

RESOLUTION NO. 2014-125

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ELK GROVE
ADOPTING A MITIGATED NEGATIVE DECLARATION AND MITIGATION
MONITORING AND REPORTING PROGRAM (MMRP) FOR THE SHELDON PARK
ESTATES PROJECT (EG-13-016), APNS: 121-0180-012 & 017**

WHEREAS, the Planning Department of the City of Elk Grove received an application on March 22, 2013 from Capital Realtors Inc. Profit Sharing Plan (the "Applicant") requesting a Rezone, Tentative Subdivision Map, and Design Review for the Tentative Subdivision Map layout for the Sheldon Park Estates Project (the "Project"); and

WHEREAS, the proposed Project is located on real property in the incorporated portions of the City of Elk Grove more particularly described as APNs: 121-0180-012 & 017; and

WHEREAS, the Project qualifies as a project under the California Environmental Quality Act (CEQA), Public Resource Code §§21000-21189.3; and

WHEREAS, the City prepared an Initial Study/Mitigated Negative Declaration 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, based on staff's review of the Project, no special circumstances exist that would create a reasonable possibility that granting a Rezone, Tentative Subdivision Map, and Design Review for the Tentative Subdivision Map layout for this Project will have a significant effect on the environment beyond what was analyzed in the Mitigated Negative Declaration prepared for the Project and disclosed; 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 February 7, 2014. It was posted at the Sacramento County Clerk's office, distributed through State Clearinghouse and at the City offices, pursuant to Section 15072 of Chapter 3 of Title 14 of the California Code of Regulations (State CEQA Guidelines). A 30-day review and comment period was opened on February 7, 2014 and closed March 7, 2014. 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 hereby adopts the Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the Sheldon Park Estates 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.

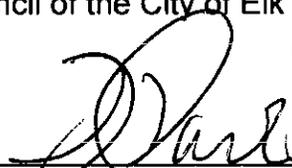
Evidence: Pursuant to CEQA and the CEQA guidelines, staff prepared an Initial Environmental Study for the Sheldon Park Estates Project and mitigation measures have been developed that will reduce potential environmental impacts to less than significant levels. The Initial Environmental Study identified potentially significant

adverse effects in the areas of aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gases, hazardous materials, hydrology and water quality, and noise. 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 February 7, 2014. It was posted at the Sacramento County Clerk's office, distributed through State Clearinghouse and at the City offices, pursuant to Section 15072 of Chapter 3 of Title 14 of the California Code of Regulations (State CEQA Guidelines). A 30-day review and comment period was opened on February 7, 2014 and closed March 7, 2014. The Mitigated Negative Declaration was made available to the public during this review period. The City received four written comment letters 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 at 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 28th day of May 2014.



GARY DAVIS, MAYOR of the
CITY OF ELK GROVE

ATTEST:



JASON LINDGREN, CITY CLERK

APPROVED AS TO FORM:



JONATHAN P. HOBBS,
CITY ATTORNEY

EXHIBIT A

FINAL MITIGATED NEGATIVE DECLARATION/
INITIAL STUDY

FOR

SHELDON PARK ESTATES

APRIL 2014



Prepared for:

City of Elk Grove
Attn: Christopher Jordan
8401 Laguna Palms Way
Elk Grove, CA 95758

Prepared by:

De Novo Planning Group
4630 Brand Way
Sacramento, CA 95819
www.denovoplanning.com

D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm

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INITIAL ENVIRONMENTAL STUDY

A. PROJECT DETAILS

PROJECT TITLE

Sheldon Park Estates

LEAD AGENCY NAME AND ADDRESS

City of Elk Grove
Development Services - Planning
8400 Laguna Palms Way
Elk Grove, CA 95758

LEAD AGENCY CONTACT NAME AND NUMBER

Christopher Jordan, AICP
(916) 478-2222

PROJECT SPONSOR'S NAME AND ADDRESS (PROJECT APPLICANT)

Capital Realtors, Inc. Profit Sharing
Bryan Wilson
PO Box 1
Elk Grove, CA 95759
(916) 383-5511

GENERAL PLAN AND ZONING

The Project site has a Rural Residential (RR) General Plan land use designation and AR-5 (Agricultural Residential Minimum 5-acre) Zoning designation.

PROJECT LOCATION

The Project site is located northeast of the intersection of Sheldon Road and Waterman Road in the City of Elk Grove (City) (Figures 1 and 2). The Project site is comprised of APNs 121-0180-012 and 121-0180-017. The Project site is in the southwest ¼ of Section 20, Township 7 North and Range 6 East, MDB&M, Sacramento County, California. The coordinates for the center of the Project site are latitude 38°, 26' and 26" North and longitude 121°, 20' and 53" West.

PROJECT SETTING

The Project site is currently used for rural residential and agricultural purposes and totals approximately 113 acres. Surrounding land uses consist of agricultural land and rural residential dwellings. The Project site is bordered by Waterman Road and rural residential uses along its western border, grazing land along its northern and eastern borders, an agricultural residential use located northwest of the site, and Sheldon Road along its southern border, with grazing land that includes a residence and agricultural outbuildings across Sheldon Road. The elevation of the Project site ranges from a low of approximately 48 feet adjacent to Laguna Creek at the Sheldon Road bridge to a high of approximately 69 feet at the northwest corner. Surface water drains toward Laguna Creek near the center of the Project site. Laguna Creek flows from north to south across the Project site. The land has been historically farmed but is currently fallow. All or portions of the land are disked each year. An existing residence along with numerous other farm structures is located west of Laguna Creek in the southern portion of the Project site.

The rural residence, shop building, shed, a portable box storage unit, and a barn are present on the west side of APN 121-0180-012. A domestic water supply well and a propane tank are

present north of the residence. An unimproved access road extending north from Sheldon Road lies east of the residence and shop building and loops around to the south end of the barn.

The northernmost portion of the Project site supports a dry-farmed crop. The southeast portion of the Project site also supports a dry-farmed crop. Soil piles, concrete rubble, asphalt rubble, metal debris, and miscellaneous implements and vehicles are present in the fallow areas.

The northeast side of the Project site is split in two by an east/west-trending drainage canal that discharges into the Laguna Creek. The drainage canal enters the Project site at its northeast corner and trends south along the east boundary. The canal then trends west and crosses through the center of the northeast portion of the Project site.

Sacramento Municipal Utility District (SMUD) pole-mounted electrical transformers are present near each water supply well. Neighborhood electrical distribution lines powered at 12 kilovolts (kV) are located along the south side of Sheldon Road and west side of Waterman Road. An electrical vault and aboveground panel are present on the Project site near Sheldon Road, west of the farm buildings.

Four electrical transmission lines on steel-towers are present on the west side Project site, west of the existing residence. A communications tower enclosure is present beneath one of the towers on the Project site near the barn. The communications tower enclosure had no back-up emergency power, such as a diesel-powered generator or a bank of batteries. The fenced communications tower enclosure is situated on a concrete slab. A concrete pad-mounted electrical transformer is present just east of the communications tower enclosure.

No municipal water or sanitary sewer service are provided for the Project site. Currently the site has three water supply wells and one septic system.

Stormwater ditches are located within the Sheldon Road and Waterman Road street easements. The stormwater flows toward Laguna Creek.

B. PROJECT DESCRIPTION

The Project is a rezone and subdivision of 113 acres (Figures 3 and 4). The rezone would involve changing the zoning designation from AR-5 to AR-2. The General Plan designation of Rural Residential would remain the same. The subdivision would involve dividing APNs 121-0180-012 and 017 into 45 single-family lots with a minimum size of 2 acres each, one open space/remainder lot (11.8 acres), and one remainder lot (2.8 acres) for the existing residence.

The Project includes a 30-foot multi-use trail easement along the western portion of the Project site near Waterman Road. The 30-foot multi-use trail easement would be located within Lot A (Remainder Lot). There would also be a 30-foot multi-use trail easement along the Laguna Creek, which bisects the Project site. This easement would be located within a 100-year floodplain easement. Numerous wetland preservation easements would be established throughout the Project site. The 46 proposed residential lots would be located on 101.3 acres and the open space would be located on 11.8 acres.

The Project site would be served by private on-site well and septic systems (see Appendix A for the well and septic exhibit). Water supply well and septic system permits would be provided by Sacramento County Environmental Management Department.

Electrical service would be provided by Sacramento Municipal Utility District (SMUD). Gas service would be provided by Pacific Gas & Electric (PG&E). School service would be provided by the Elk Grove Unified School District. Fire Protection Service would be provided by the Cosumnes Community Services District. Parks service would be provided by the Cosumnes Community Services District.

Appendix A includes the following exhibits: 1) Rezone, 2) Tentative Subdivision Map, 3) Pre-Grading, 4) Post Grading, 5) Well and Septic, 6) Fencing, and 7) Mitigation Area. Appendix B includes a Wetland Delineation. Appendix C includes the Cultural Resources Report. Appendix D includes a Phase 1 Environmental Site Assessment. Appendix E includes a Preliminary Geotechnical Report. Appendix F includes a "No Objection" letter from PG&E relative to their tower line and easement rights. Appendix G includes drainage calculations.

REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

CITY OF ELK GROVE

The City of Elk Grove (City) is the Lead Agency for the Project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050.

Actions to be taken by the City in approving the Project include, but are not limited to:

- A rezone of the Project site from the existing zoning of AR-5 to AR-2; and
- A Tentative Subdivision Map to subdivide the Project site to accommodate:
 - 46 single family residential lots as follows:
 - 45 single family lots on 98.5 acres to accommodate new residences;
 - A 2.8-acre lot to accommodate the existing residence; and
 - An 11.8-acre open space/remainder lot.

OTHER AGENCIES

Permits that the Project Applicant may be required to obtain include, but are not limited to:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES), which would require the development to prepare a Storm Water Pollution Prevention Plan (SWPPP) and file a Notice of Intent with the RWQCB.
- Sacramento County Environmental Management Department – Water supply well and septic system permits.
- Sacramento Metropolitan Air Quality Management District – approval of construction-related air quality permits.

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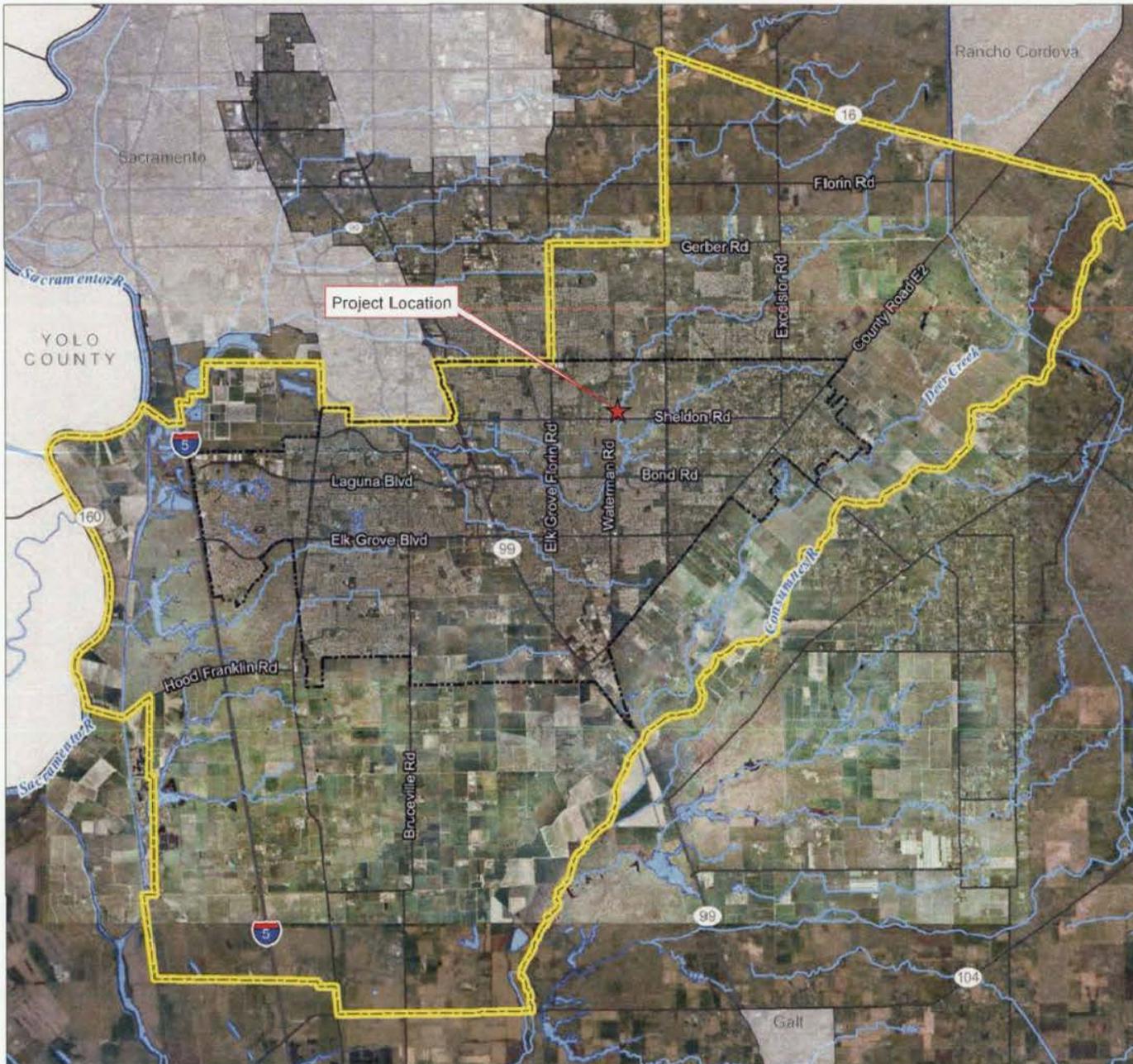
SHELDON PARK ESTATES

Figure 1: Project Location

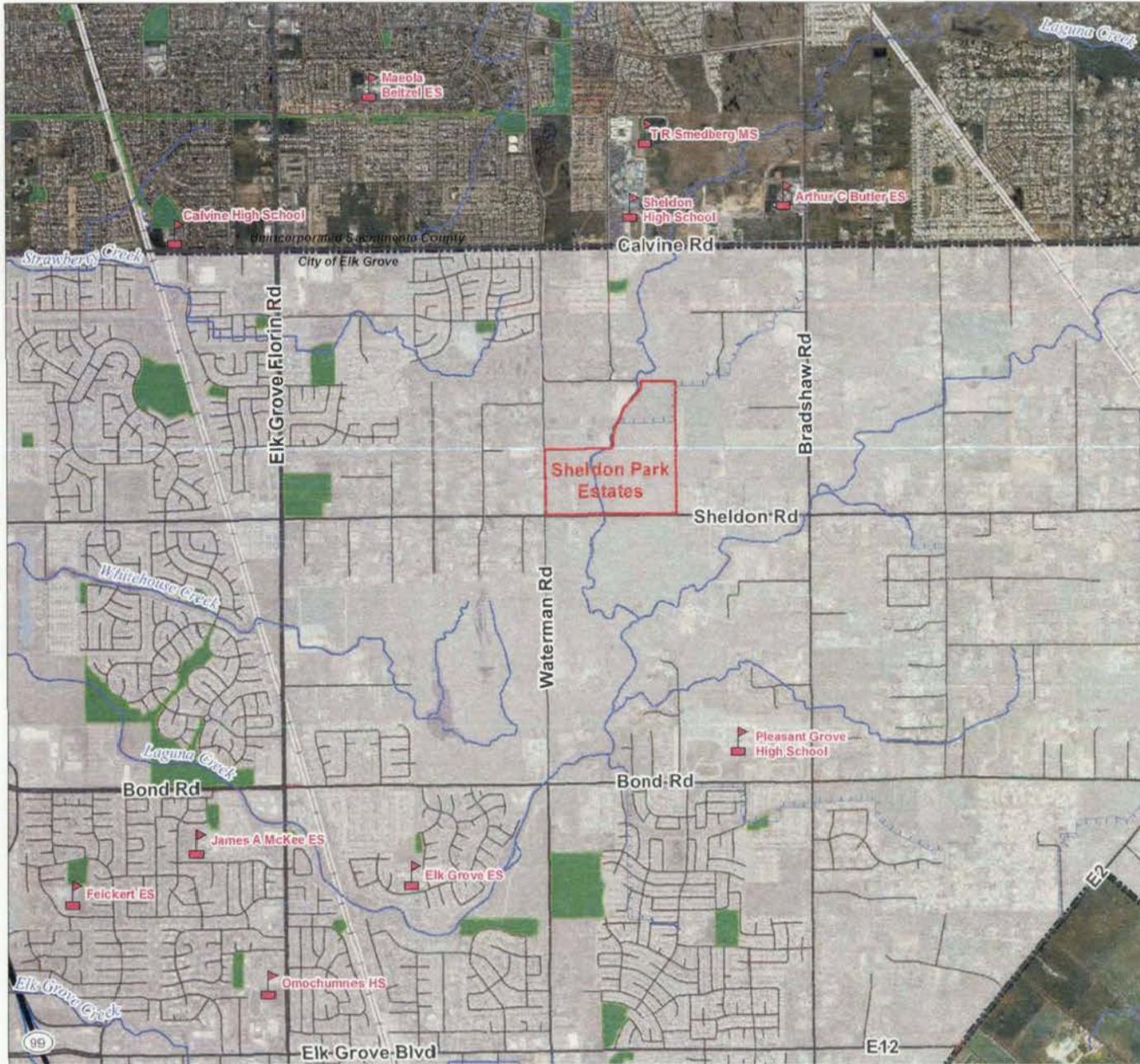
-  City of Elk Grove
-  Elk Grove Planning Area



Data sources: Sacramento County GIS data library, City of Elk Grove GIS, ESRI's StreetMap North America, ArcGIS Online Bing Aerials.
Map date: December 5, 2013.



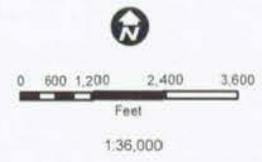
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SHELDON PARK ESTATES

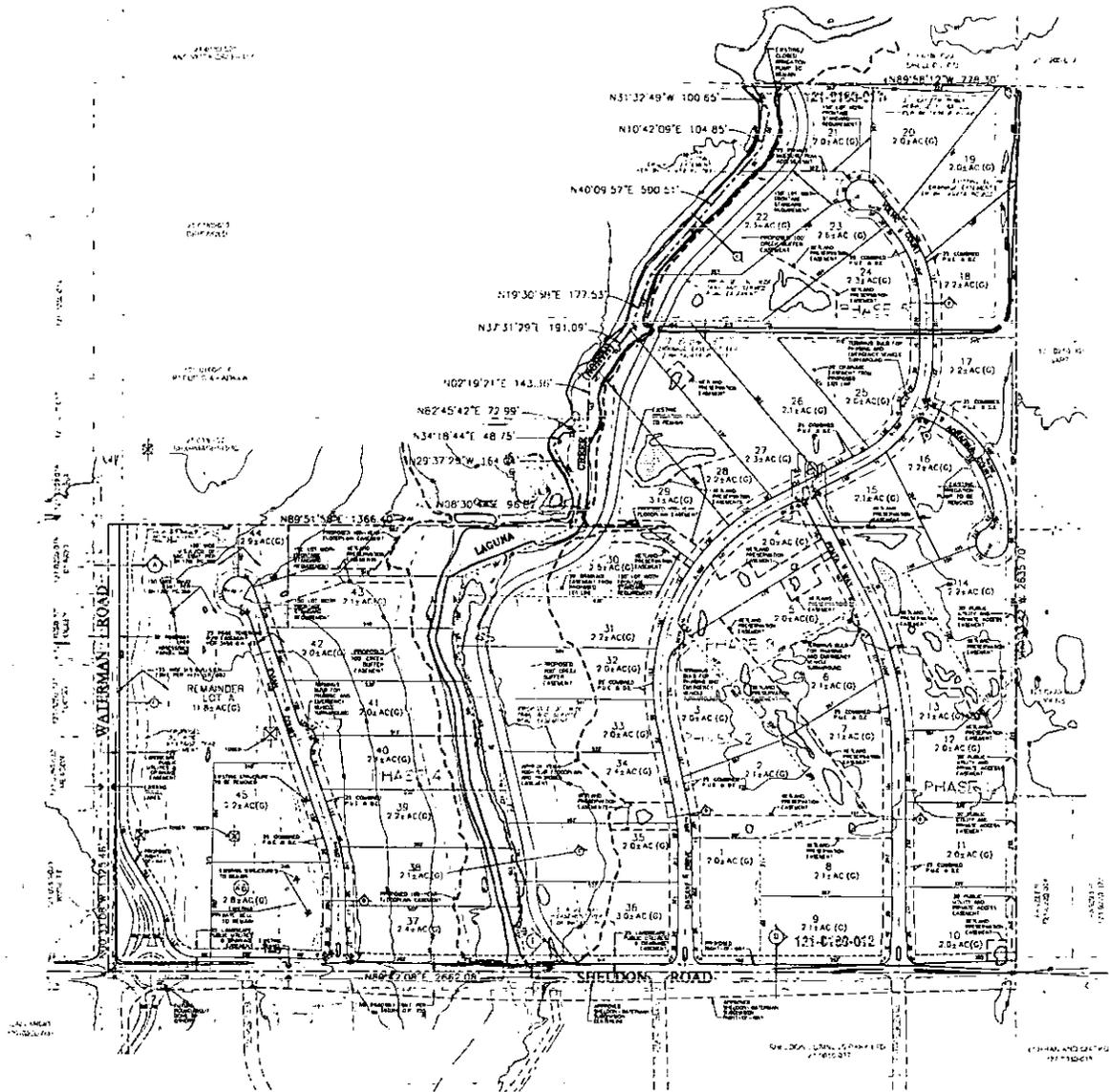
Figure 2: Project Vicinity

-  Project Boundary
-  Schools
-  Parks & Recreation
-  City of Elk Grove



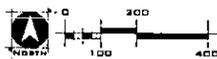
Data sources: Sacramento County GIS data library, City of Elk Grove GIS, ESRI's StreetMap North America, ArcGIS Online Bing Aerials. Map date: December 6, 2013.

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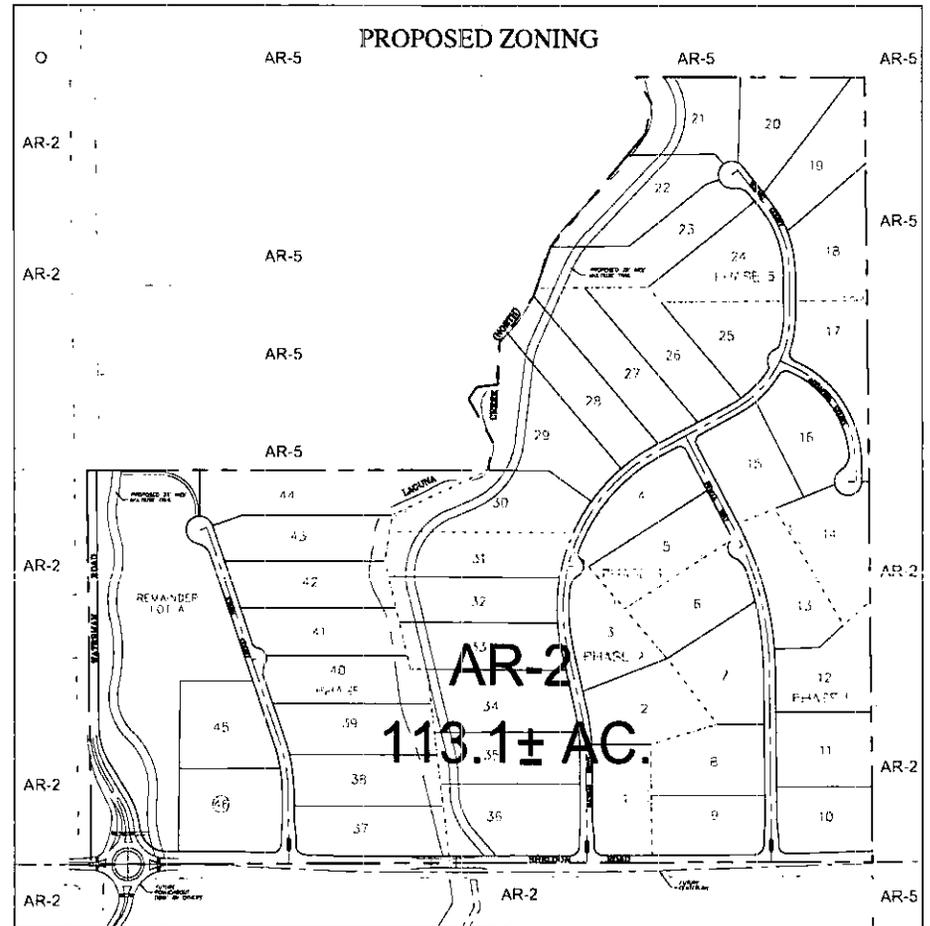
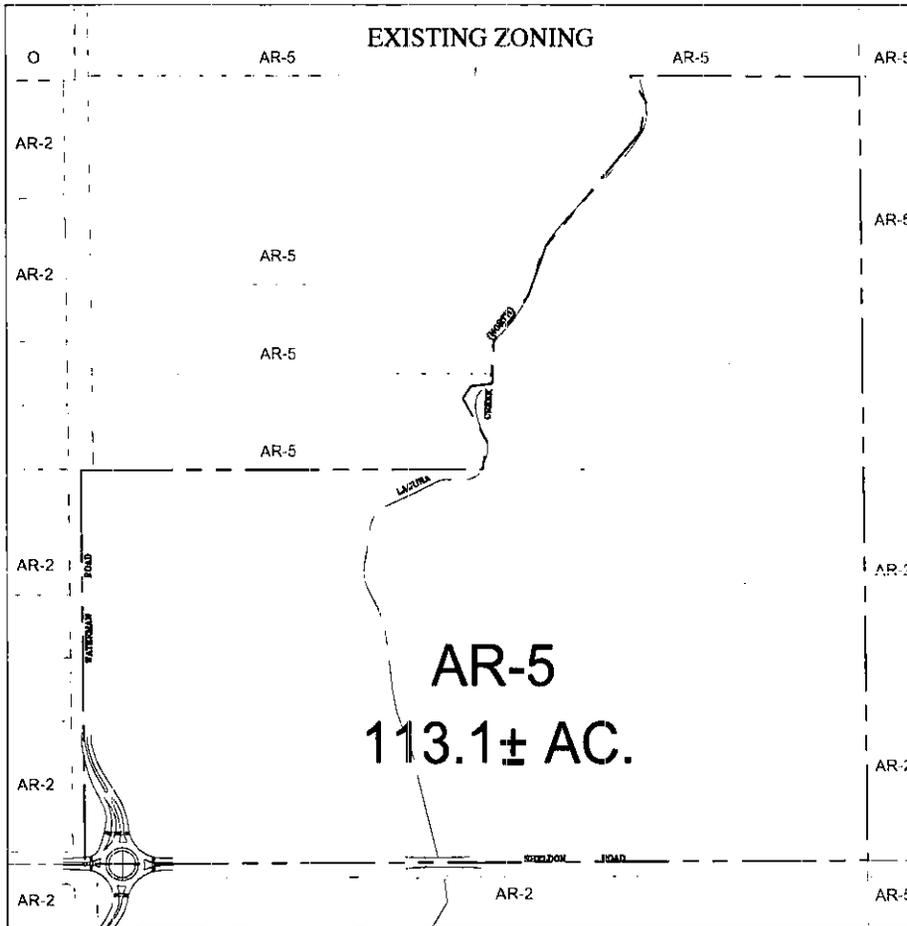


SHELDON PARK ESTATES

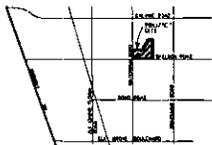
Figure 3: Tentative Subdivision Map



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LOCATION MAP



ZONING SUMMARY TABLE

DESIGNATION	LAND USE	EXISTING	PROPOSED	DIFFERENCE
AR-5	AGRICULTURAL RESIDENTIAL 5 ACRE MINIMUM LOTS	113.1	0	-113.1
AR-2	AGRICULTURAL RESIDENTIAL 2 ACRE MINIMUM LOTS	0	113.1	+113.1
TOTAL		113.1	113.1	0

SHELDON PARK ESTATES

Figure 4: Rezone Map

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C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

None of the environmental factors listed below would be potentially affected by this project, as described on the following pages.

