it can be demonstrated that onsite replacement planting cannot be achieved.		

CERTIFICATION
ELK GROVE CITY COUNCIL RESOLUTION NO. 2011-18

STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO) ss
CITY OF ELK GROVE)

I, Jason Lindgren, City Clerk of the City of Elk Grove, California, do hereby certify that the foregoing resolution was duly introduced, approved, and adopted by the City Council of the City of Elk Grove at a regular meeting of said Council held on January 26, 2011 by the following vote:

AYES :	***COUNCILMEMBERS:***	***Detrick, Davis, Hume, Scherman***
NOES:	***COUNCILMEMBERS:***	***None***
ABSTAIN :	***COUNCILMEMBERS:***	***None***
ABSENT:	***COUNCILMEMBERS:***	***Cooper***

Jason Lindgren, City Clerk
City of Elk Grove, California