	Aesthetics		Agriculture and Forest Resources		Air Quality
	Biological Resources		Cultural Resources		Geology/Soils
	Greenhouse Gasses		Hazards and 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

DETERMINATION:

On the basis of this initial evaluation:

	I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because 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 Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the 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 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 Project, nothing further is required.

Taro Echiburu, AICP, Planning Director
City of Elk Grove

Date

D. PURPOSE OF THIS INITIAL STUDY

This Initial Study has been prepared consistent with State CEQA Guidelines Section 15063 (Division 6 of Chapter 3 of Title 14 of the California Code of Regulations, hereinafter the CEQA Guidelines) to determine if the Sheldon Park Estates project (hereinafter the Project), as proposed, may have a significant effect upon the environment. Based upon the findings contained within this report, the Initial Study will be used in support of the preparation of an Mitigated Negative Declaration.

E. EVALUATION OF ENVIRONMENTAL IMPACTS

The following requirements for evaluating environmental impacts are taken 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 a lead agency cites in the parentheses following each question. 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 (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

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 as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

- a) Earlier Analysis Used. Identify and state where they are available for review.
- b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
- c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

5) The explanation of each issue should identify: a) the significance criteria or threshold, if any, used to evaluate each question; and b) the mitigation measure identified, if any, to reduce the impact to less than significant.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the Project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

The Project site is located in an area that is primarily surrounded by a mixture of rural residential, agricultural residential, and undeveloped/grazing uses. The Project site is primarily agricultural grazing land, with a single residence and outbuildings associated with the residential and grazing uses. The western portion of the Project site is characterized by four electrical transmission lines on steel-towers located west of the existing residence. The Project site is relatively level terrain, with the exception of ponded wetland features. The site contains Laguna Creek. The vegetation consists primarily of annual grassland.

PROJECT IMPACTS

Response a, c): The Project would convert the Project site from its undeveloped state, with areas of level topography, annual grasslands, and wetlands to agricultural residential uses that include single family residential lots, wetlands, open space, and a trail system. Project implementation would alter the existing visual character of the site, as described below.

The Project designates 33 acres (29.2% of the site) for conservation easements and the remainder would be used for agricultural residential uses. Preservation of grasslands, wetlands, and stream corridors in open space is compatible with General Plan Policies PTO-15, CAQ-9, and LU-18, which addresses preservation of the rural character of Elk Grove, preservation of open space and natural resources, including, trees, grasslands, wetlands, and stream corridors. An open space parcel under the existing transmission lines along Waterman Road is also designated on the western edge of the Project site. This open space designation is consistent with General Plan Policy PTO-16 which encourages inclusion of transmission corridors in open space and trail systems.

The proposed open space and agricultural residential uses are compatible with the rural character and appearance of the existing agricultural-residential development in the vicinity. Most of these lots have buildings and landscaping covering a small portion of the lot

with the remainder open and covered in native grass, similar to the open space of the project site. The proposed open space is consistent with General Plan Focused Goal 5 and Policy PTO-15 in preserving the rural character of surrounding properties.

Currently views onto the Project site from surrounding properties are unobstructed. Views of open space are compatible with and will provide a visual buffer and transition between this planned agricultural residential and existing agricultural residential uses in the vicinity.

Development would result in a change in the visual character of the site from vacant land covered with native grasses to agricultural residential development. Very few trees are located on the Project site. General Plan Focused Policy CAQ-8 defines oaks and large trees as an important part of the City's aesthetic character to be retained to the extent possible and where trees cannot be preserved onsite, offsite mitigation or payment of in-lieu fees may be required. CAQ-8-Action 1 notes that when considering trees for preservation their aesthetic value should be one of the criteria considered. The Tree Preservation and Protection regulations of the City are contained within the City Municipal Code Section 19.12. No trees are proposed to be removed by the Project.

The open space setback along the entire Waterman Road project frontage under the transmission lines provides viewing distance and a near view continuation of the open rural character. Elk Grove Design Guideline #18 requires that where rear yards of single-family homes abut designated open space areas, rear yard fencing shall be open view and remain open in perpetuity. The agricultural residential properties west of Waterman Road would have an open space buffer parcel under the transmission lines providing greater viewing distance and a near view continuation of the open rural character.

The City's Design Guidelines require that development be harmonious with surrounding uses and include measures to ensure high-quality design, through site layout, building height and massing, other architectural details, and landscaping.

In summary, the Project would be visually compatible with the rural character of agricultural residential uses that surround the Project site. Approximately one-third of the Project site would be preserved in open space, and the remainder would be developed at a very low density (2-acre minimum) that would be consistent with rural character.

The General Plan Draft EIR anticipated urbanization of the City and identified that implementation of the General Plan would result in a significant and unavoidable impact associated with conversion of the region's rural landscape to residential, commercial, and other land uses even with implementation of mitigating General Plan policies and actions (Policies CAQ-8 and LU-34 and associated implementing actions), related to preservation of scenic resources and providing a built environment of high visual quality (Impact 4.13.1; City of Elk Grove, 2003b, pp. 4.13-5 – 4.13-60). The Project is consistent with General Plan policies related to visual character including Policy CAQ-8 and LU-34, including actions related to the design of development.

The Project would not substantially degrade the existing visual character or quality of the Project site and its surroundings beyond the loss of open space and loss of rural character caused by development that was envisioned as a consequence of the implementation of the General Plan. This is a **less than significant** impact.

Response b): The Project site is not located within a state scenic highway. The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Implementation of the Project would have **no impact** relative to this topic.

Response d): Development of the Project would introduce new sources of light and glare to a site that is largely vacant. In addition, properties in the vicinity are also largely vacant. New sources of daytime glare would occur primarily from the windshields of vehicles traveling to and from the Project site. Project access is limited to Sheldon Road. The development to the east, west, and north will not directly face the interior streets or residential lots on the Project site. The Project includes an open space setback along Waterman Road with lots backing onto this setback, which would provide visual distance and block potential glare to the areas west of the Project site. All lots within the Project site are proposed to back onto surrounding perimeter properties thus blocking windshield glare. Additionally, because of the large lot size there will be large setbacks between the residential buildings and street to the adjacent properties.

New light sources introduced by the Project would include intersection street lighting and lighting associated with the residential buildings. These new light sources could result in adverse effects to adjacent land uses through the "spilling over" of light into these areas and intensified nighttime lighting conditions in the vicinity. A detailed lighting plan has not been prepared for the Project, but for the purposes of this analysis, it has been conservatively assumed that exterior lighting would be located throughout most of the outdoor areas of the developed portions of the Project site. This includes, but is not necessarily limited to: street lighting at intersections; and exterior lighting on homes and residences. Light sources from the Project may have an adverse impact on the surrounding areas, by introducing nuisance light into the area and decreasing the visibility of nighttime skies. On-site light sources may create light spillover and night sky impacts on surrounding land uses in the absence of mitigation.

Implementation of the following mitigation measures would ensure that all exterior lighting associated with the Project is properly shielded and directed downward in order to eliminate light spillage onto adjacent properties, and reduce impacts to "dark skies" to the greatest extent feasible. Implementation of these mitigation measures would reduce potential light and glare impacts to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Vis-1: *Outdoor lighting shall be designed consistent with the EGMC Chapter 23.56 requirements for shielding, levels of illumination, maximum height of freestanding outdoor light fixtures, type of illumination, and architectural/landscape lighting. The intent of these requirements is to ensure that light intensity is minimized, the light is not directed off the site, and the light source is shielded downward from overhead viewing and from direct off-site viewing. These requirements shall be shown on the development plan for each single family unit.*

Note: EGMC Chapter 23.28 defines zoning standards, including lighting standards, for the Agricultural Zoning Districts. Table 23.28-2 refers to EGMC Chapter 23.56 for lighting standards.)

Timing/Implementation: Prior to issuance of building permits.

Enforcement/Monitoring: City of Elk Grove Development Services Department, Planning.

Mitigation Measure Vis-2 *Street light fixtures shall use low-pressure sodium lamps or other similar lighting fixture and shall be installed and shielded in such a manner that no light rays are emitted from the fixture at angles above the horizontal plane. High-intensity discharge lamps shall be prohibited. Offsite illumination shall not exceed two-foot candles. Street lighting plans shall be submitted with project improvement plans for City review and approval.*

Timing/Implementation: Prior to approval of facility improvement plans for project roadways.

Enforcement/Monitoring: City of Elk Grove Planning Department.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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 non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

The California Environmental Quality Act (CEQA) defines "Agricultural land" as prime farmland, farmland of statewide importance, or unique farmland as defined by the Farmland Mapping and Monitoring Program of the California Resources Agency. This mapping system utilizes the Soil Capability Classification and the Storie Index Rating System to determine a soil's agricultural productivity. The soils on the Project site are as follows:

TABLE 1: PROJECT SITE SOILS

Map Unit Symbol	Map Unit Name	Acres	Percent
158	Hicksville loam, 0 to 2 percent slopes, occasionally flooded	13.7	12.4%
198	Redding gravelly loam, 0 to 8 percent slopes	29.4	26.7%
213	San Joaquin silt loam, leveled, 0 to 1 percent slopes	17.6	16.0%
214	San Joaquin silt loam, 0 to 3 percent slopes	35.3	32.0%
216	San Joaquin-Durixeralfs complex, 0 to 1 percent slopes	4.5	4.1%
221	San Joaquin-Xerarents complex, leveled, 0 to 1 percent slopes	9.8	8.9%
Totals for Area of Interest		110.4	100.0%

SOURCE: NRCS WEBSOIL (2013)

Soils on the Project site consist of Grade 4 and 5 under the California Revised Storie Index, are rated Poor to Very Poor. The Land Capability Classifications (Non-irrigated) for the soils on the Project site are Class 3 and 4. Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both. Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both. These soil types do not qualify as prime farmland, farmland of statewide importance, or unique farmland under the Farmland Mapping and Monitoring Program of the California Resources Agency. The Project site is identified as grazing land, other land, and farmland of local importance by the Department of Conservation (DOC) Farmland Mapping and Monitoring Program (DOC, 2013).

The Project site is not designated or zoned as forest or timber land.

PROJECT IMPACTS

Response a): The Project site does not contain prime farmland, unique farmland, or farmland of statewide importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The soils on the Project site do not qualify the Project site for these designations. Implementation of the Project would have a **less than significant** impact relative to this issue.

Response b): The Project site is not under a Williamson Act contract. The current zoning is Agricultural Residential Five Acre Minimum (AR-5), which allows the proposed residential uses. The Project includes a rezone from AR-5 to AR-2 to allow for smaller residential lots. The Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. Implementation of the Project would have a **less than significant** impact relative to this issue.

Response c): The Project site is not forest land (as defined in Public Resources Code Section 1222(g)) or timberland (as defined in Public Resources Code Section 4526). The Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. Implementation of the Project would have **no impact** relative to this issue.

Response d): The Project site is not forest land. The Project would not result in the loss of forest land or conversion of forest land to non-forest use. Implementation of the Project would have **no impact** relative to this issue.

Response e): A majority of the Project site is currently used for dry farming, which is not a highly productive farming practice in the region. Additionally, the soils on the Project site consist of Grade Four and Five under the California Revised Storie Index, which is a rating of Poor to Very Poor. The Land Capability Classification (Non-irrigated) for the soils on the Project site is Class 3 and 4. Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both. Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both. The Project does not involve changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, other than the dry farmland, to non-agricultural use, or conversion of forest land to non-forest use. Implementation of the Project would have a **less than significant** impact relative to this issue.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
3. AIR QUALITY. Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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. 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 Nonattainment area consists of all of Sacramento and Yolo counties, and parts of 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, by various stationary and mobile sources. Concentrations of the following air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable and fine particulate matter (PM₁₀ 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 County, which encompasses the City, is a known area of non-attainment for State and federal standards for ozone as well as State and federal standards for particulate matter less than 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}) (SMAQMD, 2010). Implementation of the Project would result in increases in both construction emissions and increases in reactive organic gases (ROG) and NO_x, which are precursor components of ozone, and PM₁₀. SMAQMD has demonstrated achievement of the federal PM₁₀ standard and is in the process of requesting redesignation to attainment for PM₁₀.

The 2009 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (ROAP) was developed by the air districts in the Sacramento Region to bring the region into attainment with ozone standards. The ROAP is the regional component of the Statewide Implementation Plan, 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.

Reduction of particulate matter by all feasible means is necessary to attain the particulate matter standards. The *PM₁₀ Implementation/Maintenance Plan and Redesignation Request for Sacramento County* (PM₁₀ Plan) was prepared by SMAQMD and last amended in October 2010. The purpose of the PM₁₀ Plan is to fulfill the requirements for EPA to redesignate Sacramento County from nonattainment to attainment of the federal PM₁₀ standard.

PROJECT IMPACTS

Response a): The Project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, hearth fuel combustion, landscape fuel combustion, consumer products, and architectural coatings.

The SMAQMD is currently updating their Operational CAP Screening Levels (i.e. thresholds are not available); therefore, a quantification of the maximum daily mass emissions of ROG, NO_x, PM₁₀, and PM_{2.5} that will be generated by the Project's operational activities (expressed in pounds per day [lbs./day]) has been performed. The California Emission Estimator Model (CalEEMod)TM (v. 2013.2) was used to estimate project-level operational emissions for the Project. Table 2 shows the emissions, which include mobile source, area source, and energy emissions of criteria pollutants that would result from operations of the Project. The full calculations, inputs, and assumptions are provided in the appendix.

TABLE 2: OPERATIONAL EMISSIONS (UNMITIGATED)

	ROG	NOx	PM10 Total	PM2.5 Total
Summer (maximum daily lbs/day)				
Area	2.1321	0.0446	0.0203	0.0203
Energy	0.0428	0.3653	0.0295	0.0295
Mobile	5.2384	3.8878	2.5195	0.7090
Total	7.4132	4.2977	2.5692	0.7588
Winter (maximum lbs/day)				
Area	2.1321	0.0446	0.0203	0.0203
Energy	0.0428	0.3653	0.0295	0.0295
Mobile	5.7206	4.4379	2.5199	0.7094
Total	7.8955	4.8477	2.5697	0.7592

SOURCES: CALCEEMOD (v.2013.2)

As shown in Table 2, operational ROG and NOx emissions do not exceed the 65 pound per day threshold of significance for ROG and NOx. The SMAQMD has determined that projects with emissions that do not exceed this threshold will not have a significant impact relative to air quality emissions.

Some basic mitigation was input into the model to ensure that emissions are reduced to the extent possible in accordance with state and regional requirements for emissions. These mitigation measures also have benefits for emissions of criteria pollutants, predominately ROG and NOx. As such, the California Emission Estimator Model (CalEEMod)TM (v. 2013.2) was used to estimate project-level operational emissions for the Project with the implementation of mitigation measures. Mitigation inputs included the following:

Area Source:

- only using natural gas burning fireplaces/hearths
- low VOC architectural coatings and cleaning supplies.

Energy Source

- Exceed Title 24 by 20%
- Install high efficiency appliances (refrigerator, fans, washers)

Table 3 shows the project-level operational emissions, which include area, energy, and mobile source emissions that would result from operations of the Project with mitigation.

TABLE 3: OPERATIONAL EMISSIONS (MITIGATED)

	ROG	NOx	PM10 Total	PM2.5 Total
Summer (maximum daily lbs/day)				
Area	2.1321	0.0446	0.0203	0.0203
Energy	0.0358	0.3057	0.0247	0.0247
Mobile	5.2384	3.8878	2.5195	0.7090
Total	7.4063	4.2381	2.5644	0.7540
Winter (maximum lbs/day)				
Area	2.1321	0.0446	0.0203	0.0203
Energy	0.0358	0.3057	0.0247	0.0247
Mobile	5.7206	4.4379	2.5199	0.7094
Total	7.8885	4.7881	2.5649	0.7544

SOURCES: CALCEEMOD (v.2013.2)

As shown in Table 3, emissions are further reduced with the inclusion of these mitigation measures. The emission with, or without the mitigation, is below the thresholds of significance established by the SMAQMD. As such, implementation of the Project would have a **less than significant** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure Air-1: *To reduce Area Source Emissions, the Project Applicant shall implement the following:*

- *Only natural gas burning fireplaces/hearths (i.e. no wood burning fireplaces/hearths shall be allowed). Wording relating to this restriction shall be recorded as a restrictive covenant on title.*
- *Only low VOC paint (interior and exterior) and cleaning products shall be used on the Project site. Wording relating to this restriction shall be recorded as a restrictive covenant on title.*

Timing/Implementation: Prior to issuance of building permits.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Mitigation Measure Air-2: *To reduce Energy Source Emissions, the Project Applicant shall implement the following:*

- *Residential dwellings shall be designed to exceed applicable Title 24 energy standards by 20%.*
- *Install high efficiency appliances (refrigerator, fans, washers)*

Timing/Implementation: Prior to issuance of building permits.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Response b):

Construction Activities/Schedule: Construction activities will consist of multiple phases over several years. These construction activities can be described as site improvements (grading, underground infrastructure, and topside improvements) and vertical construction (building construction and architectural coatings).

Site Improvements: The construction of site improvements may be performed as one task, but may be broken into two or more separate phases. The exact construction schedule is largely dependent on the economic conditions of the region and the ability for the market to absorb the proposed residential units. For purposes of this analysis it is assumed that site improvements are installed in one phase. This approach will present a more conservative and worst-case scenario.

The site improvement phase of construction will begin with site preparation. This step will include the use of dozers, backhoes, and loaders to strip (clear and grub) all organic materials and the upper half-inch to inch of soil from the Project site. This task will generally take a month or less to complete and will include vehicle trips from construction workers. Given that the Project site lacks significant vegetation, this step will likely be less than the assumed month.

After the site is stripped of organic materials, grading will begin. This activity will involve the use of excavators, graders, dozers, scrapers, loaders, and backhoes to move soil around the Project site to create specific engineered grade elevations and soil compaction levels.

Grading the Project site would take approximately six months and will include vehicle trips from construction workers. (Note: It would be possible to grade the site under a more compacted schedule with extra equipment operating.)

The next step involves the installation of underground infrastructure. This step will involve the use of excavators to dig trenches, place pipe and conduit, bury pipe and conduit, and compact trench soil. Underground infrastructure installation would take approximately four months and will include vehicle trips from construction workers. (Note: It would be possible to install the underground infrastructure under a more compacted schedule with extra equipment operating.)

The last task is to install the topside improvements, which includes pouring concrete curbs, gutters, sidewalks, and driveway aprons and then paving of all streets and parking lots. This task will involve the use of pavers, paving equipment, and rollers and will take approximately four months and will include vehicle trips from construction workers. (Note: It would be possible to install the underground infrastructure under a more compacted schedule with extra equipment operating.)

Building Construction/Architectural Coatings: Building construction involves the vertical construction of structures and landscaping around the structures. This task will involve the use of forklifts, generator sets, welders and small tractors/loaders/backhoes. The exact construction schedule is largely dependent on the economic conditions of the region and the ability of the market to absorb residential units. For purposes of this analysis, it is assumed that the residential units will be absorbed at a rate of 20-25 units per year, which means that the 45 new residential units will be fully absorbed in approximately two years of sales. The actual absorption may be much shorter or much longer. Architectural coatings involve the interior and exterior painting associated with the structures. This task will generally begin four or five months after construction begins on the structure and will generally be completed with the completion of each building.

Construction Emissions: The Project is smaller in scope and size than the SMAQMD's NO_x Construction Screening Levels threshold (180-unit threshold); therefore, a quantification of the maximum daily mass emissions of ROG, NO_x, PM₁₀, and PM_{2.5} that will be emitted by project construction (expressed in pounds per day) is not warranted. Although not warranted, for informational purposes, these emissions have been modeled and are provided below. In addition, total emissions expressed in tons have been quantified. The California Emission Estimator Model (CalEEMod)TM (v. 2013.2) was used to estimate construction emissions for the Project. Table 4 shows the construction emissions for the construction years 2015 through 2018.

TABLE 4: CONSTRUCTION EMISSIONS (UNMITIGATED)

Year	ROG	NO _x	PM ₁₀ Total	PM _{2.5} Total
Summer (maximum daily lbs/day)				
2015	7.0942	79.1275	28.9660	13.6377
2016	6.6228	31.3486	2.3456	2.0988
2017	6.2395	29.0076	2.1350	1.8991
2018	5.7288	25.6424	1.8248	1.6077
Total	25.6852	165.1260	35.2714	19.2432
Winter (maximum daily lbs/day)				
2015	7.1324	79.1470	28.9660	13.6377
2016	6.6787	31.3941	2.3457	2.0989

Year	ROG	NOx	PM10 Total	PM2.5 Total
Summer (maximum daily lbs/day)				
2017	6.2888	29.0476	2.1351	1.8991
2018	5.7712	25.6781	1.8249	1.6077
Total	25.8711	165.2669	35.2717	19.2435

SOURCES: CALHEMOD (v.2013.2)

NOx Emissions Analysis: The SMAQMD has established an NOx construction threshold of 85 pounds/day. If the project's maximum daily NOx emissions will exceed the SMAQMD's threshold of significance for construction-generated NOx, the Project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce NOx emissions. As shown in Table 4 above, NOx emissions are below the threshold in each of the construction years.

The following mitigation measures require the Project to implement the SMAQMD Basic Constriction Emission Control Measures, which are reflected in the modeling. With the implementation of the following mitigation measures the Project would have a **less than significant** impact related to construction NOx emissions.

MITIGATION MEASURES

Mitigation Measure Air-3: To reduce construction related emissions, the Project Applicant shall implement the following SMAQMD Basic Construction Emissions Control Measures:

- The following practices are considered feasible for controlling fugitive dust from a construction site. Control of fugitive dust is required by SMAQMD Rule 403 and enforced by SMAQMD staff.
 - Water all exposed surfaces twice a day. 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 shall 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 shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and off-road diesel powered equipment. The California Air Resources Board enforces the idling limitations.
 - Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

- o *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: Prior to issuance of a grading permit.

Enforcement/Monitoring: City of Elk Grove Planning Department.

PM Emissions Analysis: During typical construction projects the majority of particulate matter emissions (i.e., PM₁₀ and PM_{2.5}) are generated in the form of fugitive dust during ground disturbance activities, most of which is generated during the grading phase. PM emissions are also generated in the form of equipment exhaust and reentrained road dust from vehicle travel on paved and unpaved surfaces.

The SMAQMD recommends that PM₁₀ emissions be addressed as a localized pollutant. Thus, the SMAQMD considers PM₁₀ emissions to be a significant impact at the project level if they will exceed the SMAQMD's concentration-based threshold of significance at an off-site receptor location. Because PM_{2.5} is a subset of PM₁₀, the SMAQMD assumes that construction projects that do not generate concentrations of PM₁₀ that exceed the SMAQMD's concentration-based threshold of significance will also be considered less-than-significant for PM_{2.5} impacts.

The SMAQMD has a screening level of analysis that can be performed to determine if PM modeling is necessary. Projects that meet the following two criteria are considered by the SMAQMD to not have the potential to exceed or contribute to the SMAQMD's concentration-based threshold of significance for PM₁₀ (and, therefore, PM_{2.5}) at an off-site location. Thus, the PM₁₀ emission concentrations generated by construction projects that meet the criteria shall be considered to have a less-than-significant impact to air quality. The criteria are as follows:

- A project will implement all Basic Construction Emission Control Practices, and
- The maximum daily disturbed area (i.e., grading, excavation, cut and fill) will not exceed 15 acres.

The Project meets the above criteria. Mitigation Measure Air-3 has been incorporated that will require the implementation of all Basic Construction Emission Control Practices. Additionally, the grading phase of construction consists of approximately 101.3 acres of grading spanning five months (150 days), which is equal to less than an acre graded per day. In reality, it is anticipated that the grading activities would require disturbance of between 10 and 15 acres per day in order to effectively grade the Project site. With the implementation of the mitigation measures previously presented and maintaining a site disturbance area of between 10 and 15 acres, the Project would have a **less than significant** impact related to construction PM emissions.

Response c): Project traffic would increase concentrations of carbon monoxide along streets providing access to the Project site. Carbon monoxide is a local pollutant (i.e., high concentrations are normally only found very near sources). The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations (i.e. hotspots), therefore, are usually only found near areas of high traffic volume and congestion.

The SMAQMD recommends utilizing a screening approach for analyzing CO concentrations to determine if dispersion modeling is warranted. The methodology provides lead agencies with a conservative indication of whether Project-generated vehicle trips will result in the generation of CO emissions that contribute to an exceedance of the thresholds of significance. The SMAQMD's recommended screening criteria are divided into two tiers, as described below. The screening criteria have been developed to help lead agencies analyze potential CO impacts.

First Tier: The Project will result in a less-than-significant impact to air quality for local CO if:

- Traffic generated by the Project will not result in deterioration of intersection level of service (LOS) to LOS E or F; and
- The Project will not contribute additional traffic to an intersection that already operates at LOS of E or F.

For the Project, the first tier is not met because the operations at the Sheldon Road/Waterman Road intersection is LOS E (36 second delay) under the existing conditions. The delay does not increase with the Project; however, the intersection is not programmed for improvement at this time. The screening approach requires that if the first tier of screening criteria is not met then the second tier of screening criteria shall be examined.

Second Tier: If all of the following criteria are met, the Project will result in a less-than-significant impact to air quality for local CO.

- The Project will not result in a study area intersection experiencing more than 31,600 vehicles per hour;
- The Project will not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air will be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average (as identified by the EMFAC or CalEEMod models).

The Project meets all three criteria of the second tier. First, the Sheldon Road/Waterman Road intersection, which operates at an LOS E under existing conditions, will only experience 1,676 PM peak hour vehicles per hour, and 1,515 AM peak hour vehicles per hour. Both of these are significantly below the 31,600 vehicles per hour threshold. Second, the Sheldon Road/Waterman Road intersection does not include a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air will be substantially limited. Lastly, the mix of vehicle types at the Sheldon Road/Waterman Road intersection is not anticipated to be substantially different from the County average. As such, the Project screens out satisfactorily under tier 2.

The SMAQMD's screening approach for analyzing CO concentrations was used to analyze CO impacts for the Project. The Project screens out satisfactorily under tier 2. Since the project is within an attainment area for carbon monoxide (ambient air quality standards are currently attained) and in an area with low background concentrations, changes in carbon monoxide levels resulting from the Project would not result in violations of the ambient air quality standards, and would represent a **less than significant** impact.

Response d): A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In

general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

Mobil Source Air Toxics: Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

Currently, the California Air Resources Board monitors toxics throughout northern California from 17 monitoring sites, all of which are located in areas with major transportation routes. There are currently no toxic air monitoring sites located in Elk Grove. The closest toxic air monitoring site to Elk Grove is in the City of Roseville.

Air toxics are of concern in areas with major transportation routes where there is a high volume of large diesel truck trips. The Project is not located adjacent to a major transportation route. The closest major transportation route is SR 99 located approximately three miles to the west of the Project site. The Project site is beyond the screening distance from SR 99 and is not considered a concern for the Project. Consequently, this impact is considered **less than significant**.

Sensitive Land Uses: The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (2007) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 5 provides the California Air Resources Board minimum separation recommendations on siting sensitive land uses.

TABLE 5: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

Source Category	Advisory Recommendations
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Freeways and High-Traffic Roads	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.¹
Distribution Centers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	<ul style="list-style-type: none"> • Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

SOURCES: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE" (CARB 2005)

The Project includes residential uses which are considered sensitive land uses. There are no source categories listed above that are proposed. Additionally, there are no source categories listed above that are within screening distances and minimum separation distances required for sensitive uses. The Project is consistent with the CARB *Minimum Separation Recommendations on Siting Sensitive Land Uses* (2005).

SMAQMD's publication *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways* (March 2011) provides the following screening criteria to determine whether a proposed sensitive receptor would be at risk from proximity to a major roadway:

1. Determine if the nearest proposed sensitive receptor affected by the Project is at least 500 feet from the nearest high traffic volume roadway (defined as a freeway, urban roadway with greater than 100,000 vehicles/day or rural roadway with 500,000 vehicles/day). If outside of the 500-foot distance, no further evaluation is recommended.

The Project is not within 500 feet of any high-traffic volume roadways; in the vicinity of the Project site, Sheldon and Waterman Roads each have traffic volumes of less than 20,000 vehicles/day.

Implementation of the Project would not result in an increased exposure of sensitive receptors to localized concentrations of TACs. This Project would have a **less than significant** impact relative to this topic.

Response e): While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SMAQMD. The general nuisance rule (Health and Safety Code Section 41700) and SMAQMD's Rule 402 is the basis for the threshold for offensive odors.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant (SMAQMD 2011).

The Project is not located in proximity to a known odor source. Additionally, implementation of the Project would not directly create or generate objectionable odors.

Persons residing in the immediate vicinity of Project may be subject to temporary odors typically associated with roadway construction activities (diesel exhaust, hot asphalt, etc.). However, any odors generated by construction activities would be minor and would be short and temporary in duration. This is considered a **less than significant** impact.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation incorporation	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING

Existing Field Conditions: The Project study area is approximately 160 acres in size. The study area is bordered by Waterman Road and rural residential uses along its western border, grazing land along its northern and eastern borders, and Sheldon Road along its southern border, with grazing land and a rural residential use south of Sheldon Road. The elevation of the Project site ranges from a low of approximately 48 feet adjacent to Laguna Creek at the Sheldon Road bridge to a high of approximately 69 feet at the northwest corner of the study area. Surface water drains toward Laguna Creek near the center of the study area. Laguna Creek flows from north to south across the study area. The land has been historically farmed but is currently fallow. All or portions of the land are disked each year. An existing residence along with numerous other farm structures is located west of Laguna Creek in the southern portion of the study area.

Plant Communities and Habitat Types: The predominant plant community within the study area is non-native annual grassland. The most common plants comprising this community are medusa head (*Taeniatherum caputmedusae*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus mollis*), yellow star-thistle (*Centaurea solstitialis*), tarweed (*Holocarpha virgata*) and wild oats (*Avena fatua*). Trees within the study area are limited to a narrow riparian corridor along the banks of Laguna Creek. Valley oak (*Quercus lobata*) is the predominant tree but California walnut (*Juglans californica*), willows (*Salix* sp.) and cottonwoods (*Populus fremontii*) are also present.

Hydrology: Laguna Creek bisects the Project site and drains to the south. Laguna Creek is tributary to Morrison Creek, which empties into Stone Lake. Morrison Creek is pumped into the navigable Sacramento River.

Soils: Soil mapping units within the study area include Hicksville gravelly loam, 0 to 2 percent slopes; Redding gravelly loam, 0 to 8 percent slopes; San Joaquin silt loam, leveled, 0 to 1 percent slope; San Joaquin silt loam, 0 to 3 percent slopes; San Joaquin-Durixeralf complex; 0 to 1 percent slopes; and San Joaquin-Xerarents complex. Redding soils are located at the higher elevations in the eastern portion of the study area. San Joaquin soils are located at lower elevations. Durixeralfs are areas that were originally Redding soils that have been cut as part of leveling activities where all or most of the original surface layer has been removed. Xerarents are areas that have been filled in the past as part of leveling activities. None of these soil mapping units are listed as hydric soils but all may contain inclusions of hydric soils in depressions and drainage ways.

Special-Status Species: Special-status species are generally defined as: 1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; 2) species considered rare or endangered under the California Environmental Quality Act; 3) plants listed as rare under California Fish and Game Code; 4) plants considered "rare, threatened, or endangered in California" by the California Native Plant Society (Lists 1B and 2); 5) animals listed as "species of special concern" by the state; and 6) animals fully protected in California by the Fish and Game Code.

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDDB). The background search was regional in scope and focused on the documented occurrences within a five mile radius of the Project site. The CNDDDB search revealed 20 special status species and two sensitive

natural communities (Great Valley Valley Oak Riparian Forest and Northern Valley Hardpan Vernal Pool). Table 6 provides a list of the special-status plant and animal species.

TABLE 6: CNDDDB DOCUMENTED SPECIAL-STATUS SPECIES OCCURRENCES WITHIN A 5-MILE RADIUS

Species	Status	Habitat	Blooming Period	Potential Habitat
Plants				
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> Peruvian dodder	--:--:2.2	Marshes and Swamps (freshwater)	July to October	Vernal pool habitat is present but highly degraded by management practices.
<i>Downingia pusilla</i> dwarf downingia	--:--:2.2	Valley and foothills grasslands (mesic sites) vernal pools vernal lake and pool margins with a variety of associates.	March to May	Vernal pool habitat is present but highly degraded by management practices.
<i>Gnaphalium heterosepala</i> Boggs Lake hedge-hyssop	--:CE:1B.1	Marshes and Swamps (freshwater) vernal pools clay soils usually in vernal pools and sometimes on lake margins	April to August	Vernal pool habitat is present but highly degraded by management practices.
<i>Legenere limosa</i> legenere	--:--:1B.1	Vernal pools. Many historical occurrences are extirpated. In beds of vernal pools. 1-880M.	April to June	Vernal pool habitat is present but highly degraded by management practices.
<i>Orcuttia tenuis</i> slender Orcutt grass	FT:CE:1B.1	Valley and foothill grassland vernal pool wetland	May to September	Vernal pool habitat is present but highly degraded by management practices.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	--:--:1B.2	Marsh and swamp wetland	May to October	Vernal pool habitat is present but highly degraded by management practices.
INVERTEBRATES				
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT:--	Vernal pools or other seasonal wetlands.		Habitat is present.
<i>Branchinecta mesovallensis</i> midvalley fairy shrimp	--:--	Vernal pools or other seasonal wetlands.		Habitat is present.
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	FT:--	Dependent upon elderberry plant (<i>Sambucus mexicana</i>) as primary host species		Habitat is not present.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE:--	Vernal pools or other seasonal wetlands.		Habitat is present.
<i>Lindnerella occidentalis</i> California lindnerella	--:--	Vernal pools or other seasonal wetlands.		Habitat is present.
AMPHIBIANS & REPTILES				
<i>Emys marmorata</i> western pond turtle	--:CSC	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.		Habitat is present.
<i>Thamnophis gigas</i>	FT:CT	Rivers, canals, irrigation ditches, rice fields, and other aquatic habitats		Habitat is present.

Species	Status	Habitat	Blooming Period	Potential Habitat
giant garter snake		with slow moving water and heavy emergent vegetation.		
BIRDS				
<i>Agelaius tricolor</i> tricolored blackbird	--:CSC	Colonial nester in cattails, bulrush, or blackberries associated with wetland or drainage habitats.		Foraging habitat is present.
<i>Nycticorax nycticorax</i> black-crowned night heron	--:CSC	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.		Habitat not present.
<i>Accipiter cooperii</i> Cooper's hawk	--:CSC	Woodland, chiefly of open, interrupted or marginal type. Nests mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood plains; also, lives in oaks.		Foraging habitat is present.
<i>Athene cunicularia</i> burrowing owl	--:CSC	Nests in abandoned ground squirrel burrows associated with open grassland habitats.		Foraging and nesting habitat is present.
<i>Buteo Swainsoni</i> Swainson's hawk	--:CT	Nests in tall cottonwoods, valley oaks or willows. Forages in fields, cropland, irrigated pasture, and grassland often near riparian corridors.		Foraging and nesting habitat is present.
<i>Elanus leucurus</i> white-tailed kite	--:CSC	Nests in riparian corridors along streams and rivers, and forages in nearby grasslands and fields.		Foraging habitat is present.
<i>Falco columbarius</i> Merlin	--:CSC	It is not known to nest in California, but it is a winter transient throughout most of California with wintering populations in the Central Valley.		Foraging habitat is present.

- FE Federal Endangered
 - FT Federal Threatened
 - FC Federal Candidate
 - FPD Federal proposed for delisting
 - FPT Federal proposed threatened
 - FD Federal delisted
 - CE California Endangered Species
 - CT California Threatened
 - CD California Delisted
 - CR California Rare (Protected by Native Plant Protection Act)
 - CSC CDFW Species of Special Concern
 - CC State candidate for listing
 - 1B CNPS - Rare, Threatened, or Endangered
 - 2 CNPS - Rare, Threatened, or Endangered in California, but more Common Elsewhere.
- SOURCE: CDFW CALIFORNIA NATURAL DIVERSITY DATABASE, 2013.

PROJECT IMPACTS

Response a):

Invertebrates

Special-status invertebrates that are documented within a five-mile radius of the Project include: vernal pool fairy shrimp (*Branchinecta lynchi*), midvalley fairy shrimp (*Branchinecta mesoavallensis*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool tadpole shrimp (*Lepidurus packardii*), and California linderiella (*Linderiella occidentalis*).

Valley Elderberry Longhorn Beetle: The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federal threatened insect that is dependent upon the elderberry plant (*Sambucus* sp.) as a primary host species. Elderberry shrubs are a common component of riparian areas throughout the Sacramento Valley region; however it is not present on the project site. The valley elderberry longhorn beetle is not likely to be affected by the Project due to the absence of appropriate habitat and potential impacts to this species are less than significant.

Vernal Pool Crustaceans: Vernal pool crustaceans are found in ephemeral freshwater habitats, and their life cycles have adapted to the unique habitat conditions of vernal pools.

Following the winter rains vernal pool become inundated, and in conjunction with the appropriate environmental cues (temperature, total dissolved solids, alkalinity, pH, etc.), the hatching of vernal pool crustacean eggs is initiated. Vernal pool crustaceans then mature rapidly into adults.

There are four special-status freshwater crustaceans, two of which are federal listed, that are documented within five miles of the Project site and have been determined to potentially occur in the vernal pools and seasonal wetlands on the Project site: vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), midvalley fairy shrimp (*Branchinecta mesovallensis*), and California linderiella (*Linderiella occidentalis*).

Vernal pool habitat is present on the Project site. Helm Biological Consulting conducted a dry season protocol survey for these species. This survey evaluated not only the delineated wetlands but also several depressions that appeared capable of ponding water. No evidence of these or other large branchiopods was observed, and based on the conditions of the vernal pool habitat; none are expected to be present. Implementation of the Project would have a **less than significant** impact on vernal pool crustaceans.

Reptiles and Amphibians

Special-status reptiles and amphibians that are documented within a five-mile radius of Project site include: western pond turtle (*Emys marmorata*) and giant garter snake (*Thamnophis gigas*).

Western Pond Turtle: The western pond turtle (*Emys marmorata*) is a California species of special concern. Its favored habitats include streams, large rivers, and canals with slow-moving water, aquatic vegetation, and open basking sites. Although the turtles must live near water, they can tolerate drought by burrowing into the muddy beds of dried drainages. This species feeds mainly on invertebrates such as insects and worms, but will also consume small fish, frogs, mammals and some plants. Western pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. This species breeds from mid to late spring in adjacent open grasslands or sandy banks.

Laguna Creek, which bisects the Project site, is potential habitat for western pond turtle. This species is not documented on the Project site, nor has it been observed during surveys. However, this species can move along the Laguna Creek corridor for appropriate foraging and/or basking habitat. While this species has not been observed on the Project site, the presence of Laguna Creek through the Project site makes it possible for this species to be encountered in the future. Implementation of the following mitigation measure would ensure that the Project would have a **less than significant** impact on western pond turtle.

MITIGATION MEASURES

Mitigation Measure Bio-1: The Project Applicant shall implement the following measures to protect the western pond turtle:

- A qualified biologist shall monitor construction activities within and immediately adjacent to Laguna Creek. If a western pond turtle is found within the construction area, the qualified biologist shall halt construction and immediately report the occurrence to the City. The qualified biologist shall relocate the western pond turtle to the nearest safe location as determined by City staff and the qualified biologist.
- Construction personnel performing activities within and immediately adjacent to Laguna Creek shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize western pond turtle, their habitats, and measures being implemented for its protection.

- Construction personnel shall observe a 15 mph speed limit on unpaved roads within and immediately adjacent to Laguna Creek.
- Before operating equipment immediately adjacent to Laguna Creek, workers shall check for western pond turtle underneath equipment that has remained in one location for 15 minutes. If a western pond turtle is found, the worker shall halt construction activities, and immediately report the occurrence to the qualified biologist and City staff. The qualified biologist shall relocate the western pond turtle to the nearest safe location as determined by City staff and the qualified biologist.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first, and throughout construction.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Giant Garter Snake: The giant garter snake (*Thamnophis gigas*) (GGS) is a large aquatic snake that can reach lengths of 4.5 feet or greater, and is endemic to wetland habitat of the Central Valley. The giant garter snake inhabits marshes, sloughs, ponds, small lakes, low gradient streams, other waterways and agricultural wetlands such as irrigation and drainage canals and rice fields, and the adjacent uplands. Essential habitat components consist of adequate water during the snake's active period, (early spring through mid-fall) to provide a prey base and cover; emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat; upland habitat for basking, cover, and retreat sites; and higher elevation uplands for cover and refuge from flood waters.

GGS typically enter suitable hibernation sites, such as burrows, rubble piles, or canal banks during October, and emerge in late March or early April. They may utilize canals that retain water throughout the summer months, which also contain adequate emergent vegetation which provides cover. These canals must also have an abundant food supply such as small fish, tadpoles, and frogs.

Most important to GGS's survival is the availability of permanent water sources that contain emergent vegetation as well as an abundant food supply. Suitable overwintering habitat should also be located in close proximity to its foraging habitat. This species of snake is commonly observed in close proximity to a combination of permanent and seasonal freshwater sources.

There are CNDDDB records for the GGS located within five miles of the Project site. The GGS has not been observed during the field surveys of the Project site, although Laguna Creek provides suitable habitat. Giant garter snakes have been observed in and along Laguna Creek east of State Route 99 within 3 to 4 miles of the study area. There is also a record of a GGS in a roadside drainage ditch near the Grant Line Road and Waterman Road interchange located to the south within the Elk Grove Creek drainage. Elk Grove Creek is a tributary of Laguna Creek. Given the proximity of these observances, particularly the observance at Grant Line and Waterman Road intersection, it is highly likely that the USFWS and CDFW will consider the habitat within the study area to be occupied habitat. The Project includes easements and setbacks to conserve the riparian features, which also serve as GGS habitat, on the Project site, including a 200-foot setback from Laguna Creek, wetland preservation easements, and 100-year floodplain easements. However, the potential exists for GGS to be present on the Project site outside of the easement areas and there is also the potential for GGS in the vicinity of the multi-use trail proposed within the 200-foot setback from Laguna Creek. This is a potentially significant impact. Implementation of the following mitigation measure would ensure that this impact is reduced to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Bio-2: The Project Applicant shall consult with the USFWS and CDFW for a biological opinion regarding the potential for the project to impact giant garter snake habitat based on the presence of Laguna Creek adjacent to Project construction areas. If the USFWS and CDFW determine that giant garter snake may be potentially affected by Project construction even though the Laguna Creek would not be directly impacted, the Project Applicant shall obtain an incidental take permit from the USFWS and CDFW. If a take permit from these regulatory agencies is required, the Project shall be subject to the avoidance, minimization, and compensatory mitigation measures prescribed by the regulatory agencies under the take permit. Regardless of the requirements of a permit, the Project is subject to the following avoidance and minimization measures for giant garter snake:

- Construction activity, including grading, earth movement, trenching, installation of underground utilities, pouring concrete, and paving, adjacent to the Laguna Creek shall be conducted between May 1 and October 1, the active period for giant garter snake.
- Movement of heavy equipment within and immediately adjacent to the Laguna Creek shall be confined to the area requiring the improvements to the maximum extent possible. Laguna Creek shall have orange construction barrier fencing at the limits of the area needed for construction improvements and the contractor shall take measures to ensure that the Contractor's forces do not enter or disturb the areas that do not require improvements.
- Construction personnel shall receive USFWS and CDFW-approved worker environmental awareness training to instruct workers to recognize giant garter snake and their habitats.
- Within 24 hours prior to construction activities, the Project area shall be surveyed for the giant garter snake. The survey will be repeated if a lapse in construction activity of two weeks or greater has occurred. If a giant garter snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it is determined by the qualified biologist and City staff, in coordination with the USFWS and CDFW, that the giant garter snake will not be harmed. Any sightings or incidental take will be reported to the USFWS and CDFW immediately.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Birds

Special-status birds that are documented within a five-mile radius of the Project site include: tri-colored blackbird (*Agelaius tricolor*), black-crowned night heron (*Nycticorax nycticorax*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsonii*), white-tailed kite (*Elanus leucurus*), Merlin (*Falco columbarius*), and Cooper's hawk (*Accipiter cooperii*).

Tri-colored blackbird (*Agelaius tricolor*) is a California species of special concern. This species typically nests in freshwater marsh or other areas with dense, emergent vegetation. Occasionally, the birds may be found nesting in other types of dense vegetation. This species is a common resident throughout the Central Valley. Tri-colored blackbirds nest in emergent wetlands with dense cattails or tules, and also in thickets of blackberry and willow. Nesting habitat for this species is present along the Laguna Creek. The closest documented tri-colored blackbird is located along Laguna Creek within the Project site. As a result, the Project includes a conservation easement to preserve the tri-colored blackbird habitat along

Laguna Creek. With the creation of the conservation easements along Laguna Creek, the Project would have a **less than significant** impact on this species.

Black-crowned night heron (*Nycticorax nycticorax*) is a California species of special concern. This species typically nests in freshwater and saltwater wetlands. They nest in colonies on platforms of sticks in a group of trees, or on the ground in protected locations such as islands or reedbeds. The closest documented Black-crowned night heron is located almost five miles west of the Project site. The Project site does not contain nesting or foraging habitat for this species.

Burrowing owl (*Athene cunicularia*) is a California species of special concern. Burrowing owls in the Project vicinity are typically found in annual and perennial grasslands. Burrows are the essential component of burrowing owl habitat. Both natural and artificial burrows provide protection, shelter, and nests for burrowing owls. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

Burrowing owls are documented approximately three miles to the southwest, five miles to the west, and three miles to the northwest of the Project site. While this species has not been observed on the Project site, suitable habitat is present within the annual grasslands habitat. This species could occupy the Project site at some point in the future and construction activities could cause a potentially significant impact. Impacts to burrowing owl are potentially significant. Implementation of the following mitigation measure would reduce this impact to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Bio-3: *Within 30 days, and not less than 14 days, prior to the start of any construction activity, a qualified biologist shall conduct a burrowing owl survey in accordance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) to determine if burrowing owls are present within the Project site, and/or to the extent practicable, within 250 feet of the project boundary. If the burrowing owl is absent from the survey area then no mitigation or avoidance measures are required. If burrowing owls are observed on or adjacent to the Project site, no project-related disturbance shall occur within 200 meters of occupied burrows from August 15-October 15 or 50 meters of occupied burrows from October 16 through March 31. If burrowing owls are observed on or adjacent to the project site during the breeding season (February 1 through August 31), a no-construction or project-related disturbance buffer will be established around the active burrow until the young have fledged, as determined by a qualified biologist in coordination with the CDFW. A minimum 200 meter no-disturbance buffer of occupied burrows is recommended from April 1 through October 15 (CDFW 2012); however, an appropriately sized buffer will be established in writing with concurrence from the CDFW based on specific conditions present.*

During construction, any pipe or similar construction material that is stored on site for one or more nights shall be inspected for burrowing owls by a qualified biologist before the material is moved, buried, or capped.

If burrowing owls are present within the Project site and/or work areas, and those occupied burrows cannot be avoided during the non-breeding season (September 1 to January 31), temporary or permanent burrow exclusion and or burrow closure can be implemented if the following conditions are satisfied: 1) a Burrowing Owl Exclusion Plan is developed and approved by the local CDFW office; 2) permanent or temporary loss of occupied burrows and habitat is mitigated in accordance with the Staff Report on Burrowing Owl Mitigation

(CDFG 2012) recommendations; 3) site monitoring is conducted to ensure that take is avoided; and 4) excluded burrowing owls are documented using artificial or natural burrows on an adjacent site, consistent with requirements as established in the Burrowing Owl Exclusion Plan (CDFG 2012). Passive relocation of owls shall be implemented prior to construction only at the direction of CDFW and only if the previously described occupied burrow disturbance absolutely cannot be avoided (e.g., due to physical or safety constraints).

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Raptors and Migratory Birds: The Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), and Merlin (*Falco columbarius*) are all raptors that are documented within a five mile radius of the Project site. These birds are protected by a variety of laws that prevent the harassment and willful take of these species. Specifically, they are protected under the Fish and Game Code §3503.5, which prohibits destruction of active raptor nests. There are numerous other protected raptors and migratory birds that are not mapped, but may be present in the vicinity at times.

The Cooper's hawk requires woodland habitat, chiefly of open, interrupted or marginal type. They nest mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood plains; also, lives in oaks. The Project site lacks the appropriate habitat for Cooper's hawk.

White-tailed kite nests in shrubs (in Delta) and trees adjacent to grasslands oak woodland, edges of riparian habitats which are used for foraging. The annual grassland throughout the Project site is appropriate foraging habitat for white-tailed kite. Trees adjacent to the Project site could provide nesting habitat for this species.

The Merlin is not known to nest in California, but it is a winter transient throughout most of California with wintering populations in the Central Valley. The annual grassland throughout the Project site is appropriate foraging habitat for Merlin.

While not documented in the CNDDDB within the vicinity of the Project site, there are other raptors such as the American kestrel, northern harriers, red-tailed hawk, and great-horned owl which are known to occur within the region. The nests of these and all raptor species are protected under the Section 3503.5 of the Fish and Game Code.

Migratory birds forage and nest in multiple habitats such as annual grasslands, wetlands, riparian, and oak woodlands. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest.

Trees adjacent to the Project site could provide nesting habitat for a variety of birds protected under the MBTA. Additionally, the annual grassland and wetland habitat throughout the Project site is appropriate foraging habitat for a variety of birds protected under the MBTA.

The Project will directly impact the annual grassland habitat, but does not require the removal of trees. There are a variety of raptors and/or birds protected by the MBTA that could utilize this habitat for nesting or foraging. Construction activities that occur during the nesting season (generally March 1-August 31) would disturb nesting sites for birds protected by the MBTA and CFGC. This is a potentially significant impact. Implementation of the following mitigation measure would reduce this impact to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Bio-4: *If Project construction activities, including vegetation clearing, are to occur during the nesting season for birds protected under the California Fish and Game Code and Migratory Bird Treaty Act (approximately March 1-August 31) the Project Applicant shall retain a qualified biologist to perform preconstruction surveys for protected birds, including nesting raptors, on the Project site and in the immediate vicinity. At least two surveys shall be conducted no more than 15 days prior to the initiation of construction activities, including vegetation clearing. In the event that protected birds, including nesting raptors, are found on the Project site, offsite improvement corridors, or the immediate vicinity, the Project Applicant shall:*

- *Locate and map the location of the nest site. Within 2 working days of the surveys prepare a report and submit to the City and CDFW;*
- *A no-disturbance buffer of 250 feet shall be established;*
- *On-going weekly surveys shall be conducted to ensure that the no disturbance buffer is maintained. Construction can resume when a qualified biologist has confirmed that the birds have fledged.*

In the event of destruction of a nest with eggs, or if a juvenile or adult raptor should become stranded from the nest, injured or killed, the qualified biologist shall immediately notify the CDFW. The qualified biologist shall coordinate with the CDFW to have the injured raptor either transferred to a raptor recovery center or, in the case of mortality, transfer it to the CDFW within 48 hours of notification. If directed/authorized by the CDFW during the notification, the qualified biologist may transfer the injured raptors to a raptor recovery center.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Swainson's hawk (*Buteo swainsoni*) is state-listed as a threatened species. The Swainson's hawk is a long distance migrator, nesting in northwestern Canada, the western U.S., and Mexico. This species migrate to wintering grounds in the open pampas and agricultural areas of South America (Argentina, Uruguay, southern Brazil). Some individuals or small groups (20-30 birds) may winter in the U.S., including California (Delta Islands). This round trip journey may exceed 14,000 miles. The birds return to the nesting grounds in early March. By mid-September, the young are ready to travel to their wintering grounds.

Swainson's hawks nest throughout most of the Central Valley floor, although nesting habitat is fragmented and unevenly distributed. More than 85 percent of the known nests in the Central Valley are within riparian systems in Sacramento, Sutter, Yolo, and San Joaquin counties. Much of the potential nesting habitat remaining in this area is in riparian forests, although isolated and roadside trees are also used. Nest sites are generally adjacent to or within easy flying distance to alfalfa or hay fields or other habitats or agricultural crops which provide an abundant and available prey source.

Open fields and pastures are the primary foraging areas. Major prey items for Central Valley birds include: California voles, valley pocket gophers, deer mice, California ground squirrel, mourning doves, ring-necked pheasants, meadowlarks, other passerines, grasshoppers, crickets, and beetles. They generally search for prey by soaring in open country and agricultural fields. Often several hawks may be seen foraging together following tractors or other farm equipment capturing prey escaping from farming operations. During the

breeding season, they eat mainly small rodents and reptiles, whereas during migration vast numbers of insects are consumed. Preferred foraging habitats for Swainson's hawks include: alfalfa; fallow fields; beet, tomato, and other low-growing row or field crops; dry-land and irrigated pasture; rice land (during the non-flooded period); and cereal grain crops (including corn after harvest). Unsuitable foraging habitat types include crops where prey species (even if present) are not available due to vegetation characteristics (e.g. vineyards, mature orchards, and cotton fields, dense vegetation).

Nesting Habitat: Estep (2009) noted that in Elk Grove the Swainson's hawk usually nests in large native trees such as valley oak (*Quercus lobata*), cottonwood (*Populus fremontia*), walnut (*Juglans californica*), and willow (*Salix* spp.), and occasionally in nonnative trees, such as eucalyptus (*Eucalyptus* spp.). Estep (2009) characterized several different nesting habitat types within the City of Elk Grove including: Riparian, Isolated Trees, Roadside Trees, Tree Row, Rural Residential, Eucalyptus Groves, Farmyard Trees, and Urban Trees.

The Project site is largely void of trees. The vicinity contains trees that fall into the nesting habitat categories of isolated trees, roadside trees, and tree rows. The majority of the documented Swainson's hawk nests are located to the south of Grant Line Road along the Cosumnes River and Deer Creek, which is approximately four miles to the southeast of the Project site. There are also numerous documented Swainson's hawk nests located west of SR 99. There are no documented nests on the Project site.

There was no physical evidence of nesting within the trees located immediately adjacent to, the Project site. The potential for nesting on the Project site is not considered highly likely due to the absence of trees. Nevertheless, the potential for trees in the vicinity to be used by Swainson's hawk for nesting is possible due to the fact that they are fairly large continuous tracts of foraging habitat that is available. Implementation of the Project could have a potentially significant impact on Swainson's hawk nesting habitat if nesting were to occur immediately adjacent to the Project site.

Foraging Habitat: The Project site is mapped by Estep (2009) as "Grassland, Pastureland, or Cropland" and it falls under the category of "Uncultivated Grasslands." Estep (2009) describes this type as consisting of uncultivated annual grassland habitat that is regularly or irregularly grazed by livestock and that has retained most topographical and other natural features (e.g., vernal pools and swales, native oak trees, etc.). Estep (2009) classifies this habitat as suitable foraging habitat for Swainson's hawk. Approximately 7.4 percent of the Elk Grove study area is classified as such.

The Project site contains 113 gross acres, proposing 15 acres of easement land associated with the 100-year floodplain along Laguna Creek, 4.7 acres of easement associated with Giant Garter Snake habitat, 11.8 acres for a remainder lot under the existing power lines, and a 2.8 acre lot for the existing residence, and frontage along Sheldon Road. In total, 71.9 net acres of foraging habitat would be developed for residential uses. Implementation of the Project would have a potentially significant impact on Swainson's hawk foraging habitat.

Conclusion: Implementation of the Project would require removal of 71.9 acres of Swainson's hawk foraging habitat. In addition, it is possible that Swainson's hawk could occupy and nest in trees adjacent to the Project site prior to the commencement of construction and any construction activities could disrupt nesting. The removal of the foraging habitat would also make it less likely that Swainson's hawk would nest in the trees on the Project site, or in the immediate vicinity. Impacts to Swainson's hawk are potentially significant. Implementation of the following mitigation measure would reduce this impact to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Bio-5: Prior to the commencement of construction activities, the Project Applicant shall provide the City of Elk Grove with evidence that the Project is in compliance with the requirements of the City of Elk Grove Swainson's Hawk, Chapter 16.130 of the Elk Grove Municipal Code. Compliance will require the Project Applicant to preserve 71.9 net acres of suitable habitat. The suitability of the habitat for preservation purposes shall be determined by the CDFW in coordination with the City of Elk Grove. The proposed open space and nature preservation area located within the Project site may be utilized for a portion of the 71.9 net acres if approved by the CDFW.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Mitigation Measure Bio-6: If construction activities are planned to begin during the Swainson's hawk nesting period (March 1 to September 15), a preconstruction survey and nesting season surveys for nesting Swainson's hawks shall be conducted throughout areas of suitable nesting habitat on the parcel and adjacent areas within 500 feet of the Project site. The pre-construction surveys shall be completed prior to the start of construction activities. The nesting season surveys shall be conducted once in April and once in May. If an active Swainson's hawk nest is observed, the biologist shall notify the City of Elk Grove and consult with the CDFW to determine whether project-related activities are likely to impact the nesting pair and to determine the appropriate protection measures to implement, which may include halting or postponing land clearing and construction activities until all young have fledged and additional nesting attempts no longer occur. If a nest tree is found on the Project site prior to construction and is proposed for removal, then appropriate permits from CDFW shall be obtained and mitigation implemented pursuant to CDFW guidelines.

- Prior to issuance of building or grading permits, the Project Applicant shall provide Development Services, Planning Department written verification that a qualified biologist has been retained by the Project Applicant to perform the preconstruction survey. This action may be waived if the biologist will be contracted by the City at the Project Applicant's expense.
- No earlier than 30 days before commencement of construction activities, including land clearing, the qualified biologist shall submit and certify to the Planning Director the results of the pre-construction survey. Failure to submit the required survey results will delay the approval to initiate construction activities, including land clearing.
- No later than April 30, the qualified biologist shall submit and certify to the Planning Director the results of the 500-foot site perimeter survey. Failure to submit the required survey results will cause any construction activity to be halted until such results are submitted and approved by the Planning Director. If no construction activities have taken place, failure to submit the required survey results will delay the approval to initiate construction activities, including land clearing.
- No later than May 31, the qualified biologist shall submit and certify to the Planning Director the results of the 500-foot site perimeter survey. Failure to submit the required survey results will cause any construction activity to be halted until such results are submitted and approved by the Planning Director. If no construction activities have taken place, failure to submit the required survey results will delay the approval to initiate construction activities, including land clearing.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Fish

The Project site is located within the City of Elk Grove, northeast of the intersection of Sheldon and Waterman Roads, in the Hydrologic Unit Code (HUC) 18020109. The region has been identified as Essential Fish Habitat (EFH) for Chinook salmon in Amendment 14 to the Pacific Coast Salmon Plan. Chinook salmon are well documented on the Sacramento River past the confluence of Laguna Creek; however, this species is not anticipated to be present in the Project area. Chinook salmon do not utilize Laguna Creek in the Project vicinity. Implementation of the Project would have a less than significant on Chinook salmon.

Mammals

There are no CNDDDB documented special-status mammals within a five-mile radius of the Project site. There are, however, several species of bats that are known to occupy the region. Several bat species roost in abandoned buildings, rock crevices, under bark, hollow trees, culverts, under bridges, or other dark crevices.

Although there are no documented occurrences of special-status bats on the Project site, and none have been observed, there is suitable roosting habitat for special-status bat species within the trees located immediately adjacent to the Project site. Changes in their habitat including increase in noise and vibrations can affect the survivorship of the young, if construction occurs adjacent to maternity colonies during spring and summer breeding and the subsequent raising of young. This is a potentially significant impact. Implementation of the following mitigation measure would reduce impact to special-status bat species to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Bio-7: *Up to thirty days prior to the any disturbance activities, including but not limited to the commencement of construction and/or removal of trees on or adjacent to the Project site, the Project Applicant shall retain a qualified biologist to conduct pre-construction bat survey(s) of potential diurnal roosting trees (e.g. trees 24" DBH and greater, snags, hollow trees). During the survey(s) the qualified biologist will inspect all potential diurnal roosting trees within the entire area(s) where construction will and within a surrounding 100 foot-buffer area using the appropriate and most effective methodology (e.g. camera inspection, exit survey with night optics, acoustic survey) in determining presence or absence of bat species.*

if active roosts are found, no construction activities shall take place within 250 feet of the nest until the young have fledged. On-going weekly surveys shall be conducted to ensure that the no disturbance buffer is maintained. Construction can resume when a qualified biologist has confirmed that the young bats have fledged.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Plants

The California Natural Diversity Data Base (CNDDDB) search identified six documented special-status plant species within a five-mile radius of Project site include: Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*), Dwarf downingia (*Downingia pusilla*), Boggs Lake

hedge-hyssop (*Gratiola heterosepala*), Legenere (*Legenere limosa*), Slender Orcutt grass (*Orcuttia tenuis*), and Sanford's arrowhead (*Sagittaria sanfordii*). Suitable habitat is present in seasonal wetland and vernal pools; however, this species is not present due to the highly degraded condition of the vernal pools on the Project site. While these plants have not been observed on the Project site, a confirmation survey prior to construction would ensure that these species are not impacted. Implementation of the following mitigation measure would reduce any potential impact to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Bio-8: *Up to thirty days prior to the any ground disturbance activities, the Project Applicant shall retain a qualified botanist to conduct confirmation plant survey(s) for special status plants. None have been observed on the project site and the conditions at the time of surveys precluded the presence of these species; however, appropriate habitat for these species is present. If the confirmation survey(s) reveal the presence of these plants, then the qualified botanist shall notify the City of Elk Grove and the appropriate regulatory agency with jurisdiction over the plant. If the confirmation survey(s) do not reveal the presence of these plants, then the Project Applicant is free to move forward with ground disturbance activities, subject to all permits and other Project mitigation requirements.*

Timing/Implementation: Prior to issuance of grading permits and/or approval of improvement plans.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Response b): The CNDDDB documents two sensitive natural communities within a five-mile radius of the Project site including: Great Valley Valley Oak Riparian Forest and Northern Hardpan Valley Hardpan Vernal Pool. The Project site does not contain Great Valley Valley Oak Riparian Forest; however, it does riparian habitat along Laguna Creek, which bisects the Project site. The Project site also contains Northern Hardpan Valley Hardpan Vernal Pool. The Northern Hardpan Valley Hardpan Vernal Pool is found primarily on old alluvial terraces on the east side of the Great Valley from Tulare or Fresno County north to Shasta County (Holland 1986). This community is dominated by annual grasses and herbs that grow in and out of the water. Germination and growth begin with winter rains, often continuing even when inundated. These pools gradually evaporate during spring, leaving concentric bands of vegetation that colorfully encircle the drying pools (Holland 1986).

This community is typically found through mounded terrain where soils are very acidic, iron, and silicemented hardpan soils. Winter rainfall perches on the hardpan, forming pools in the depressions. Evaporation (not runoff) empties the pools in spring (Holland 1986).

A total of 1,535 acres of wetlands and other potential waters of the United States, excluding Laguna Creek, were delineated within the study area. Of this total, approximately 0.022 acres is comprised of vernal pools, 1,031 acres are comprised of seasonal wetlands, and 0.482 acre is comprised of excavated drainage channel. The total area of Laguna Creek delineated is 3.366 acres of which only a portion is within the study area. The Wetland Delineation (Appendix B) is discussed in detail under Response C below.

The Project does not include direct impacts to the riparian habitat along Laguna Creek. The Project does not include direct impacts to the vernal pool habitat on the Project site. This is discussed in more detail under Response C below. A conservation easement is proposed over both the riparian and vernal pool habitat.

Construction activities, if not controlled, could have indirect effects on the riparian and vernal pool habitat if equipment accidentally enters areas intended for conservation. This is

a potentially significant impact. Mitigation measures presented under Responses C would ensure that construction operations do not accidentally enter these conservation areas. With the implementation of mitigation measure, the potential impacts to these conservation areas are reduced to a **less than significant** level.

Response c): Field studies were conducted on May 29 and September 3, 2003 by Gibson & Skordal. The purpose of the field surveys were to delineate potential jurisdictional wetlands and other waters of the United States and evaluate the habitats existing within the study area. This delineation was performed in accordance with the 1987 "Corps of Engineers Wetlands Delineation Manual" and Sacramento District's "Minimum Standards for Acceptance of Preliminary Wetlands Delineations" dated November 30, 2001. US Army Corps of Engineers (Corps) regulations (33 CFR 328) were used to determine the presence of waters of the United States other than wetlands. The "National List of Plant Species That Occur in Wetlands: California (Region 0)"¹ was used to determine the wetland indicator status of plants observed in the study area.

The boundaries of all waters including wetlands were mapped in the field onto a 1" = 200' scale black and white aerial photograph and surveyed with global position technology (GPS) by Gibson & Skordal, LLC (2006). Because Laguna Creek has near vertical banks, is incised 5 to 10 feet and is lined with blackberry thickets along various reaches, it was not practical to completely survey its limits. Instead, Gibson & Skordal, LLC (2006) surveyed spot locations of the lateral limits of jurisdiction along its banks wherever they could obtain access. A total of 67 discrete points were surveyed along Laguna Creek and its adjacent wetlands. Portions of the western bank of Laguna Creek lie outside of the study area and off the property. The lateral limits of jurisdiction along the western bank of Laguna Creek lying outside the study area were interpolated. The GPS data was imported into ESRI ArcMap along with a topographic survey to prepare the delineation map. Detailed observations on vegetation, soils, and hydrology characteristics were made in the field. The area of jurisdictional waters was determined from the GPS data. The Wetland Delineation is contained in Appendix B.

A total of 1.535 acres of wetlands and other potential waters of the United States, excluding Laguna Creek, were delineated within the study area. Of this total, approximately 0.022 acres is comprised of vernal pools, 1.031 acres are comprised of seasonal wetlands, and 0.482 acre is comprised of excavated drainage channel. The total area of Laguna Creek delineated is 3.366 acres of which only a portion is within the study area. The Wetland Delineation contains a delineation map. Below is a discussion of each feature type.

Vernal Pools: Vernal pools are shallow depressions underlain by a hardpan that restricts the downward movement of water and act to perch groundwater near the surface during and after periods of precipitation. They typically flood after a series of storms in the late fall and early winter and normally dry out in the spring. The vernal pools on the Project site have been substantially degraded by disking and plowing. Common plants within these vernal pools include perennial rye (*Lolium perenne*), Mediterranean barley (*Hordeum hystris*), purple hairgrass (*Deschampsia danthonioides*) and loosestrife (*Lythrum hyssopifolia*). The vernal pools are located within topographic swales or other landscape features indicating that there is surface water flow at some periods of heavy precipitation, albeit not necessarily frequent or predictable.

¹ Reed, P.B. 1988. National List of Plant Species That Occur In Wetlands: California (Region 0). Biological Report 88(26.10). May 1988. National Ecology Research Center, National Wetlands Inventory, U.S. Fish & Wildlife Service, St. Petersburg, Florida.

Depressional Seasonal Wetlands: Seasonal wetland depressions are similar to vernal pools in that they are shallow depressions that pond water in the winter and spring. Seasonal wetland swales are sloping wetlands that occur in topographic depressions as opposed to depressions. Like vernal pools, they are underlain by a hardpan. They experience shallow sheet flow during times of heavier precipitation. Shallow depressions within these swales pond water for shorter periods after the surface flow ceases. The most common plants within these seasonal wetlands are perennial rye and Mediterranean barley. All of the seasonal wetlands have been substantially degraded by disking and plowing.

Laguna Creek and Adjacent Wetlands: Laguna Creek is perennially wet at this location. It is incised with vertical banks. At scattered locations wetland vegetation such as soft rush (*Juncus effuses*) and Baltic rush (*Juncus balticus*) is established on the banks or on narrow benches. The riparian corridor consists of an overstory of primarily valley oak with an understory of blackberry (*Rubus procerus*) along with an herbaceous cover of upland species such as yellow star-thistle, riggut grass and soft chess. The lateral limit of jurisdiction along Laguna Creek is the ordinary high water line or the limits of wetland vegetation, whichever extends further.

Excavated Channels: An excavated drainage channel enters the Project site midway along its eastern boundary and flows to Laguna Creek. The lower reach of this ditch is below the ordinary high water elevation of Laguna Creek and as a result is inundated throughout the summer because of backwater from Laguna Creek. The upper reach transports runoff from agricultural fields. Emergent vegetation such as cattail (*Typha* sp.) and tall flatsedge (*Cyperus eragrostis*) is dominant in those areas subject to backwater flooding from Laguna Creek while the upper reach supports vegetation more typical of seasonal wetlands.

Jurisdictional Status: The delineated areas represent those features that can be considered potentially jurisdictional waters of the United States because of their physical and biological characteristics. Whether they are, in fact, jurisdictional also depends on their hydrologic relationship to downstream waters. The Corps maintains jurisdiction under the Federal Clean Water Act over navigable waters of the United States, interstate waters, their tributaries and wetlands adjacent to these waters.

Laguna Creek empties into Morrison Creek, which historically was tributary to the navigable Sacramento River. It is the opinion of Gibson & Skordal, LLC (2006) that the reach of Laguna Creek within the study area is jurisdictional. This is subject to a wetland verification and determination by the Corps.

Corps regulations (33 CFR Part 328) normally excludes drainage ditches constructed in uplands from regulation under Section 404 of the Clean Water Act. Whether the excavated drainage ditch is jurisdictional will depend on whether it was constructed completely in uplands. The Elk Grove, California USGS topographic map (1968, photo-revised 1979) was reviewed and the Sacramento County Soil Survey to assess whether they provide an indication as to whether the ditch was constructed in uplands. The soil survey does not contain any soil mapping units in the vicinity of the ditch that are often associated with drainages (e.g. Hicksville loam). This should not be considered conclusive since such soils can be present as unmapped inclusions. The USGS topographic map indicates that the ditch was not present at the time of the original 1969 map but is shown as a 1979 photo-revision. The ditch does bisect a general topographic drainage feature along the 55' and 60' contours. While this is not conclusive evidence that a natural drainage course was present prior to ditch construction, the Corps has interpreted such evidence in the past to be a reasonable indication that the ditch was not constructed in uplands and therefore is not jurisdictional.

Several of the study area wetlands appear to potentially contribute surface water to Laguna Creek. Several depressional seasonal wetlands are in close proximity to Laguna Creek, while some features are situated within topographic swale features. Due to the orientation, Gibson & Skordal, LLC (2006) believe these wetlands potentially could overtop into Laguna Creek.

There are several features (VP1 and VP3) that are not located within swales and appear isolated from Laguna Creek which lies over 600 feet east of some wetlands. For these features to be jurisdictional under Section 404, they must be adjacent to a water of the United States. Adjacency is administratively defined in 33 CFR 328.3(c) as "... bordering, contiguous, or neighboring." Therefore, to be determined adjacent and jurisdictional, they must be considered neighboring. To date, the Corps has not established a discrete distance standard to define "neighboring." It is the opinion of Gibson & Skordal, LLC (2006) that VP1 and VP3 as shown on the Wetland Delineation Map (Appendix B) are isolated and not subject to regulation under Section 404 of the Clean Water Act.

These conclusions represent the professional opinion of Gibson & Skordal, LLC (2006) as presented in Appendix B. Ultimately, the Corps of Engineers is responsible for determining the jurisdictional status of features within the study area.

Direct Impacts: The Tentative Subdivision Map proposes a conservation easement over the areas that are preliminarily determined to be jurisdictional, including Laguna Creek and the vernal pools, to protect the habitat in perpetuity. There is no fill proposed. There are no direct impacts anticipated. Development of the Project would not have a substantial direct adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. Implementation of the Project would result in a **less than significant** impact relative to this topic.

Indirect Impacts: The Project does not directly affect these protected wetlands and is not subject to a Section 404 permit. Regardless of direct impacts, the RWQCB requires a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area one acre or larger. The SWPPP will include Project-specific best management measures that are designed to control drainage and erosion. Furthermore, the Project includes a project specific drainage plan that controls storm water runoff and erosion, both during and after construction (Appendix A). The SWPPP and the Project-specific drainage plan would reduce the potential indirect effects on protected waters.

Construction activities, if not controlled, could have indirect effects on adjacent areas including the protected wetlands if equipment accidentally enters areas intended for conservation. This is a potentially significant impact. The following mitigation measures would ensure that construction operations do not accidentally enter these conservation areas. With the implementation of mitigation measure, the potential impacts to these conservation areas are reduced to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Bio-9: *Prior to construction, the Project Applicant shall install chain-link fencing with orange netting around the areas with conservation easements (i.e. Laguna Creek, wetlands) to identify environmentally sensitive areas. Before construction, the contractor shall work with the Resident Engineer and qualified biologist to identify the locations for the barrier fencing, and shall place stakes around the sensitive resource sites to indicate these locations. The fencing shall be installed before construction activities are initiated and shall be maintained throughout the construction period. The following paragraph will be included in the construction specifications:*

"Temporary fences around the environmentally sensitive areas shall be installed as the first order of work. Temporary fences shall be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the Resident Engineer. The fencing shall be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing shall be tightly strung on posts with a maximum 10-foot spacing."

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Mitigation Measure Bio-10: During to construction, the Project Applicant shall take steps to protect environmentally sensitive areas on the Project site. Construction specifications shall include the following wording:

"The Contractor's attention is directed to the areas designated as "environmental sensitive areas." These areas are protected, and no entry by the Contractor for any purpose will be allowed unless specifically authorized in writing by the United States Army Corps of Engineers. The Contractor shall take measures to ensure that Contractor's forces do not enter or disturb these areas, including giving written notice to employees and subcontractors."

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Planning Department.

Response d): Wildlife movement corridors are routes frequently utilized by wildlife that provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riparian, woodlands, or forested habitats that span contiguous acres of undisturbed habitat. Wildlife movement corridors are an important element of resident species home ranges, including deer and coyote.

The Project site is not known as a wildlife movement corridor or nursery site. Implementation of the Project would not interfere with the movement of any fish or wildlife species or impede the use of native nursery sites or corridors. Implementation of the Project would have a **less than significant** relative to this topic.

Response e): The Project would not conflict with any local policies or codes protecting biological resources, such as the Tree Preservation and Protection regulations (City Municipal Code Section 19.12). No trees are proposed to be removed by the Project. Implementation of the Project would have **no impact** relative to this issue.

Response f): There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan that applies to City at this time. Therefore, there is no conflict and **no impact** would occur.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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 '15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

This section of the Initial Study is based on the *Cultural Assessment for the Sheldon Park Estates Project* (Cultural Assessment) (Peak Associates 2013). The Cultural Assessment included a records search, Native American Consultation, research, and a site investigation.

Native American Consultation: The Native American Heritage Commission was contacted on November 6, 2013, for a check of the sacred lands file and a list of Native Americans who might have information or concerns relative to the project. On November 18, 2013, a letter was received from the NAHC. They confirmed that there are no Sacred Lands listed for the Project site. Letters were written to individuals and organizations known to be knowledgeable regarding resources in the area. Two of the groups have replied (Wilton Rancheria and Buena Vista Rancheria) and they will be sent copies of the final report for their files.

Records of previously recorded cultural resources and cultural resource investigations were examined by the North Central Information Center of the California Historical Resources Information System on November 7, 2013 (NCIC File No.: SAC-13-139). Morrison Creek had been surveyed in 1974 by J. Johnson, and the transmission line corridor had been covered in 1979 by Peak & Associates. The overall property had been field surveyed in 2003 by Peak & Associates with no sites recorded. Some of the buildings within the building complex present on the site are now over 50 years in age. In addition, the 1950s power line, one of four lines that crosses the property was recorded on an adjacent property to the south as P-34-1102.

Field Survey: The course of Laguna Creek was completely surveyed by Johnson in 1974. The Project area was inspected in 2013 by Peak & Associates staff archeologists. No prehistoric artifacts or evidence of prehistoric use of the survey area was found in either of these surveys.

The current field survey effort was undertaken by Michael Lawson and Robert Gerry on November 25 and 26, 2013. There was no evidence of prehistoric period resources in the Project site. The building complex and power line were formally recorded (site forms).

Building Complex: The residence is part of a complex of buildings forming the ranch/farm headquarters, however, the only other substantial building in the group, a large barn, was built and used elsewhere and then moved to this site in the 1960s (information from current landowner). The associated storage structures are not fifty years old, so the residence is the only potentially eligible structure.

The house is essentially a long side-gabled building but it has extensions of the roof lines on part of the front (south) and part of the rear to cover a patio and a one car garage, respectively. It is a one story frame with composite roofing, stucco siding, vinyl-framed windows (probably replacements) and a poured concrete foundation. The owner said it was built in "the forties or early fifties" and this fits with the style, Minimal Traditional, and the materials used. It is entirely typical of small rural residences of the immediate post-war period.

The other buildings on the Project site are also wood frame but they employ corrugated metal roofing and siding. The smaller buildings, a 44 by 25 foot shed and a 10 by 10 foot shed, are in fairly good condition and appear to be coeval, circa late fifties. The barn is badly deteriorated, 60 feet north/south by 40 feet east/west, and constructed with telephone poles for posts, and rough lumber for truss and framework. It is 25 feet tall at the roof peak. Much of the siding and roofing is gone and some of the framework is broken.

The residence was built in the immediate post-war era, probably in the late 1940s. The rest of the buildings were built later according to the 1952 USGS Elk Grove quadrangle that shows only the residence on-site, and the statement of the landowner. The barn was built and used elsewhere, disassembled, and rebuilt on-site.

Transmission Line: The transmission line is a section of a power line built in 1952. In a generous evaluation, this piece of infrastructure has been deemed "potentially significant" for its association with the Central Valley Project. Peak Associates (2013) disagrees that there is some special significance to this transmission line above other transmission lines in the corridor.

PROJECT IMPACTS

Response a): The residence is over 50 years old, but it is not associated with important events or important people in local history. It is not a unique building in any way; it is one of many post-war residential buildings built throughout California. The building has been altered to some degree over the years, and is not an important resource based on the evaluation by Peak & Associates.

The transmission line is one of four lines crossing the western edge of the Project site. It is part of the infrastructure that provides power in California, and is not particularly associated with important events or people, and it is not of unique construction. The transmission line is not considered an important resource and would not be affected by the Project.

There is the potential to find buried cultural resources during construction. Implementation of the following mitigation measure would require investigations of any potential cultural resources that are discovered during development of the Project and requires methods to reduce adverse effects to previously undiscovered resources. This mitigation measure would reduce potential impacts to cultural resources to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Cul-1: If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, or human remains are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery.

- *If cultural resources are identified, an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be consulted to evaluate the find(s). Work cannot continue within 50 meters of the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR.*
- *If a potentially eligible resource is encountered, then the archaeologist shall identify mitigation recommendations. The City and Project Applicant shall consider the recommendations and the Project Applicant shall implement all measures deemed feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, and other appropriate measures. The implementation of mitigation shall be formally documented in writing and submitted to the City Planning Department as verification that the provisions in CEQA for managing unanticipated discoveries have been met.*
- *If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the Applicant's expense.*
- *If human remains are discovered, all work shall be halted immediately within 200 feet of the discovery, the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.*

Timing/Implementation: As a condition of Project approval and implemented during all ground-disturbing activities

Enforcement/Monitoring: City of Elk Grove Planning Department

Response b): No evidence of prehistoric period resources has been found in or near the Project site. The Project site lies on a flat open plain. Campsites and villages would more likely be located near the larger, more reliable water sources such as the Cosumnes River. As a result, it is likely that the Native American inhabitants of the region used the Project site for collecting plant foods and for hunting, but such activities leave little physical evidence.

Regardless, there is always the potential to find buried cultural resources during construction. Implementation of Mitigation Measure Cul-1 would require investigations and avoidance methods in the event that previously undiscovered cultural resources are encountered during construction activities. This mitigation measure would reduce this impact to a **less than significant** level.

Response c): No evidence of paleontological resources has been found in or near the Project site. Regardless, there is always the potential to find buried paleontological resources during construction. Implementation of Mitigation Measure Cul-1 would require investigations and avoidance methods in the event that previously undiscovered paleontological resources are encountered during construction activities. This mitigation measure would reduce this impact to a *less than significant* level.

Response d): Indications are that humans have occupied Sacramento County for at least 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during construction. Consistency with state law and standard procedures would reduce this impact to a *less than significant* level.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation	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? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

The City is located in the central portion of the Great Valley geomorphic province of California. The geological formations of the Great Valley are typified by thick sequences of alluvial sediments deposited during the filling of a large ancient basin. The geological unit therefore consists of unconsolidated sand, gravel, and silt.

There are no known active faults in the City 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). The Project site is located within Seismic Zone 3.

PROJECT IMPACTS

Response a.i-iv): The CGS evaluates faults and determines if a fault should be zoned as active, potentially active, or inactive. The Project site is not within an Alquist-Priolo earthquake hazard zone. There are no known faults (active, potentially active, or inactive) that traverse through the City of Elk Grove. The Elk Grove area is identified as being in the lower level of earthquake hazards on the Earthquake Shaking Potential Map for California. These levels are considered to be in regions that are distant from known, active faults and will experience lower levels of shaking less frequently (CGS 2003). The Uniform Building Code places all of California in the zone 3 or 4 of the of greatest earthquake severity because recent studies indicate high potential for severe ground shaking. The Elk Grove area is in Seismic Activity Intensity Zone 3. The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a fault or strong seismic ground shaking. Implementation of the Project would result in a **less than significant** impact relative to this topic.

Seismic related ground failure can result from a variety of geological conditions, including liquefaction, lateral spreading, landslides, collapse, and subsidence. The soils on the Project site are considered to be easily saturated during the winter months. For this reason, there may be a potential for liquefaction during seismic shaking. However, seismicity is not a substantial concern on the Project site due to the absence of faults in close proximity. Because the area is not considered a high earthquake hazard area, the potential for seismic related lateral spreading, collapse, and subsidence is also low. The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving ground failure. Implementation of the Project would result in a **less than significant** impact relative to this topic.

Landslides are not considered a significant risk at the Project site because the Project site and immediate vicinity is flat. The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving land slides. Implementation of the Project would result in a **no impact** relative to this topic.

The Elk Grove General Plan includes policies to assist in the protection of persons and structures in the event of an earthquake. Policy SA-26 and its associated action requires that new structures be protected from damage caused by geologic and/or soil conditions. The Project would be required to adhere to seismic protection standards listed in the 2010 California Building Code.

Throughout California, including the Project site, there will always be a potential for groundshaking caused by seismic activity. However, the Project site is not in an area considered to be of high potential for earthquakes. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Design in accordance with these standards would reduce any potential impact to a **less than significant** level.

Response b): Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and

sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. Federal law and regulations require the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading, and preservation of topsoil. The SWPPP will be designed to control storm water quality degradation to the extent practicable using best management practices during and after construction. The Project Applicant will submit the SWPPP with a Notice of Intent to the Regional Water Quality Control Board (RWQCB) to obtain a General Permit. The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities.

Additionally, there is the potential for erosion associated with stormwater runoff throughout the operational phase of the Project. The potential for erosion is associated with the design of the improvements, structures, and landscaping. This includes the drainage design from all paved surfaces, including streets, parking lots, driveways, and roofs, as well as landscaping.

Mitigation Measure Geo-1 requires an approved Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading, and preservation of topsoil. Mitigation Measure Geo-2 requires the Project Applicant to submit an erosion control plan to the City which incorporates design measures that treat 85-90 percent of annual average stormwater runoff in accordance with the standards of the California Stormwater Best Management Practice New Development and Redevelopment Handbook. Implementation of these mitigation measures would reduce potential impacts associated with erosion and loss of topsoil to a **less than significant** level.

MITIGATION MEASURES

Mitigation Measure Geo -1: *The Project Applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Elk Grove and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Timing/Implementation: Prior to issuance of grading permits.

Enforcement/Monitoring: City of Elk Grove Public Works Department.

Mitigation Measure Geo-2: *The Project Applicant shall prepare and submit a Post-Construction Stormwater Quality Control Plan in accordance with the most recent version of the Stormwater Quality Design Manual for the Sacramento Region. Post-construction source and treatment controls shall be designed in accordance with the City of Elk Grove Improvement Standards and the Stormwater Quality Design Manual. The design of post-construction source and treatment controls shall be submitted for approval with the improvement plans regardless of whether they constitute private or public improvements.*

Drainage from all paved surfaces, including streets, parking lots, driveways, and roofs shall be routed either through swales, buffer strips, or sand filters or treated with a filtering system prior to discharge to the storm drain system. Landscaping shall be designed to effect some

treatment, along with the use of a Stormwater Management filter to permanently sequester hydrocarbons, if necessary. Permeable pavers and pavement shall be utilized to construct the facilities, where appropriate.

A separate maintenance manual describing proper maintenance practices for the specific treatment controls to be constructed shall also be submitted. If the maintenance manual needs revisions, Applicant shall make the requested revisions in a timely manner.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Public Works Department.

Response c):

Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. According to the *Preliminary Geotechnical Engineering Evaluation* (Wallace Kuhl 2008) dense, cemented soils (hardpan) at shallow depths will substantially reduce vertical percolation of water and as such, surface and near-surface soils will be in near-saturated conditions during and for a considerable period following the rainy season. The soils are considered to be easily saturated during the winter months. For this reason, there may be a potential for liquefaction during seismic shaking. However, seismicity is not a substantial concern on the Project site due to the absence of faults in close proximity.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Areas in the region that are susceptible to this hazard are located along creeks or open water bodies, or within the foothills to the west. Currently, the Project site's surface runoff flows towards the center of the Project site into topographic lows that include portions of Laguna Creek, and seasonal wetlands. Laguna Creek traverses the Project site from the northern boundary, flowing in a southerly direction onto adjacent properties. Because the area is not considered a high earthquake hazard area, the potential for lateral spreading is low.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The potential for landslides is considered remote in the valley floors due to the lack of significant slopes. For this reason, the probability of landslides occurring on the Project site is low.

Collapse

If near-surface soils vary in composition both vertically and laterally, strong earthquake shaking can cause non-uniform compaction of the soil strata, resulting in movement of the near-surface soils. The Project site is located in an area considered to be of low potential for earthquake shaking according to the Earthquake Shaking Potential Map for California. Therefore, the probability of differential compaction at the Project site is low.

Subsidence

According to the Elk Grove General Plan EIR, there is a risk for subsidence, the gradual settling or sinking of the earth's surface with little or no horizontal motion, within the Elk Grove Planning Area. There are five causes of subsidence that affect the Planning Area – 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 Planning Area (City of Elk Grove 2003b, p. 4. 9-4).

CONCLUSION

The Project site has a low probability for landslides, ground collapse, and lateral spreading. However, the General Plan EIR stated that there is a risk of subsidence in the Elk Grove area. The General Plan EIR included MM 4.9.2, which requires a geotechnical report or other analysis to be conducted to determine the shrink/swell potential and stability of the soil for projects and to provide appropriate mitigation measures. In 2008, Wallace-Kuhl and Associates completed the *Preliminarily Geotechnical Engineering Evaluation* for the Project site. The evaluation included recommendations regarding site clearing, site preparation, building foundation, interior floor slab support, pavement sections, and site drainage. The evaluation recommended a design-level geotechnical engineering report prior to construction.

The following mitigation measure requires a design-level geotechnical report to be prepared for the Project and would ensure that appropriate measures are implemented to reduce potential impacts associated with unstable soils. With implementation of this mitigation measure, the Project would have a **less than significant** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure Geo-3: *Prior to earthmoving activities, a certified geotechnical engineer shall be retained to perform a geotechnical evaluation of the soils at a design-level as required by the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and building plans shall be designed in accordance with the recommendations provided in the geotechnical evaluation.*

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Public Works Department.

Response d): Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

The *Preliminary Geotechnical Engineering Evaluation* (Wallace Kuhl 2008) completed for the Project site determined that surface and near-surface silts and sands throughout the Project site are relatively non-expansive. However, the report indicated that there could be

intermittent clays encountered below the topsoil that have a moderate to high potential for expansion (Wallace Kuhl 2008). This report stated that if additional testing would be required in order to develop a design-level geotechnical evaluation.

Mitigation Measure Geo-3 provides the requirement for a design-level geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The geotechnical evaluation would include design recommendations to ensure that soil conditions, including expansive soils, do not pose a threat to the health and safety of people or structures. The grading and building plans are required to be designed in accordance with the recommendations provided in the geotechnical evaluation. With the implementation of this mitigation measure the Project would have a **less than significant** impact relative to this topic.

Response e): The Project proposes to utilize a septic treatment system for each individual residence. Developments within the City that desire to use a septic system for wastewater disposal are referred to the Sacramento County Environmental Management Department for approval of the proposed septic system. An exhibit illustrating the proposed well and septic design is provided in Appendix A.

The Project site was preliminarily evaluated as to its ability to absorb septic tank waste. According to the Custom Soils Survey completed for the Project site, soils within the Project site are considered to have limitations as far as the ability for the soil to absorb septic tank waste. A limitation rating indicates that the soil has features that are favorable to unfavorable for a specific use. The limitations can be overcome or minimized by special planning, design, or installation. The ratings for septic tanks are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or cemented pan, and flooding affect the absorption of the effluent. Stones, boulders, ice, bedrock, and a cemented pan may interfere with installation.

The proposed septic system is illustrated on an exhibit contained in Appendix A. This Well and Septic Exhibit identifies the primary septic leach pit area and replacement septic leach pit area. Percolation testing was performed for the septic system in September 2013. The final design and percolation tests for the design require review and approval by the Sacramento County Environmental Management Department. Implementation of the following mitigation measure would ensure that wastewater associated with the individual residential lots would be adequately disposed of and would reduce this potential impact to **less than significant**.

MITIGATION MEASURES

Mitigation Measure Geo-4: *For each individual septic system planned for installation, the ability of the soils to accommodate a septic system shall be evaluated by a licensed engineer in coordination with the Sacramento County Environmental Management Department. If the soils do not have the capacity to adequately percolate and absorb septic tank waste, any residence shall either be connected to the public sewer system or residential uses shall be prohibited.*

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Public Works Department.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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?		X		
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?		X		

EXISTING SETTING

Greenhouse gases (GHG) are naturally occurring gases such as water vapor, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) that absorb heat radiated from the earth's surface. 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. 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. 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. Climate change affects public health and the environment.

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 CO₂ and is responsible for approximately 2 percent of the world's CO₂ emissions (CEC, 2006a, 2006b). In 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent (CO₂e) (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). Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion 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.

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.

ELK GROVE CLIMATE ACTION PLAN

On March 27, 2013, the City Council adopted the Elk Grove Climate Action Plan, or CAP. The City's Climate Action Plan is a culmination of existing and proposed initiatives to reduce greenhouse gas emissions. The CAP ensures that the City's future activities and development patterns conform to California climate change legislation. The CAP will also make future development easier by acting as a tiering document for GHG emissions under the California Environmental Quality Act.

The purpose of the CAP is to identify how the City will achieve the state-recommended GHG emission reduction target of 15 percent by the year 2020 and to create a path to obtain 2050 State targets associated with Governor's Order S-03-05. The CAP provides goals and associated measures, also referred to as GHG reduction measures, in the sectors of energy use, transportation, land use, water, and solid waste. In addition, the CAP provides goals and measures for longer-term adaptation to the potential risks associated with climate change.

More specifically, the CAP:

- Identifies sources of greenhouse gas emissions from sources within the City's jurisdictional/political boundary and estimates how these emissions may change over time.
- Discusses the various outcomes of reduction efforts and how these reduction efforts can be implemented and advertised.
- Provides energy use, transportation, land use, water use, and solid waste strategies to reduce Elk Grove's greenhouse gas emissions levels to 15 percent below 2005 levels by 2020.

- Provides methods for reducing the City's greenhouse gas emissions consistent with the direction of the State of California through the Global Warming Solutions Act (AB 32), Governor's Order S-03-05, Public Resources Code Section 21083.3(b,d), and CEQA Guidelines Section 15064.4. [The California Environmental Quality Act (CEQA) Guidelines encourage the adoption of policies or programs as a means of addressing comprehensively the cumulative impacts of projects. See State CEQA Guidelines, § 15064(h)(3), § 15130(d).]
- Provides substantial evidence that the emissions reductions estimated in the Climate Action Plan are feasible.

PROJECT IMPACTS

Response a-b): The City's CAP is structured to serve as a programmatic tiering document for the purposes of CEQA. A tiering document front-loads the analysis needed for many projects in order to decrease the time and money that would be needed for individual analyses per project.

The measures presented in the Elk Grove CAP have the potential to reduce GHG emissions by 175,832 metric tons (MT) of CO₂e by 2020. These reductions are equivalent to a 15.00 percent reduction from 2005 baseline levels.

The CAP's achievement of the 15% reduction target is based on growth assumptions in the City's General Plan and regional growth forecasts. For eligibility to streamline from the CAP for purposes of an environmental analysis, projects must demonstrate consistency with CAP forecast assumptions.

The Project would not require changes to the City's General Plan Land Use Map. The density proposed is within the density range for the existing land use designation of Rural Residential.

MANDATORY GHG REDUCTION MEASURES

The following measures in the CAP are applicable to the Project, and must be implemented by the Project in order for the Project to be found consistent with the CAP:

BE-6. Building Stock: New Construction. Achieve Tier 1 of Title 24, Part 1 green building standards to exceed minimum Title 24 energy efficiency standards by 15 percent.

This measure requires new development in Elk Grove to meet and exceed California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 11, of the California Code of Regulations, or CALGreen).

The California Code of Regulations (CCR), Title 24 (California Building Standards Code, hereinafter Title 24) includes requirements for the structural, plumbing, electrical, and mechanical systems of buildings and for fire and life safety, energy conservation, green design, and accessibility in and around buildings. This reduction measure is focused on two sections of Title 24: Part 6, the California Energy Code, and Part 11, the California Green Building Standards Code, or CALGreen Code.

The CALGreen Code includes mandatory minimum energy efficiency requirements for buildings. It also establishes two tiers of voluntary measures to achieve greater energy efficiencies and other benefits. Tier 1 is a 15 percent improvement over minimum requirements, and Tier 2 is a 30 percent improvement over minimum requirements.

Future development of the 45 residential units would be required to meet the Tier 1 standards.

BE-10. On-Site Renewable Energy Installations. Promote voluntary installations of on-site solar photovoltaics in new and existing development, and revise standards to facilitate the transition to solar water heaters and solar photovoltaics in new development.

The goal of this measure is to reduce GHG emissions related to residential and commercial energy use by facilitating the development of small-scale distributed renewable energy production. Renewable energy installations are expected to increase dramatically throughout the next few decades due to innovative financing strategies, lower costs of renewable energy equipment, and new regulations that require the provision of solar photovoltaic options and solar offsets for new subdivisions.

Future development of the 45 residential units would be required to provide solar photovoltaic pre-wiring in all new residential construction.

RC-1. Waste Reduction. The City shall facilitate recycling, reduction in the amount of waste, and reuse of materials to reduce the amount of solid waste sent to the landfill from Elk Grove and achieve an 80 percent diversion by 2020.

Measure RC-1 is intended to increase the proportion of waste diverted from landfills. This measure will be implemented through a range of actions that will be implemented by the City. Actions applicable to residential projects include encouraging the use of recycled concrete in all base material used in private road construction and requiring 65% construction waste diversion.

Future development of the 45 residential units would be required to meet the 65% construction waste diversion requirement.

TACM-5. Pedestrian and Bicycle Travel. Provide for safe and convenient pedestrian and bicycle travel through implementation of the Bicycle and Pedestrian Master Plan and increased bicycle parking standards.

The City's Bicycle and Pedestrian Master Plan was completed in 2004 and details the City's anticipated future bikeways and bike and pedestrian facility improvements. The Project provides multi-use trails consistent with the Bicycle and Pedestrian Master Plan.

Future development of the 45 residential units would be required to provide long-term bicycle storage space for residential units, which may include a multitude of options that provide secured bicycle storage.

TACM-9. Efficient and Alternative Vehicles. Promote alternative fuels and efficient vehicles throughout the community.

This measure achieves reductions in VMT by facilitating the use of electric vehicles by providing charging stations with new development. In order to achieve these reductions, the City will need to ensure the provision of charging stations consistent with the rate of adoption of electric vehicles. The City anticipates the need for as many as 300 stations by 2025 at a rate of approximately 20 per year.

Future development of the 45 residential units would be required to provide pre-wiring for on-site plug-in stations for electric vehicles.

ADDITIONAL RECOMMENDED GHG REDUCTION MEASURES

In addition to the mandatory GHG reduction measures contained in the CAP that would be required for all 45 new residential units, the following CAP measures are recommended for implementation by the Project Applicant.

BE-7. Building Stock: Appliances and Equipment in New Development. Encourage the use of energy-efficient appliances and equipment in new buildings that maximize efficiency.

BE-9. Cool Paving Materials. Encourage the use of high-albedo material for future outdoor surfaces to the greatest extent feasible, including but not limited to parking lots, median barriers, roadway improvements, and sidewalks.

BE-10. On-Site Renewable Energy Installations. Promote voluntary installations of on-site solar photovoltaics in new and existing development, and revise standards to facilitate the transition to solar water heaters and solar photovoltaics in new development.

RC-1. Waste Reduction. The City shall facilitate recycling, reduction in the amount of waste, and reuse of materials to reduce the amount of solid waste sent to the landfill from Elk Grove and achieve an 80 percent diversion by 2020.

RC-2. Water Conservation. Reduce the amount of water used by residential and non-residential uses.

SUMMARY

The implementation of Mitigation Measure GHG-1 would ensure that residences developed within the Project site incorporate all of the relevant and applicable measures contained in the Elk Grove CAP. Implementation of these measures would ensure that the Project would result in **less than significant** impact relative to this topic.

MITIGATION MEASURES

Mitigation Measure GHG-1: *Prior to the issuance of building permits, the Project Applicant shall demonstrate compliance with the Climate Action Plan, including, but not limited to, measures BE-6, BE-7, BE-9, BE-10, RC-1, RC-2, TACM-5, and TACM-9. The Project Applicant shall consider incorporating additional recommended GHG Reduction Measures. The Project Applicant shall provide reasons/justification, in the form of a written letter, for any recommended GHG Reduction Measures that are not incorporated into the Project. This does not apply to the mandatory measure, which must be incorporated.*

Timing/Implementation: Prior to issuance of building permits

Enforcement/Monitoring: City of Elk Grove Planning Department

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR as: "A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed" (California Code of Regulations, Title 22, Section 66260.10).

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 requirements in providing information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency (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.

This section of the Initial Study is based on a *Phase 1 Environmental Site Assessment* (Phase I ESA) (Wallace Kuhl 2008). The Phase I ESA included a records search, research, and a site investigation. The following presents a list of observations and findings identified during the preparation of this report:

- The site supported dry-farmed crops since at least 1937. Prior to 1937, the southeast side of the site supported an orchard. The house was constructed on the site by 1955, and the other buildings were constructed by 1961. An aboveground storage tank (AST) existed on the west side of the site for an undisclosed number of years. Three water supply wells were observed on the site.
- A moderate amount of debris consisting of wood, metal, glass, and tire casings, exists on the northeast portion of the site and within the farm buildings area. Three parked trucks also exist in an agricultural field on the northeast portion of the site.
- Given the age of development on the site, it is possible that asbestos containing building materials (ACMs) and lead-based paints were used in construction of existing and preexisting development.

Fallow land and dry-farmed land typically require little to no applications of environmentally persistent pesticides, and therefore sampling and testing surficial site soils in the dry-farmed areas for potential persistent pesticide residuals is not recommended. Wallace Kuhl suggests that a surface soil sampling and testing survey for persistent pesticides be completed on the former orchard to forestall potential permitting issues prior to grading.

Regarding the former AST location, soils beneath the AST may have become contaminated from overflowing or dripping. Wallace Kuhl recommends that the soil in the vicinity of the

former location of the AST be sampled and tested for petroleum hydrocarbons prior to grading in that area.

The described debris and stored items observed on the site should be removed and appropriately disposed or recycled. Wallace Kuhl recommends that the surface soils and concrete floors not observed during the site reconnaissance be visually inspected following the removal of the items. If visual or olfactory evidence of potential soils contamination or the degradation of the concrete floors is observed, soils sampling and testing may be warranted.

The three water supply wells located on the site must be properly destroyed if the use of the wells ceases in the future.

This Phase I ESA has not revealed evidence of Recognized Environmental Conditions in connection with the site.

PROJECT IMPACTS

Response a-b):

Construction Phase

Construction activities associated with development of the Project site may include refueling and minor maintenance of construction equipment on-site which could lead to minor fuel and oil spills. The use and handling of hazardous materials during construction activities would occur in accordance with applicable Federal, State, and local laws including California Occupational Health and Safety Administration (CalOSHA) requirements. Construction activities would be subject to the NPDES permit process which requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would be reviewed and approved by the Regional Water Quality Control Board. The proposed construction staging areas and fuel and oil changing locations would be identified in the SWPPP. Small amounts of hazardous materials may be used during operation and maintenance activities associated with future development (i.e. equipment maintenance, fuel, solvents, roadway resurfacing, re-stripping materials, etc.). The use of these materials in the quantities necessary would not result in any significant adverse health or environmental impacts to people in the vicinity of the Project site.

Additionally, construction activities may uncover wells, areas of soil staining, soil odors, buried objects or any other non-soil artifact. Further, the existing well on the southern portion of the Project site must be abandoned per local regulations.

The hazardous materials used during the construction phase of the Project must comply with federal, state, and local regulations regarding the handling and transportation of such materials, thereby reducing the potential for accidental release of those materials to the environment. Construction activities may uncover an abandoned wells site and areas of soil staining, soil odors, buried objects or any other non-soil artifact.

Operational Phase

The operational phase of the Project will occur after construction is completed and residents move in to occupy the structures on a day-to-day basis.

The Project includes land uses that are considered compatible with the surrounding uses. These land uses include: single family residential uses, open space, natural drainage, and a trail system. None of these land uses routinely transport, use, or dispose of hazardous

materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common residential grade hazardous materials such as household cleaners, paint, etc. The Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur.

CONCLUSION

The Elk Grove General Plan includes several policies to protect those living in the city from the potential of hazardous waste exposure. Policy SA-2 requires that in considering the potential impact of hazardous facilities on the public and/or adjacent or nearby properties, the City shall consider the hazards posed by reasonably foreseeable events and Policy SA-4 states that the Maximum Acceptable Exposure standards shown in Table SA-A shall be used in determining the appropriateness of siting a facility. This environmental document includes analysis of the potential of exposure to hazardous wastes during construction and operation of the Project. Additionally, the Phase I ESA completed for the Project identified that the Project site was free of hazardous waste. Policy SA-8 states that storage of hazardous materials and waste shall be strictly regulated, consistent with state and federal law. The Project is required to conform to local, state and federal law with regards to hazardous material and waste. Policy SA-10 requires that Industries which store and process hazardous or toxic materials shall provide a buffer zone between the installation and the property boundaries sufficient to protect public safety. The Project would not result in the use, transport, or storage of a significant amount of hazardous or toxic materials.

Construction activities associated with development of the Project site may include refueling and minor maintenance of construction equipment on-site which could lead to minor fuel and oil spills. The operational phase of the Project does not pose a significant hazard to the public or the environment.

Much of the potential hazard impacts related to construction are controlled by applicable Federal, State, and local laws including California Occupational Health and Safety Administration (CalOSHA) requirements. In addition, construction activities would be subject to the NPDES permit process which requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP). For those undiscovered potential hazards, the following mitigation measures require the removal of these hazards according to the Sacramento County Environmental Health Division or the City's regulations. Implementation of the following mitigation measures will reduce potential hazard impacts to **less than significant**.

MITIGATION MEASURES

Mitigation Measure Haz-1: *All abandoned wells on the Project site shall be destroyed in accordance with the requirements of the Sacramento County Environmental Health Division.*

Timing/Implementation: *Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.*

Enforcement/Monitoring: *City of Elk Grove Public Works Department.*

Mitigation Measure Haz-2: *If at any time during construction an existing septic system is encountered, the system shall be removed and destroyed in accordance with the requirements of the Sacramento County Environmental Health Division.*

Timing/Implementation: *During all ground-disturbing activities*

Enforcement/Monitoring: *City of Elk Grove Public Works Department.*

Mitigation Measure Haz-3: *If at any time during construction, soil staining, soil odors, or potentially hazardous non-soil artifacts are encountered, the Project Applicant shall cease construction in the vicinity of the discovery. The Project Applicant shall have a licensed geotechnical engineer evaluate the soil conditions and, if potentially hazardous conditions exist, submit recommendations to the City of Elk Grove Public Works Department to address potentially hazardous conditions. Upon acceptance of recommendations by the City, the Project Applicant shall implement recommendations.*

Timing/Implementation: During all ground-disturbing activities

Enforcement/Monitoring: City of Elk Grove Public Works Department.

Response c): Potential impacts associated with handling hazardous materials, substances, and waste are discussed under Responses a and b. There are no schools within a ¼ mile of the Project site. The nearest schools are the Pleasant Grove High School located at 9531 Bond Road and Katherine L. Albiani Middle School located at 9140 Bradshaw Road. These facilities are approximately one mile to the southeast of the Project site. No schools are proposed within ¼ of a mile of the Project site. Therefore, there would be **no impact** to schools within ¼ of a mile of the Project site.

Responses d): A review of a list of hazardous materials sites compiled by the State of California pursuant to Government Code Section 65962.5 indicates no recorded documentation of hazardous materials violations or discharge on the Project site. The *Phase I Environmental Site Assessment* (Wallace Kuhl 2008) did not reveal any Recognized Environmental Concerns (RECs). Implementation of the Project would result in a **less than significant** impact relative to this topic.

Response e-f): The Project site is not located within an airport land use area and is located further than two miles from the nearest public or public use airport (Franklin Field is approximately 9.5 miles from the Project site), and from the nearest private airstrip. The Project would not create an aircraft safety hazard for people residing or working in the project area. Implementation of the Project would result in a **no impact** relative to this topic.

Response g): The City is part of the Sacramento County Multi-Hazard Mitigation Plan (SCMHMP), which addresses natural hazards. The SCMHMP also determined that other than flooding, there are no other mapped, identified natural hazard areas for the City. Earthquake shaking from distant sources could cause damage in Elk Grove, though damage would probably be minor due to the relative newness of the building stock and the absence of tall buildings (Sacramento County MHMP 2004, p. 6.4-5).

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 City and the Cosumnes Community Services District Fire Department would implement emergency response measures to address emergency management, including notifications, evacuations, and other necessary measures in the event of an emergency.

The Project provides emergency access points from Sheldon Road that would accommodate evacuation in the event of an emergency. The Project is consistent with the General Plan and would not impede implementation of adopted emergency response plans.

The Project would not impede or conflict with the objectives or policies contained in the SCMDP or the SCAP and there would be **no impact**.

Response h): The City is within an urbanized area not adjacent to significantly large areas subject to wildland fires. The Project site is not located in a Very High Fire Hazard Severity Zone on the Local or State Response Maps. Implementation of the Project would result in a **less than significant** impact relative to this topic.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
9. HYDROLOGY AND WATER QUALITY. Would the Project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

the failure of a levee or dam?				
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROJECT IMPACTS

Response a): Construction activities would consist of substantial grading and vegetation removal activities, which would increase soil erosion rates on the areas proposed for development. Although the Project site is relatively flat and the potential for soil erosion is considered low, peak storm water runoff could result in short-term sheet erosion in areas of exposed, raw soil. In addition, the compaction of soils by heavy equipment could reduce the infiltration capacity of the soils thereby increasing the runoff and erosion potential. If uncontrolled, the soil materials could result in engineering problems, blockage of drainage channels, and downstream sedimentation.

Vegetation removal and earth-moving activities associated with Project construction may have the greatest potential for detrimental impacts to surface water quality associated with Laguna Creek and the removal of vegetation during Project construction could expose site soils to rainsplash, sheetflow and gulying erosion prior to successful revegetation. The cleared, exposed surfaces and soil stockpiles created during construction could create sedimentation in downstream waters. Fuels, lubricants, and other toxic materials used during construction could also potentially enter surface waters. As required by the Clean Water Act, each phase of construction will require an approved Stormwater Pollution Prevention Plan (SWPPP) that includes best management practices for grading, and preservation of topsoil. The Project Applicant or contractor is required to submit the SWPPP with a Notice of Intent to the Regional Water Quality Control Board (RWQCB) to obtain a General Permit. The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of stormwater during construction activities.

The Elk Grove General Plan has a number of policies which assist in the protection of water quality during the construction phase of the Project. Policy CAQ-5 requires roads and structures be designed, built and landscaped to minimize erosion during and after construction. Policy CAQ-13 requires that the City's NPDES permit be implemented through the review and approval of development projects and other activities regulated by the permit. Policy CAQ-18 requires that post-development peak storm water runoff discharge rates and velocities shall be designed to prevent or reduce downstream erosion, and to protect stream habitat. The City's Municipal Code Chapters 15.12, and 16.44, as well as Title 23 have been established to enforce the water quality regulations of the City. The Drainage Study prepared for the Project does not describe the specific measures that will be taken to ensure compliance with the General Plan policies and adopted City regulations. Implementation of the Project could result water quality impacts associated with erosion or pollution, including the potential to violate water quality standards or waste discharge requirements during construction and, as such, result in a potentially significant impact. Mitigation measures presented in the Geology and Soils section of this document requires the Project Applicant to submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. These measures would result in the Project being designed, built, and landscaped to minimize erosion. Implementation of these measures would ensure that post-development peak storm water runoff discharge rates and velocities are designed to prevent or reduce downstream erosion and protect stream habitat. Implementation of these mitigation measures would ensure consistency with the regulatory requirements and

ensure that the Project would have a **less than significant** impact on construction-related water quality.

MITIGATION MEASURES

Mitigation Measure Geo -1: *The Project Applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Elk Grove and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Timing/Implementation: Prior to issuance of grading permits.

Enforcement/Monitoring: City of Elk Grove Public Works Department.

Mitigation Measure Geo-2: *The Project Applicant shall prepare and submit a Post-Construction Stormwater Quality Control Plan in accordance with the most recent version of the Stormwater Quality Design Manual for the Sacramento Region. Post-construction source and treatment controls shall be designed in accordance with the City of Elk Grove Improvement Standards and the Stormwater Quality Design Manual. The design of post-construction source and treatment controls shall be submitted for approval with the improvement plans regardless of whether they constitute private or public improvements.*

Drainage from all paved surfaces, including streets, parking lots, driveways, and roofs shall be routed either through swales, buffer strips, or sand filters or treated with a filtering system prior to discharge to the storm drain system. Landscaping shall be designed to effect some treatment, along with the use of a Stormwater Management filter to permanently sequester hydrocarbons, if necessary. Permeable pavers and pavement shall be utilized to construct the facilities, where appropriate.

A separate maintenance manual describing proper maintenance practices for the specific treatment controls to be constructed shall also be submitted. If the maintenance manual needs revisions, Applicant shall make the requested revisions in a timely manner.

Timing/Implementation: Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.

Enforcement/Monitoring: City of Elk Grove Public Works Department.

Response b): The Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potentials; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

Recharge to the aquifer system in the Elk Grove area occurs from a combination of three main sources: stream recharge (primarily from the Cosumnes and Sacramento rivers),

subsurface inflows from adjacent areas, and percolation of rainfall and applied water. A large area on both sides of the Cosumnes River, as well as, a small portion around the Sacramento River has areas with high to moderate recharge capabilities. The majority of the Elk Grove area, including the Project site, has poor groundwater recharge capabilities. The static groundwater table in the vicinity of the Project site is approximately 95 feet or more below existing grade (Wallace-Kuhl 2008, p. 3).

The Elk Grove Water District (EGWD) and the Sacramento County Water Agency (SCWA) pump groundwater from the South American Subbasin. The Project is served by on-site wells and is not served from municipal water. The groundwater basins underlying the Sacramento County have been divided into three geographic subareas: (1) North Basin, (2) Central Basin, and (3) South Basin. EGWD overlies and extracts groundwater from the Central Basin from seven wells that range in total depth from 450 to 1,075 feet below ground surface. According to the EGWD Urban Water Management Plan, the Central Basin is not adjudicated or considered to be in a state of being over drafted. Due to the active planning by water agencies, the basin is not foreseen to be over drafted in the future (EGWD, pg. 22).

Groundwater use is regularly monitored within the Sacramento County region. The Sacramento Groundwater Authority (SGA) Basin Management Report that was prepared in 2007-2008, found that groundwater use in the Central Basin, where EGWD is located, has remained relatively constant at approximately 262,500 AFY during the preceding four years and had a high of 264,860 in 2008. In communication with the other groundwater users from the basin (SCWA, the Golden State Water Company, and the California American Water Company), it is not anticipated that groundwater extraction would have increased in the years of 2009 or 2010, given the dramatic decline in home construction and the depressed local economy. This would indicate a remaining groundwater capacity of approximately 8,140 AFY in regards to the agreed upon sustainable yield of 273,000 AFY for the Central Basin stakeholders (EGWD, pg. 22).

The Project site is located in an area that is considered to have poor groundwater recharge capabilities due infiltration rates. As such, groundwater recharge is less than optimal. The water supplier, EGWD, has determined that the groundwater basin will not be over drafted in the foreseeable future. For these reasons, the Project would not cause the depletion of groundwater supplies or interfere substantially with groundwater recharge. As such, implementation of the Project would have a **less than significant** impact regarding this issue.

Response c-e): The long-term operations of the Project could result in long-term impacts to surface water quality from urban stormwater runoff. The Project would result in new impervious areas associated with roadways, driveways, parking lots, buildings, and landscape areas. Normal activities in these developed areas include the use of various automotive petroleum products (i.e. oil, grease, fuel), household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

The Elk Grove General Plan has a number of policies which assist in the protection of water quality. Policy CAQ-1 requires the reduction of the amount of water used by residential and non-residential uses by encouraging water conservation. Policy CAQ-5 requires roads and structures be designed, built and landscaped to minimize erosion during and after construction. The Project would be subject to the City's Grading and Erosion Control requirements of the Municipal Code. Policy CAQ-12 requires the City to ensure that the quality of groundwater and surface water is protected to the extent possible. Policy CAQ-13

requires that an NPDES permit will be implemented through the review and approval of development projects and other activities regulated by the permit.

The water quality treatment will be achieved utilizing a variety of low-impact development measures outlined in the City's adopted Stormwater Quality Design Manual for the Sacramento and South Placer Regions. These areas will be required to meet all current standards for stormwater quality upon final design and be designed to either infiltrate, evaporate, or outlet overland after passing through appropriately sized drainage infrastructure.

The Drainage Study prepared for the Project does not identify the full range of measures that will be implemented by the Project to ensure that water quality requirements are met. Therefore, the Project has the potential to result in water quality impacts associated with erosion, siltation, or pollution and this impact is potentially significant.

Mitigation measures presented in the Geology and Soils section of this document requires the Project Applicant to prepare and submit a Post-Construction Stormwater Quality Control Plan in accordance with the most recent version of the Stormwater Quality Design Manual for the Sacramento Region. Post-construction source and treatment controls shall be designed in accordance with the City's Improvement Standards and the Stormwater Quality Design Manual. With compliance with the mitigation measures provided herein, as well as the City's storm drainage design requirements, the Project would have a **less than significant** impact on these environmental topics.

Response f): Section 303(d) of the federal Clean Water Act (CWA) requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

There are 17 impaired water bodies in Sacramento County identified on the Section 303(d) list. Pollutants of concern include aluminum, copper, iron, manganese, mercury, chlordane, chlorpyrifos, dieldrin, DDT, diazinon, malathion, pyrethroids, pentachlorophenol (PCP) sediment toxicity, Escherichia coli, invasive species, and unknown toxicities. Morrison Creek is listed as impaired for diazinon, PCP, pyrethroids, and sediment toxicity.

Under the CWA listing, these impaired water bodies have no remaining assimilative capacity or ability to accommodate additional quantities of these contaminants, irrespective of concentration. Projects are required to comply with requirements of approved TMDLs, as regulated in the region by the RWQCB through issuance of Waste Discharge Requirements and NPDES permit amendments.

Federal laws and regulations require the Project Applicant to submit a Notice of Intent and SWPPP to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP will utilize BMPs and technology to reduce erosion and sediments to meet water quality standards during construction.

The Project stormwater quality features are intended to treat runoff close to the source. Through the implementation of standard permit requirements, the Project's water quality control measures will be refined so that they will minimize stormwater quality impacts, which would reduce the impacts on downstream 303(d) impaired water bodies. The Project would

not have impacts to water quality beyond those identified under previous responses. The potential to otherwise substantially degrade water quality is a **less than significant** impact and no additional mitigation is necessary.

Response g-h): A portion of the Project site (Laguna Creek) is located within Flood Zone AE, which is defined as areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown on the Flood Insurance Rate Map (FIRM). The Project does not include the construction of housing within the area delineated as Flood Zone AE.

Additionally, the Project does not include the placement of a structure that could impede or redirect flood flows. This area is proposed to have a drainage easement. Implementation of the Project will not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or FIRM or other flood hazard delineation map. Implementation of the Project would have **no impact** relative to this environmental topic.

Response i): The Project site is not located within an area with a control levee or dam. The Project would not expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam. Implementation of the Project would have a **no impact** relative to this environmental topic.

Response j): The Project site is not subject to inundation by tsunami, seiche, or mudflow. Implementation of the Project would have a **less-than-significant** impact relative to this environmental topic.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
10 LAND USE AND PLANNING. Would the Project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

PROJECT IMPACTS

Response a): The Project is a proposed residential subdivision on 113 acres of agricultural land. The Project does not propose roadways or other improvements that would physically divide an established community. Implementation of the Project would have **no impact** relative to this topic.

Response b): In evaluating the Project for potential environmental impacts related to consistency with adopted land use plans, policies, and regulations, the General Plan and Zoning must be examined for consistency. Below is an examination of the Project relative to these documents:

CONSISTENCY WITH THE ELK GROVE GENERAL PLAN

The Elk Grove General Plan Land Use Map designates the Project site as Rural Residential. The Rural Residential designation accommodates residential development at a density of 0.1 to 0.5 dwellings per gross acre with a permitted lot size of 2 to 10 gross acres. Under the Rural Residential land use designation, the Project site could accommodate up to 56.5 residential dwellings. This density range was anticipated for the Project site in the General Plan EIR. The Project proposes 45 single family units, which is within the range allowed under the General Plan land use designation. The Project does not propose growth beyond the areas envisioned for urbanization on the Land Use Map.

The Project Applicant has submitted an entitlement request to rezone the Project site from AR-5 to AR-2 zoning. This rezone would change the minimum lot size allowed from five gross acres to two gross acres. The existing and the proposed zoning designations are within the allowed density range under the General Plan land use designation pursuant to General Plan Policy LU-3. The entitlement request includes extensive open space uses, including 33 acres for wetland, habitat, and open space easements. The wetland, habitat, and open space areas are allowed in the Rural Residential designation.

The General Plan includes a number of broad guiding and focused goals that provided the direction for the planned land use types and location. The General Plan seeks to attain a high quality of life for all residents by providing a safe community, free from manmade and natural hazards (Focused Goal 1-1). Development should recognize environmental constraints and be designed and operated to minimize impacts on the environment and protect natural resources (Focused Goals 3-1, 3-3).

Consistent with Policies CAQ-19, and PTO-18, the Project would retain the naturally vegetated wetland areas and Laguna Creek, including the floodplain, providing a naturalized drainage channel to ensure adequate stormwater capacity.

The Project would provide a multi-use trail system. The multi-use trail system would include a trail located in the powerline corridor, consistent with Policy PTO-16, which encourages consideration of electrical transmission corridors in the City's trails and open space system. Consistent with Policies PTO-16 and PTO-17, the Project's multi-trail system would provide on-site trails and connections to existing bike and pedestrian facilities in accordance with Figure 4 of the City's Trails Master Plan.

General Plan Policy PF-10 discourages the extension of sewer service *into areas* designated for Rural Residential use and prohibits the use of sewer service to accommodate lot sizes smaller than two gross acres in the Rural Residential area. The Project proposes the use of septic systems consistent with Policy PF-10.

The Project is consistent with General Plan policies related to land use including those related to amount and location of growth, allowed uses, development densities and intensities, trails, and retention of on-site drainage features.

CONSISTENCY WITH THE ZONING CODE

The Project proposes to rezone the Project site from AR-5 to AR-2. Under the current zoning of AR-5 the Project Applicant would be entitled to subdivide the Project site into 22 lots each a minimum of 5 gross acres in size. The proposed zoning would allow the Project Applicant to subdivide the Project site into a maximum of 56 lots each a minimum of 2 gross acres in size. However, the proposal includes various open space areas so the number of residential lots proposed is 46, including the lot to accommodate the existing residence on the Project site.

The Elk Grove Municipal Code regulates zoning for the Project. All existing City development standards and roadway improvement standards would apply. The Project as proposed would be consistent with the AR-2 Zoning designation and permitted land uses as defined in Title 23 of the City Municipal Code.

CONCLUSION

The Project would be consistent with adopted land use and planning documents and other land use regulations adopted to address potential environmental effects. Throughout this document, the Project's consistency with adopted plans, policies, and regulations that have been adopted to address impacts are addressed. The Project does not request an amendment to the General Plan. The Project is consistent with the General Plan land use designation. The Project requests a rezone to allow for a higher density of residential units. The Project as proposed is consistent with the rezone request. The rezone request is subject to review and approval by the City. If approved, the Project would be consistent with the Title 23, Zoning and would have a **less than significant** impact.

Response c): There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan that applies to Elk Grove at this time. Therefore, there is no conflict and **no impact** would occur.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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 of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 the 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, 2003b). Using data contained in the SMARA Special Report 156, the City 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.

PROJECT IMPACTS

Response a): The Project site does not contain a known mineral resource that would be of value to the region and the residents of the state. The Project would not result in loss of a mineral resource. Implementation of the Project would have **no impact** relative to this issue.

Response b): The Project site does not contain a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The Project would not result in loss of a mineral resource. Implementation of the Project would have **no impact** relative to this issue.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
12. NOISE. Would the Project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING

Motor vehicle traffic is the major contributor to the existing noise environment in the City and the primary noise source in the vicinity of the Project site. Vehicular noise in the Project vicinity occurs along the major arterial streets, Sheldon and Waterman Roads.

PROJECT IMPACTS

Response a-b) The Noise Element of the City’s General Plan identifies compatible noise environments for different types of land uses. For the purposes of land use planning, the Noise Element designates noise level goals to be achieved when feasible for specific land uses. Policy NO-1 states, “New development of the uses listed in Table NO-C shall conform with the noise levels contained in that Table. All indoor and outdoor areas shall be located, constructed, and/or shielded from noise sources in order to achieve compliance with the City’s noise standards.” The noise thresholds are 60 dB for outdoor sources, and 45 dB for indoor sources.

The Tentative Subdivision Map does not include pre-plotting of the residential dwellings, and given the large lot size (i.e. two acres minimum), the residential dwellings could be plotted in a variety of locations on the lot. The noise levels at residential dwellings that side or back to Sheldon Road should be evaluated in more detail once the plotting plans are developed as traffic noise has the potential to impact the future residences.

Residences would need to be set back from Sheldon Road in order meet the 60dB Ldn outdoor requirement. The Project Applicant has proposed a fence plan (Appendix A) that illustrates the location and type of fencing used. This includes post and cable fencing and post and rail fencing. Neither of these fencing types provides noise attenuation; therefore, it is important that noise analysis be performed on the final plotting plans to ensure that the City's maximum noise standards are not exceeded.

Implementation of the following mitigation measure would ensure that the plotting of residences on the two acre lots does not conflict with the City's Noise standards for exterior and interior spaces. The following mitigation measure would reduce this impact to a **less than significant** level.

Mitigation Measures

Mitigation Measure Noise -1: *Prior to the issuance of building permits for lots that back or side onto Sheldon Road, the Project Applicant shall perform a noise evaluation to determine noise levels at the house location. If the plotting plan includes any residence that is located within the outdoor or indoor noise thresholds as established by the Elk Grove Noise Element, the Project Applicant shall either modify the plot plan such that the residence is shifted farther away from the noise contour to an area of the lot that is within the acceptable noise levels, or construct appropriate noise attenuation to reduce the noise levels impacting the residence.*

Timing/Implementation: Prior to issuance of building permits.

Enforcement/Monitoring: City of Elk Grove Planning and Building Departments.

Response c) Development of residences and the subsequent occupancy of those residences would not create significant permanent increases in noise levels. Residential use of the Project site is consistent with the General Plan and surrounding land uses and impacts to ambient noise levels are expected to be **less than significant**.

Response d) Construction of the Project would result in temporary noise increases in the Project vicinity. However, these activities are temporary and construction activity hours are restricted by the City Noise Control regulations (Chapter 6.68 of the Municipal Code). The temporary nature of construction along with the existing City restrictions limit the impact of Project construction to **less than significant**.

Response e): The Project site is not 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. The closest airport is Franklin Field, a public use airport located at 12480 Bruceville Road approximately 9.5 miles from the Project site. Implementation of the Project would result in a **no impact** relative to this topic.

Response f): The Project site is not located within the vicinity of a private airstrip. The closest airport is Franklin Field, a public use airport located at 12480 Bruceville Road approximately 9.5 miles from the Project site. Implementation of the Project would result in a **no impact** relative to this topic.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING

The City's population in 2000 was 72,665 persons, compared to the County's population of 1,223,499 (U.S. Census Bureau, 2000). Rapid population growth associated with new housing construction after the City's incorporation in 2000 combined with its subsequent annexation of Laguna West allowed the City to reach a population of 153,015 in 2010. Table 7 portrays both past and projected population growth in Elk Grove through 2025. Elk Grove's population is anticipated to increase to approximately 197,460 persons by 2025.

TABLE 7: POPULATION TRENDS

YEAR	POPULATION	ANNUAL PERCENTAGE CHANGE
2000	72,665	--
2010	153,015 ¹	11.1%
2013	159,074	1.3%

SOURCE: CITY OF ELK GROVE 2002; US CENSUS, 2010; CALIFORNIA DEPARTMENT OF FINANCE, 2013

² The annexation of Laguna West in 2001 added an additional 25,000 persons to the City's population.

PROJECT IMPACTS

Response a): The Project would result in the construction of 45 residential units, which are anticipated to accommodate a population of 145 people (3.22 people per household). This population increase would not be considered substantial population growth in the community. This population growth would not be beyond anticipated growth in the community. Implementation of the Project would not induce substantial population growth in an area, either directly or indirectly. Implementation of the Project would have a **less than significant** impact relative to this topic.

Responses b-c): The Project site is located on 113 acres that is largely vacant with the exception of one residence. The Project includes the creation of an individual lot for the existing residence. The residence would remain and the Project would not displace housing or people. Implementation of the Project would have **no impact** relative to this topic.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROJECT IMPACTS

Response a):

Fire Protection. The CCSD Fire Department currently operates six fire stations in the City. The closest fire station to the Project site is currently Station 73 located at 9607 Bond Road, approximately one mile from the Project site.

The CCSD Fire Department has established a goal for emergency response units from the Fire Department to arrive on-scene in urban areas of the CCSD within five minutes of initial dispatch, 70% of the time, and up to six minutes of initial dispatch, 90% of the time. In rural areas, the goal is for the Fire Department to arrive on-scene within twelve minutes of initial dispatch, 90% of the time." (CCSD 2008, p. 19).

The General Plan Draft EIR anticipated urbanization of the City and identified that implementation of the General Plan would result in a less than significant impact associated with provision of fire protection and emergency medical services with implementation of the CCSD Master Plan and mitigating General Plan policies and actions including Policies PF-1, PF-2, PF-7, PF-19, PF-20, PF-21, and SA-28 and associated implementing actions (Impact 4.12.1, City of Elk Grove, 2003b, pp. 4.12-7 through 4.12-9). The Project is consistent with the General Plan policies and implementing actions, to the extent that these policies apply to the Project.

The Project would provide adequate water flow and pressure, as required by Policy PF-7 and SA-28 Action 1. General Plan Policy SA-32 requires the cooperation with the Cosumnes Community Services District (CCSD) Fire Department to reduce fire hazards, assist in fire suppression, and promote fire safety in Elk Grove and Policy PF-2 requires coordination with outside agencies. The Project is required to undergo the City's development review process. The Project application has been provided to the CCSD Fire Department for its review and comment. In a July 10, 2012 letter, the CCSD identified its standard comments that must be addressed by the Project as part of the plan checking process. These standard comments

include fire sprinkler specifications, emergency vehicle turnaround requirements, minimum fire flow requirements, requirement for installation of various infrastructure, and requirements for the wetlands/open space areas. The CCSD also identified project-specific requirements regarding the street names/addressing, street layout, and requirement for funding a portion of the CCSD's on-going fire and emergency services. The Project would be required to comply with the CCSD's requirements prior to issuance of a Fire Permit by the CCSD. Policy PF-21 requires that new development shall fund its fair share portion of its impacts to all public facilities and infrastructure as provided for in state law. As a part of the City's Fire Fee, the City collects impact fees from new development at a rate of \$1,767 per single family dwelling, \$936 for age restricted dwelling for Zone 1 area of which the Project site is located (City of Elk Grove 2013, pg. 18). Payment of the applicable impact fees by the Project Applicant would assist in offsetting any fiscal impacts to fire services.

As the Project is developing within the CCSD area, it meets the goal of having a fire station (Station 73) within one mile, resulting in an ISO rating of 3. Additionally, this Project would not result in a decrease of the response time goal of 5 minutes or less (80 percent of the time) in the urbanized portions of the City. The Project would not require expansion of existing facilities or development of a new fire station in order for the CCSD to maintain its service levels. Therefore, potential physical impacts related to the provision of fire and emergency medical services in the Project areas are considered **less than significant**.

Response b):

Police Protection. The service standard for the Police Department is one officer per 1,000 people. The Project includes 45 single-family residential units. This is projected to increase the population by an estimated 145 (based on 3.22 persons per household² for single family residents). The Project would require approximately 0.145 sworn officers according to the City's service standard. The addition of less than one full-time officer would not require the Police Department to expand the existing facilities or construct new facilities.

The General Plan Draft EIR anticipated urbanization of the City and identified that implementation of the General Plan would result in a less than significant impact to police services with implementation of mitigating General Plan policies and actions, SA-30, and SA-31 related to provision of police and public safety services (Impact 4.12.1.2; City of Elk Grove, 2003b, pp. 4.12-14 through 4.12-16). The Project is consistent with General Plan policies related to public safety services.

Elk Grove General Plan Policy SA-30 requires development to design neighborhoods and buildings in a manner that prevents crime and provides security and safety for people and property when feasible. Policy SA-31 encourages the use of Crime Prevention Through Environmental Design (CPTED) principles in the design of development projects and buildings. The Project is required to undergo the City's development review process. Policy PF-21 requires that new development shall fund its fair share portion of its impacts to all public facilities and infrastructure as provided for in state law.

The City administers Police Services Community Facilities District (CFD) 2003-2 City-wide as a funding mechanism for police services (with the exception of a few areas that provide their own CFD for police services). The fiscal year 2013/14 police services maximum annual special tax for developed property is \$403.02 per single family residential unit and \$285.23 per multi-family residential unit. This maximum will be adjusted each year on July 1st based on changes to CPI.

² Based on DOF Report E-5: City/County Population and Housing Estimates, 1/1/2013

As a part of the City's Capital Facilities Fee Program, the City collects police facility impact fees from new development at a rate of \$429 per single family dwelling, \$279 for age restricted dwelling and \$201 for multifamily age restricted units (City of Elk Grove 2013, pg. 12). Payment of the applicable impact fees by the Project Applicant would assist in offsetting any fiscal impacts to police services. The potential need for approximately 1.45 additional sworn police officers as a result of Project implementation would not require a new or expanded police facility. Therefore, the Project would have a **less than significant** impact to police services.

Response c):

Schools. Implementation of the Project would result in the addition of 45 units on 113 acres units. The student generation factors listed in Table 8 provides an estimate of additional student generation as a result of Project implementation.

TABLE 8: STUDENT POTENTIAL

Grade Level	Generation Factor	New Units	Total New students
K-6	0.3812	45	17.15
7-8	0.1238		5.57
9-12	0.2076		9.34
TOTAL K-12	0.7126		32.07

SOURCE: EGUSD 2013B, PG. B-3.

Based on the existing student generation factors, the Project could result in an additional 32 students to be educated by the EGUSD. According to the 2013 School Facilities Need Analysis, the current student (2013/14) enrollment exceeds EGUSD capacity for elementary school facilities. Additionally, the excess capacity in the middle and high school grades may not be able to absorb the projected number of new students residing in the additional 45 residential units in existing EGUSD facilities. Based on this, new school sites or facilities may need to be constructed for future residents of the 45 new units. EGUSD has nine elementary schools, two high/middle schools and two alternative high schools planned to accommodate anticipated future growth in the District.

The Elk Grove General Plan includes the following policies to assist in the development of public school facilities. Policy PF-16 requires that specific plans identify all existing and planned school sites and include guidelines and conceptual examples for incorporating new schools into overall neighborhood design. Policy PF-18 states the City's support of state legislative efforts to secure additional state funding for school construction and ensure maintenance of local district priorities for funds in the state school bond program. Policy PF-23 requires the City to coordinate with independent public service providers, including schools, in developing financial and service planning strategies.

The Elk Grove General Plan has a number of policies designed to assist in the development of school facilities. Additionally, the EGUSD has impact fees based on the square footage of a new residential unit to assist in the funding of new schools.

In accordance with Section 65995(h) of the California Government Code, the payment of statutory fees "...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."

School overcrowding can result in students being enrolled at a school that is different from the local elementary or secondary school serving a particular neighborhood. The EGUSD does not guarantee any student attendance at a particular school, regardless of where the student lives. Further, school boundaries are subject to change periodically as school facilities are constructed and as populations age or otherwise change. While implementation of the Project may contribute to school overcrowding, this is not considered to be a significant impact under CEQA. The Project Applicant would be required to pay all applicable school facilities impact fees. As stated above, the payment of these fees is considered to be full and complete mitigation for school facilities impacts.

For these reasons, implementation of the Project would have a **less than significant** impact related to school facilities.

Response d):

Parks. General Plan Policy PTO-4 states that new residential developments may be required to, at a minimum, provide parks consistent with the Quimby Act (CA Govt. Code Section 66477), through land dedication, fees in lieu, or on-site improvements at a standard of five (5) acres of land for parks per 1,000 residents. Additionally, Policy PTO-15 exemplifies the City's desire to preserve open space lands in the region, and supports the establishment of multipurpose open space areas. The Project would provide recreational trails consistent with General Plan Policy PTO-4.

The Project would add 45 dwelling on 113 acres. Based on an average household size of 3.22 persons per household, the increase of housing units would result in an increase of 145 persons in the City. Based on the existing parkland to population standard, this would result in an additional 0.725 acres of parkland demand.

The Elk Grove General Plan has many policies designed to create and protect parkland and recreational facilities in the City. Policy PTO-1 supports the development, maintenance, and enhancement of parks and trails serving a variety of needs at the neighborhood, area, and Citywide level. Policy PTO-3 requires that funding for maintenance of parks and/or trails be assured prior to the approval of any Final Subdivision Map which contains or contributes to the need for a public parks and facilities. Policy PTO-4 requires new residential developments to, at a minimum, provide parks consistent with the Quimby Act (CA Govt. Code Section 66477), through land dedication, fees in lieu, or on-site improvements at a standard of five (5) acres of land for parks per 1,000 residents. Policy PTO-7 discusses the trails system in Elk Grove so that all trails are linked to the extent possible for greater use as recreational and travel routes. Policy PTO-9 requires that funding for the maintenance of City trails be assured prior to the approval of any project which contains a City-owned trail. All new residential development is be required to comply with the above General Plan policies and therefore lessen the potential for impacts to City parks and recreational facilities.

The Project would be required to adhere to the parkland and recreation facilities requirements of the City. The City has regulations in place that require the payment of a fee or parkland dedication for all new residential units. The Elk Grove General Plan has policies that protect the existing parkland and recreational facilities and promotes further development of these facilities. The Elk Grove General Plan EIR identifies that implementation of Policies PRO-1 through PRO-11 and PRO-14 and associated actions, which would apply to the Project, would reduce potential park impacts to less than significant. For these reasons, the Project's impact to park and recreational facilities is considered **less than significant**.

Response e):

Other Public Facilities. The Project may increase demand for other public facilities within the City, such as libraries and civic buildings. The Elk Grove General Plan has policies that assist in the development of new public facilities. Policy PF-21 requires new development to fund its fair share portion of its impacts to all public facilities and infrastructure and Policy PF-15 identifies the City's desire to provide adequate library facilities by working with the County of Sacramento in the planning and implementation of future library facilities and facility expansions in Elk Grove. Additionally, the City has impact fees for library and civic facilities as part of their Capital Facilities Fee Program. These fees assist in the maintaining and development of public facilities in the City. For these reasons, the potential for impacts to other public facilities is ***less than significant***.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the Construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

The CCSD provides parks and recreation 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 92 parks, 18 miles of off-street trails, two community centers, four recreation centers, and two aquatics complexes (CCSD, 2012).

PROJECT IMPACTS

Responses a-b): General Plan Policy PTO-4 states that new residential developments may be required to, at a minimum, provide parks consistent with the Quimby Act (CA Govt. Code Section 66477), through land dedication, fees in lieu, or on-site improvements at a standard of five (5) acres of land for parks per 1,000 residents. Additionally, Policy PTO-15 exemplifies the City's desire to preserve open space lands in the region, and supports the establishment of multipurpose open space areas. The Project would provide recreational trails consistent with General Plan Policy PTO-4.

The Project would add 45 dwelling on 113 acres. Based on an average household size of 3.22 persons per household, the increase of housing units would result in an increase of 145 persons in the City. Based on the existing parkland to population standard, this would result in an additional 0.725 acres of parkland demand.

The Elk Grove General Plan has many policies designed to create and protect parkland and recreational facilities in the City. Policy PTO-1 supports the development, maintenance, and enhancement of parks and trails serving a variety of needs at the neighborhood, area, and Citywide level. Policy PTO-3 requires that funding for maintenance of parks and/or trails be assured prior to the approval of any Final Subdivision Map which contains or contributes to the need for a public parks and facilities. Policy PTO-4 requires new residential developments to, at a minimum, provide parks consistent with the Quimby Act (CA Govt. Code Section 66477), through land dedication, fees in lieu, or on-site improvements at a standard of five (5) acres of land for parks per 1,000 residents. Policy PTO-7 discusses the trails system in Elk Grove so that all trails are linked to the extent possible for greater use as recreational and travel routes. Policy PTO-9 requires that funding for the maintenance of City trails be assured

prior to the approval of any project which contains a City-owned trail. All new residential development is be required to comply with the above General Plan policies and therefore lessen the potential for impacts to City parks and recreational facilities.

The Project would be required to adhere to the parkland and recreation facilities requirements of the City. The Elk Grove Municipal Code Chapter 22.40 establishes parks and recreation dedication and fee requirements for development projects. The Elk Grove General Plan has policies that protect the existing parkland and recreational facilities and promotes further development of these facilities. The Elk Grove General Plan EIR identifies that implementation of Policies PRO-1 through PRO-11 and PRO-14 and associated actions, which apply to the Project, would reduce potential park impacts to less than significant. For these reasons, the Project's impact to park and recreational facilities is considered ***less than significant***.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
16. TRANSPORTATION AND 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

The Project site is located northeast of the Sheldon Road and Waterman Road intersection in the City (see Figures 2-1 and 2-2).

ROADWAY FACILITIES

Local roadway facilities near the Project site are:

- **Sheldon Road** is an east-west arterial roadway located adjacent the Project's southern boundary. Sheldon Road begins approximately 5.5 miles east of SR 99, and extends just less than one mile west of the freeway before transiting into Center Parkway. East and west of its intersection with Waterman Road, Sheldon Road is two lanes.
- **Waterman Road** is a north-south arterial roadway extending from north of Vintage Park Drive in Sacramento County to Grant Line Road. Waterman Road is two lanes near the Project.

The Sheldon Road and Waterman Road intersection is controlled by an all-way stop.

Level of Service

Level of service is a qualitative measure of traffic operating conditions whereby a letter grade, from A to F, is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. Table 9 identifies the volume-to-capacity thresholds for roadway LOS and the amount of delay associated with intersection LOS.

TABLE 9:: LEVEL OF SERVICE – ROADWAYS AND INTERSECTIONS

	A	B	C	D	E	F
Volume-to-Capacity Threshold	≤ 0.6	0.61 to 0.70	0.71 to 0.80	0.81 to 0.90	0.91 to 1.00	> 1.00
Delay (seconds/vehicle)²	≤ 10.0	10.1 – 15.0	15.1 – 25.0	25.1 – 35.0	35.0 – 50.0	> 50.0

NOTES: ¹ THRESHOLDS APPLY TO ARTERIAL ROADWAYS WITH MODERATE ACCESS CONTROL.
²CONTROL DELAY INCLUDES INITIAL DECELERATION DELAY, QUEUE MOVE-UP TIME, STOPPED DELAY, AND ACCELERATION DELAY.
 SOURCE: CITY OF ELK GROVE'S TRAFFIC IMPACT ANALYSIS GUIDELINES, JULY 2000; HIGHWAY CAPACITY MANUAL, 2010

Existing Traffic Conditions

Sheldon Road operates at LOS A from Elk Grove-Florin Road to Bradshaw Road in the eastbound and westbound directions during the AM and PM peak hours. Waterman Road operates at LOS A from Bond Road to Grant Line Road in the northbound direction during the AM and PM peak hours and in the southbound direction during the AM peak hour. During the PM peak hour, Waterman Road operates at LOS B from Bond Road to Grant Line Road in the southbound direction (Fehr & Peers, 2013a).

The Sheldon Road/Waterman Road intersection operates at LOS E (36 second delay) during the AM peak hour and the PM peak hour (Fehr and Peers, 2013b).

BICYCLE AND PEDESTRIAN FACILITIES

The majority of the bike paths in the City limits are Class II lanes, which are located on existing streets or highways and are striped for one-way bicycle travel. Waterman Road and Sheldon Road do not have designated bike lanes in the vicinity of the Project site.

TRANSIT SERVICE

Transit service within the study area is provided by e-Tran, which operates ten local routes within Elk Grove and ten commuter routes with service to Downtown Sacramento. E-Tran service is not provided in the immediate vicinity of the Project. Seven e-Tran routes can be accessed approximately one mile from the Project site at stops along Bond Road, Calvine Road, Bradshaw Road, and Elk Grove-Florin Road.

GENERAL PLAN CONSISTENCY ANALYSIS

Section 15168 of the State CEQA Guidelines provides the following guidance regarding the use of a Program EIR with subsequent environmental documents:

"(d) Use with Subsequent EIRs and Negative Declarations. A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

- (1) Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.*
- (2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.*
- (3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before."*

The General Plan land use designation on the Project site, as described in the Project Description, allows for up to 56.5 units. The EIR for the City of Elk Grove General Plan assumed full buildout of the Project site. The Project would create 45 new single family residential lots, a remainder lot for the existing dwelling, and an open space/remainder lot. The Project would result in 10 fewer units (56 units minus 46 total Project units) than allowed by the General Plan land use designations and analyzed in the General Plan EIR. Under both Project-level and cumulative conditions, the Project would result in less traffic and associated air quality and noise impacts as well as less demand for utilities and public services than anticipated in the General Plan EIR. Therefore, the Project is consistent with the environmental analysis and conclusions of the General Plan EIR.

The EIR for the City of Elk Grove General Plan analyzed area roadways and freeway segments. As documented in Table 10 below, the Project would generate 428 trips per day, compared to 533 trips based on the General Plan Rural Residential designation, which was assumed for the Project site during preparation of the General Plan EIR. Therefore, the Project site was anticipated for urbanization, and the corresponding increase in vehicle trips that would result from urbanization, in the General Plan EIR and the Project would result in fewer trips than analyzed in the General Plan EIR. The General Plan EIR provided a program-level analysis of impacts to local and regional roadways that would result with implementation of the General Plan, which included trips associated with the Project. Given that the Project is consistent with the land use designation for the site, which was analyzed in the General Plan EIR, there would be no new Project-specific traffic impacts to the local and regional roadway facilities addressed in the General Plan EIR.

It is further noted that CEQA Guidelines Section 15183 allows a streamlined environmental review process for projects that are consistent with the densities established by existing zoning, community plan, or general plan policies for which an Environmental Impact Report (EIR) was certified. As noted above, the Project is consistent with the land use designation and densities established by the Elk Grove General Plan, for which an EIR was certified.

As stated in Section 15183 of the CEQA Guidelines:

“(a) CEQA mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies.

“(b) In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:

- (1) Are peculiar to the project or the parcel on which the project would be located,*
- (2) Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,*
- (3) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or*
- (4) Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.*

Transportation and circulation impacts addressed in the General Plan EIR are summarized below:

- **Local Roadway System - Impact 4.5.1:** Implementation of the General Plan would result in increased traffic volumes, volume-to-capacity ratios, and a decrease in LOS on area roadways during the A.M. and P.M. peak hours. Impacts in the Project vicinity include:
 - Bond Road 4 Lanes (East Stockton Boulevard to Elk Grove Florin Road) – LOS F (eastbound) and LOS E (westbound)
 - Bond Road 4 Lanes (Elk Grove Florin Road to Bradshaw Road) – LOS C (eastbound) and LOS B (westbound)
 - Waterman Road 4 Lanes (Calvine Road to Bond Road) – LOS C (northbound) and LOS B (southbound)
 - Waterman Road 4 Lanes (Bond Road to Grant Line Road) – LOS B (northbound) and LOS A (southbound)
- **State Highways - Impact 4.5.2:** Implementation of the proposed General Plan would result in increased traffic volumes, V/C ratios, and a decrease in LOS on state highways during the A.M. and P.M. peak hours. This is considered a significant impact.

Mitigation Measure MM 4.5.1 was identified to mitigate this impact and was implemented through revising the General Plan to include Policy CI-2. While improvements to State highway facilities were considered a viable mitigation measure, the proposal and timing of needed improvements was not known and depended on if and when Caltrans (acting as the lead agency) submits the projects for inclusion into the MTP. It is outside the City's jurisdiction to implement improvement to state highways. As such, the General Plan's impact to state highways is considered to be significant and unavoidable.

- **Transit System - Impact 4.5.3:** Implementation of the General Plan would result in an increase in the demand for transit service. Implementation of General Plan Policies CI-3, CI-4, CI-5, CI-6, CI-7, CI-8, and CI-9 and associated action items reduced the potential impact to less than significant.
- **Bicycle and Pedestrian Facilities - Impact 4.5.4:** Implementation of the General Plan would result in an increased demand for bicycle and pedestrian facilities. Implementation of General Plan Policies CI-3, CI-4, and CI-5 and associated action items reduced the potential impact to less than significant.
- **Roadway Safety - Impact 4.5.5:** Implementation of the General Plan would result in an increase in traffic volumes, which would increase the potential opportunities for safety conflicts. While implementation of the proposed General Plan would increase the amount of vehicle traffic and the number of potential safety conflicts, implementation of the General Plan (specific Policies CI-3, CI-4, CI-17, CI-18, CI-19, CI-20, CI-21, CI-22, and CI-23 and associated action items) and modern construction design standards would also result in the provision of facilities without unacceptable safety conflicts. This impact is considered less than significant.
- **Cumulative Traffic Impacts on Local Roadways and State Highways - Impact 4.5.6:** Implementation of the General Plan as well as potential development of the Urban Study Areas would contribute to significant impacts on local roadways and state highways under cumulative conditions. This is considered a cumulative significant impact. Implement Mitigation Measure MM 4.5.1 was identified to mitigate this impact and was implemented through revising the General Plan to include Policy CI-2. Implementation of General Plan Policies CI-2, CI-3, CI-4, CI-5, CI-6, CI-7, CI-8, CI-9, CI-10, CI-13, CI-14, CI-15, CI-16, CI-17, and CI-18 and associated action items would assist in reducing cumulative impacts to local roadways and SR 99. However, the General Plan DEIR identified that since there are some local roadways that would not reach a LOS D even with improvements, impacts to these roadways are significant and unavoidable (see General Plan DEIR Tables 4.5-7 and 4.5-8). Further improvement of these impacted roadways is considered infeasible given that the necessary right-of-way is not available as a result of extensive residential and commercial development immediately adjacent to these roadways. In addition, the City does not have jurisdiction to improve SR 99, which is a state highway. Thus, impacts to SR 99 are also considered significant and unavoidable.

PROJECT IMPACTS

Response a, b):

Table 10 shows the expected daily AM peak hour, and PM peak hour trip generation for the Project. The Project is expected to generate 34 new weekday AM peak hour trips, 445 new

weekday PM peak hour trips, and 428 new daily trips.

TABLE 10: WEEKDAY TRIP GENERATION

Land Use	Quantity	Trip Rate			Project Trips		
		Daily	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour	PM Peak Hour
Single Family Detached Residential	45 units	9.52	0.75	1	428	34	45

GENERAL PLAN CONSISTENCY ANALYSIS

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- (1) Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.*
- (2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.*
- (3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before."*

The General Plan land use designation on the Project site, as described in the Project Description, allows for up to 56.5 units. The EIR for the City of Elk Grove General Plan assumed full buildout of the Project site. The Project would create 45 new single family residential lots, a remainder lot for the existing dwelling, and an open space/remainder lot. The Project would result in 10 fewer units (56 units minus 46 total Project units) than allowed by the General Plan land use designations and analyzed in the General Plan EIR.

The EIR for the City of Elk Grove General Plan analyzed area roadways and freeway segments. As documented in Table 10, the Project would generate 428 trips per day, compared to 533 trips based on the General Plan Rural Residential designation, which was assumed for the Project site during preparation of the General Plan EIR. Therefore, the Project site was anticipated for urbanization, and the corresponding increase in vehicle trips that would result from urbanization, in the General Plan EIR and the Project would result in fewer trips than analyzed in the General Plan EIR. The General Plan EIR provided a program-level analysis of impacts to local and regional roadways that would result with implementation of the General Plan, which included trips associated with the Project. Given that the Project is consistent with the land use designation for the site, which was analyzed in the General Plan EIR, there would be no new Project-specific traffic impacts to the local and regional roadway facilities addressed in the General Plan EIR.

It is further noted that CEQA Guidelines Section 15183 allows a streamlined environmental review process for projects that are consistent with the densities established by existing zoning, community plan, or general plan policies for which an Environmental Impact Report (EIR) was certified. As noted above, the Project is consistent with the land use designation and densities established by the Elk Grove General Plan, for which an EIR was certified.

As stated in Section 15183 of the CEQA Guidelines:

"(a) CEQA mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies.

(b) In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:

- (1) Are peculiar to the project or the parcel on which the project would be located,*
- (2) Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,*
- (3) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or*
- (4) Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.*

Transportation and circulation impacts addressed in the General Plan EIR are summarized below:

- **Local Roadway System - Impact 4.5.1:** Implementation of the General Plan would result in increased traffic volumes, volume-to-capacity ratios, and a decrease in LOS on area roadways during the A.M. and P.M. peak hours. Impacts in the Project vicinity include:
 - Bond Road 4 Lanes (East Stockton Boulevard to Elk Grove Florin Road) – LOS F (eastbound) and LOS E (westbound)
 - Bond Road 4 Lanes (Elk Grove Florin Road to Bradshaw Road) – LOS C (eastbound) and LOS B (westbound)
 - Waterman Road 4 Lanes (Calvine Road to Bond Road) – LOS C (northbound) and LOS B (southbound)
 - Waterman Road 4 Lanes (Bond Road to Grant Line Road) – LOS B (northbound) and LOS A (southbound)
- **State Highways - Impact 4.5.2:** Implementation of the proposed General Plan would result in increased traffic volumes, V/C ratios, and a decrease in LOS on state highways during the A.M. and P.M. peak hours. This is considered a significant impact.

Mitigation Measure MM 4.5.1 was identified to mitigate this impact and was implemented through revising the General Plan to include Policy CI-2. While improvements to State highway facilities were considered a viable mitigation measure, the proposal and timing of needed improvements was not known

and depended on if and when Caltrans (acting as the lead agency) submits the projects for inclusion into the MTP. It is outside the City's jurisdiction to implement improvement to state highways. As such, the General Plan's impact to state highways is considered to be significant and unavoidable.

- **Transit System - Impact 4.5.3:** Implementation of the General Plan would result in an increase in the demand for transit service. Implementation of General Plan Policies CI-3, CI-4, CI-5, CI-6, CI-7, CI-8, and CI-9 and associated action items reduced the potential impact to less than significant.
- **Bicycle and Pedestrian Facilities - Impact 4.5.4:** Implementation of the General Plan would result in an increased demand for bicycle and pedestrian facilities. Implementation of General Plan Policies CI-3, CI-4, and CI-5 and associated action items reduced the potential impact to less than significant.
- **Roadway Safety - Impact 4.5.5:** Implementation of the General Plan would result in an increase in traffic volumes, which would increase the potential opportunities for safety conflicts. While implementation of the proposed General Plan would increase the amount of vehicle traffic and the number of potential safety conflicts, implementation of the General Plan (specific Policies CI-3, CI-4, CI-17, CI-18, CI-19, CI-20, CI-21, CI-22, and CI-23 and associated action items) and modern construction design standards would also result in the provision of facilities without unacceptable safety conflicts. This impact is considered less than significant.
- **Cumulative Traffic Impacts on Local Roadways and State Highways - Impact 4.5.6:** Implementation of the General Plan as well as potential development of the Urban Study Areas would contribute to significant impacts on local roadways and state highways under cumulative conditions. This is considered a cumulative significant impact. Implement Mitigation Measure MM 4.5.1 was identified to mitigate this impact and was implemented through revising the General Plan to include Policy CI-2. Implementation of General Plan Policies CI-2, CI-3, CI-4, CI-5, CI-6, CI-7, CI-8, CI-9, CI-10, CI-13, CI-14, CI-15, CI-16, CI-17, and CI-18 and associated action items would assist in reducing cumulative impacts to local roadways and SR 99. However, the General Plan DEIR identified that since there are some local roadways that would not reach a LOS D even with improvements, impacts to these roadways are significant and unavoidable (see General Plan DEIR Tables 4.5-7 and 4.5-8). Further improvement of these impacted roadways is considered infeasible given that the necessary right-of-way is not available as a result of extensive residential and commercial development immediately adjacent to these roadways. In addition, the City does not have jurisdiction to improve SR 99, which is a state highway. Thus, impacts to SR 99 are also considered significant and unavoidable.

MM 4.5.1 requires the City to coordinate and participate with the City of Sacramento, Sacramento County, and Caltrans on roadway improvements that are shared by the jurisdictions in order to improve operations. MM 4.5.1 revised the General Plan to Policy CI-2; implementation of General Plan Policies CI-2, CI-3, CI-4, CI-5, CI-6, CI-7, CI-8, CI-9, CI-10, CI-13, CI-14, CI-15, CI-16, CI-17, and CI-18 and associated action items would reduce impacts to local roadways. However, since there are some roadways that would not reach a LOS D

even with improvements, impacts to these roadways were determined to be significant and unavoidable (City of Elk Grove 2003b, pp. 4.5-52 through 4.5-80). The Project is consistent with the General Plan and the Project would not result in impacts associated with performance of the circulation system and conflicts with applicable LOS standards beyond those addressed in the General Plan EIR.

Response c): The Project would not result in any change to air traffic patterns. There is **no impact**.

Response d): The Project does not include any design features that would substantially increase potential hazards associated with the transportation and circulation network. The Project will be required to comply with the Cosumnes Community Services District (CCSD) standard and project-specific requirements for emergency access. The Project is required to substantially comply with the City's roadway standards for intersection sight distance and driveway sight distance (Standard Drawing 26) to ensure that there are no sight distance or visibility hazards. The Project is required to comply with General Plan Policies CI-3, CI-4, CI-17, CI-18, CI-19, CI-20, CI-21, CI-22, and CI-23 and associated action items that are identified in the General Plan EIR to reduce potential impacts to less than significant. This is considered a **less than significant** impact, and no mitigation is required.

Response e): Access to the Project site would be from Sheldon Road. The Project would access Sheldon Road at three separate locations. The Project would create a court which would serve ten single family lots, including the existing home (remainder lot). A looped street system would provide two access points to Sheldon Road would serve 36 single family lots.

General Plan Policy SA-32 requires the cooperation with the Cosumnes Community Services District (CCSD) to reduce fire hazards, assist in fire suppression, and promote fire safety in Elk Grove and Policy PF-2 requires coordination with outside agencies. The Project is required to undergo the City's development review process. The Project application has been provided to the CCSD Fire Department for its review and comment.

The Project site includes adequate access points for emergency services. Prior to issuance of a Fire Permit by the CCSD, the Project will be required to comply with the CCSD's standard requirements as well as the Project-specific requirements to ensure adequate emergency access. This is a **less than significant** impact.

Response f,g): The Project is within the Rural Sheldon Area. Roadway standards applicable to the Project, including those for pedestrian and bicycle facilities, are addressed by the City's Rural Road Improvement Standard. Sidewalks and designated bike routes are not developed in the vicinity of the Project site. The Project would provide an 8-foot separated trail along the southern boundary of the Project site that is adjacent Sheldon Road. This is consistent with the Rural Road Improvement Standard and would allow for future connection to bicycle and pedestrian facilities. The Project site is not served by e-trans, the City's transit service, and development of the Project would not conflict with the City's planned transit services. The Project would not conflict with implementation of adopted plans, policies, or programs regarding pedestrian facilities, bicycle facilities, and public transit. This is a **less than significant** impact.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROJECT IMPACTS

Responses a-b, d-e): As this Project would be served by septic systems, it would not exceed the wastewater treatment requirements of the RWQCB, it would not require or result in the construction of new wastewater treatment facilities, would not require new or expanded entitlements for wastewater connections, and would not impact the regional wastewater treatment provider. Implementation of the Project would have a **less than significant** impact relative to these topics.

Additionally, the Project would be served by on-site wells, and would not require the construction of new water treatment facilities, and would not require new or expanded entitlements for water. The groundwater basin (Central Basin) is not adjudicated or

considered to be in a state of being over drafted. Due to the active planning by water agencies, the basin is not foreseen to be over drafted in the future (EGWD, pg. 22). Groundwater use is regularly monitored within the Sacramento County region. As such, implementation of the Project would have a **less than significant** impact relative to these topics.

Response c): The Project would include a network of roadside ditches to accommodate storm drainage. The Drainage Study prepared for the Project is based on drainage calculations for flows from the Project site, as well as capacity within the Laguna Creek that was calculated for the Elk Grove Storm Drainage Master Plan. The construction of these storm drainage facilities is not anticipated to have impacts beyond those identified throughout this environmental document associated with construction and land disturbance. Compliance with the mitigation measures provided herein, as well as the City's storm drainage design requirements, would ensure that the Project would have a **less than significant** impact on this environmental topic.

Responses f-g): According to CalRecycle, the average solid waste generation rates per capita in the City was 2.9 pounds per day in 2011, which is the most recent data available (CalRecycle 2011). The Project is projected to have an estimated population 145, as previously described. Using the per capita generation rate of 2.9 pounds per day, the Project would generate 420.5 lbs/day of solid waste, 76.74 tons per year, from the proposed residential uses.

The Project would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. The City's solid waste generation has decreased since 2007 due to the waste diversion efforts of the City and it is anticipated that the City's efforts would continue to reduce the per capita and per employee diversion rates.

The General Plan EIR anticipated urbanization of the City and identified that implementation of the General Plan would result in less than significant impacts to solid waste with implementation of mitigating General Plan Policy CAQ-18 and associated actions (Impact 4.12.5.1; City of Elk Grove, 2003b, pp. 4.12-52 to 4.12-53). The Project will implement construction solid waste reduction measures consistent with Chapter 32.70 of the Elk Grove Municipal Code and is consistent with General Plan policies and actions related to solid waste including Policy CAQ-18.

Solid waste generated in the City is disposed of at a variety of different landfills in the area. None of these landfills are projected to close before the year 2020, many much later. These landfills have a combined remaining capacity of 402,606,025 cubic yards, which is more than adequate to accommodate the waste associated with the Project. Further, the Project is consistent with the General Plan and would not result in generation of solid waste in excess of the amount associated with buildout of the General Plan. This is a **less than significant** impact.

	Adequately Addressed in Previous EIRs	Less Than Significant with Mitigation Incorporation	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

Response a): The Project has 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; however, implementation of the Mitigation Measures Bio-1, Bio-2, Bio-3, Bio-4, Bio-5, Bio-6, Bio-7, Bio-8, Bio-9, and Bio-10 identified in this Initial Study would reduce impacts to a level of insignificance. Implementation of the Project would have a **less than significant** impact relative to this topic.

Response b): The Project has the potential to have significant cumulative or cumulatively considerable effects associated with the Project; however, Mitigation Measures Vis-1, VI-2, Air-1, Air-2, Air-3, Bio-1, Bio-2, Bio-3, Bio-4, Bio-5, Bio-6, Bio-7, Bio-8, Bio-9, Bio-10, Cul-1, Geo-1, Geo-2, Geo-3, Geo-4, GHG-1, Haz-1, Haz-2, and Noise-1 have been incorporated into the Project to reduce impacts to a level of insignificance and would reduce the Project's contribution to cumulative impacts to a less than considerable level. Further, the Project is consistent with the General Plan and would not result in any increase in severity or in any new significant cumulative impacts beyond those identified in the General Plan EIR.

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The cumulative scenario for the Project includes growth planned for the City. The Project is consistent with the General Plan. Specifically, the land uses proposed by the Project are consistent with the General Plan land use designations for the Project site, as described in Section 10, Land Use and Planning, and would result in fewer dwelling units than allowed under the General Plan. The vehicle trips generated by the Project would be less than would occur under the adopted General Plan, as described in Section 16, Transportation and Circulation. The Project would be consistent with the cumulative impacts that were evaluated in the General Plan EIR.

Section 15130(d) and (e) of the State CEQA Guidelines provides the following guidance regarding analysis of cumulative impacts that were addressed in a prior EIR:

“(d) Previously approved land use documents, including, but not limited to, general plans, specific plans, regional transportation plans, plans for the reduction of greenhouse gas emissions, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f), in a certified EIR for that plan.”

“(e) If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impacts, as provided in Section 15183(j).”

Section 15168 of the State CEQA Guidelines provides the following guidance regarding the use of a Program EIR with subsequent environmental documents as described under Section 16, Transportation and Traffic. The General Plan EIR (City of Elk Grove, 2003d; SCH#: 2002062082) is hereby incorporated by reference, consistent with State CEQA Guidelines Section 15150, 15168(d)(2). The General Plan EIR is available for review at the City's Planning Department and on the City's website. The General Plan EIR evaluated the full range of environmental impacts anticipated with buildout of the General Plan land uses. The following is a summary of the cumulative impacts identified in the General Plan EIR that are relevant to subsequent development activities that may involve implementation of various measures associated with the Project. These subsequent development activities would be reviewed for compliance with the General Plan and would be required to comply with relevant mitigation measures adopted to mitigate cumulative impacts.

Impact 4.1.3 - Cumulative Impacts to Agricultural Resources. Implementation of the proposed General Plan along with potential development in the Urban Study Areas would contribute significantly to the conversion of important farmland and agriculture/urban interface conflicts. This would be a cumulative significant impact.

Impact 4.2.3 - Consistency with Relevant Planning Documents in the Planning Area. Implementation of the proposed General Plan could impact land use plans or study areas outside of the City limits, but within the Planning Area. This is a cumulative significant impact.

Impact 4.2.4 - Land Use Conflicts in the Planning Area. Implementation of the proposed General Plan would increase the potential for land use conflicts outside of the City and within the Planning Area. This is a less than significant cumulative impact.

Impact 4.3.3 – Cumulative Population and Housing Increases. The population and housing unit increases at buildout of the General Plan may exceed SACOG's population and housing projections for the Planning Area. This is considered a less than significant cumulative impact.

Impact 4.4.5 - Cumulative Hazard Impacts. Implementation of the proposed General Plan and potential development in the Urban Study Areas could result in site-specific hazards being encountered. This is considered a cumulative significant impact.

Impact 4.4.6 - Cumulative Exposure to Hazards Associated with Facilities Utilizing Hazardous Materials. Implementation of the proposed General Plan and the potential development of the Urban Study Areas could result in the exposure of populated areas to accidental incidents and intentional acts at existing and future facilities utilizing hazardous materials. This is considered a less than significant cumulative impact.

Impact 4.5.6 Cumulative Traffic Impacts on Local Roadways and State Highways. Implementation of the proposed General Plan as well as potential development of the Urban Study Areas would contribute to significant impacts on local roadways and state highways under cumulative conditions. This is considered a cumulative significant impact.

Impact 4.5.7 - Cumulative Transit System, Bicycle and Pedestrian Impacts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would contribute to a cumulative increase in the demand for transit service as well as bicycle and pedestrian usage. This is considered a less than significant impact.

Impact 4.6.6 - Cumulative Traffic Noise Conflicts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas could result in increased traffic noise conflicts. This is considered a less than significant cumulative impact.

Impact 4.6.8 - Regional Traffic Noise Impacts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would result in impacts to regional noise attenuation levels. This is considered a cumulative significant impact.

Impact 4.7.4 - Regional Air Plan Impacts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would exacerbate existing regional problems with ozone and particulate matter. This is considered a cumulative significant impact.

Impact 4.8.6 - Cumulative Water Quality Impacts. Implementation of the proposed General Plan along with the potential development of the Urban Study Areas, could contribute to cumulative water quality impacts. This is considered a cumulative significant impact.

Impact 4.8.7 - Cumulative Flood Hazards. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would increase impervious surfaces and alter drainage conditions and rates in the Planning Area, which could contribute to cumulative flood conditions in the Sacramento River, Cosumnes River, and inland creeks. This is considered a cumulative significant impact.

Impact 4.8.8 - Cumulative Water Supply Impacts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas, would contribute to an increased demand for water supply requiring increased groundwater production and the use of surface water supplies that could result in significant environmental impacts. This is considered a cumulative significant impact.

Impact 4.9.4 - Soil Erosion. Implementation of the proposed General Plan along with potential development of the Urban Study Areas could contribute to cumulative soil erosion impacts. This is considered a less than significant cumulative impact.

Impact 4.9.5 - Expansive Soils and Seismic Hazards. Implementation of the proposed General Plan along with potential development of the Urban Study Areas could result in cumulative impacts to expansive soils and seismic hazards. This is considered a less than significant cumulative impact.

Impact 4.10.4 - Cumulative Biological Resource Impacts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would contribute to cumulative impacts associated with significant effects to special-status plant and wildlife species and habitat loss. This would be a cumulative significant impact.

Impact 4.11.3 - Cumulative Impacts to Prehistoric and Historic Resources. Implementation of the proposed General Plan along with potential development in the Urban Study Areas could contribute to the disturbance of known and undiscovered prehistoric and historic resources in the Elk Grove area. This is considered a less than significant cumulative impact.

Impact 4.11.4 - Cumulative Impacts to Paleontological Resources. Implementation of the proposed General Plan along with potential development of the Urban Study Areas could contribute to the loss of paleontological resources in the Elk Grove area. This is considered a less than significant cumulative impact.

Impact 4.12.1.2 - Cumulative Fire Protection and Emergency Medical Services. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would contribute to the cumulative demand for fire protection and emergency medical services. This is considered a less than significant cumulative impact.

Impact 4.12.2.2 - Cumulative Law Enforcement Impacts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would result in the increase of the demand for cumulative law enforcement services. This is considered a less than significant impact.

Impact 4.12.3.2 - Cumulative Public School Impacts. Implementation of the proposed General Plan as well as potential development of the Urban Study Areas, would result in cumulative public school impacts. These cumulative public school impacts are considered less than significant.

Impact 4.12.4.4 - Cumulative Wastewater Demands. Implementation of the proposed General Plan along with potential development of the Urban Study Areas and growth in the SRCSD service area would result in cumulative wastewater impacts. This is considered a cumulative significant impact.

Impact 4.12.5.2 - Cumulative Solid Waste Impacts. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would result in cumulative solid waste impacts. This is considered a less than significant cumulative impact.

Impact 4.12.6.2 - Cumulative Park and Recreation Demands. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would result in cumulative park and recreation impacts. These cumulative impacts are considered less the significant.

Impact 4.12.7.3 - Cumulative Electrical, Telephone and Natural Gas Impacts. Implementation of the proposed General Plan along with potential development in the Urban Study Areas would result in cumulative electric, telephone and natural gas service impacts. These are considered less than significant cumulative impacts.

Impact 4.13.4 - Cumulative Impacts to Visual Resources. Implementation of the proposed General Plan along with potential development of the Urban Study Areas would result in the further conversion of the region's rural landscape to residential, commercial, and other land uses. This would contribute to the alteration of the visual resources in the region. This is considered a cumulative significant impact.

Section 7, Greenhouse Gas Emissions, of this Initial Study addresses impacts associated with greenhouse gases and climate change, which are cumulative by their nature.

The Project is consistent with the land use designations and development intensities assigned to the Project site by the City of Elk Grove General Plan. Cumulative impacts associated with development and buildout of the Project site, as proposed, were fully addressed in the City of Elk Grove General Plan EIR (SCH# 2002062082). Since the Project is consistent with the land use designation and development intensity for the site identified in the General Plan and analyzed in the General Plan EIR, implementation of the Project would not result in any new or altered cumulative impacts beyond those addressed in the General Plan EIR.

Response c): The construction phase of the Project could affect residents in the vicinity; however, the effects are temporary and are not substantial. The operational phase has the potential to affect residents; however, mitigation measures incorporated into the Project would reduce the impact to a level of insignificance. Implementation of the Project would have a **less than significant** impact relative to this topic.

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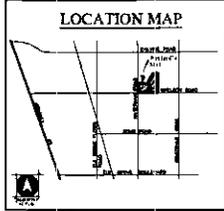
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APPENDIX A

Project Materials



ZONING SUMMARY TABLE

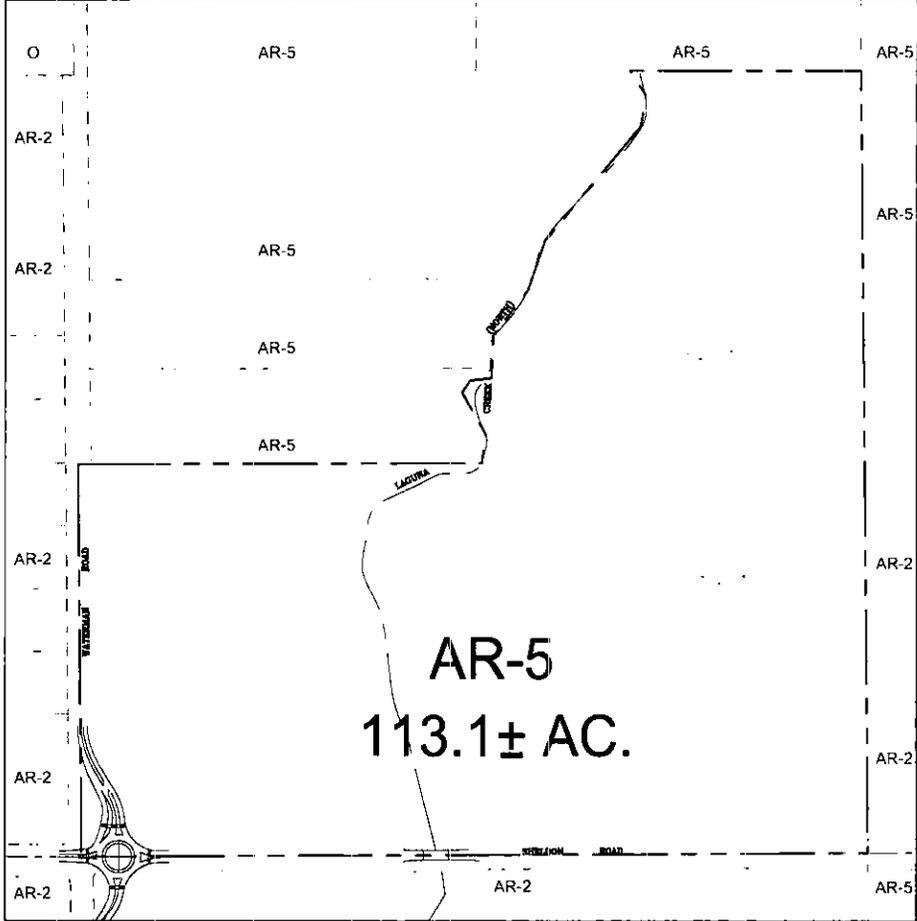
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AR-2	AGRICULTURAL RESIDENTIAL 2 ACRE MINIMUM LOTS	113.1	0	-113.1
AR-5	AGRICULTURAL RESIDENTIAL 5 ACRE MINIMUM LOTS	0	113.1	+113.1
TOTAL		113.1	113.1	0

NOTE: GROSS ACRES INCLUDE ALL LOTS.

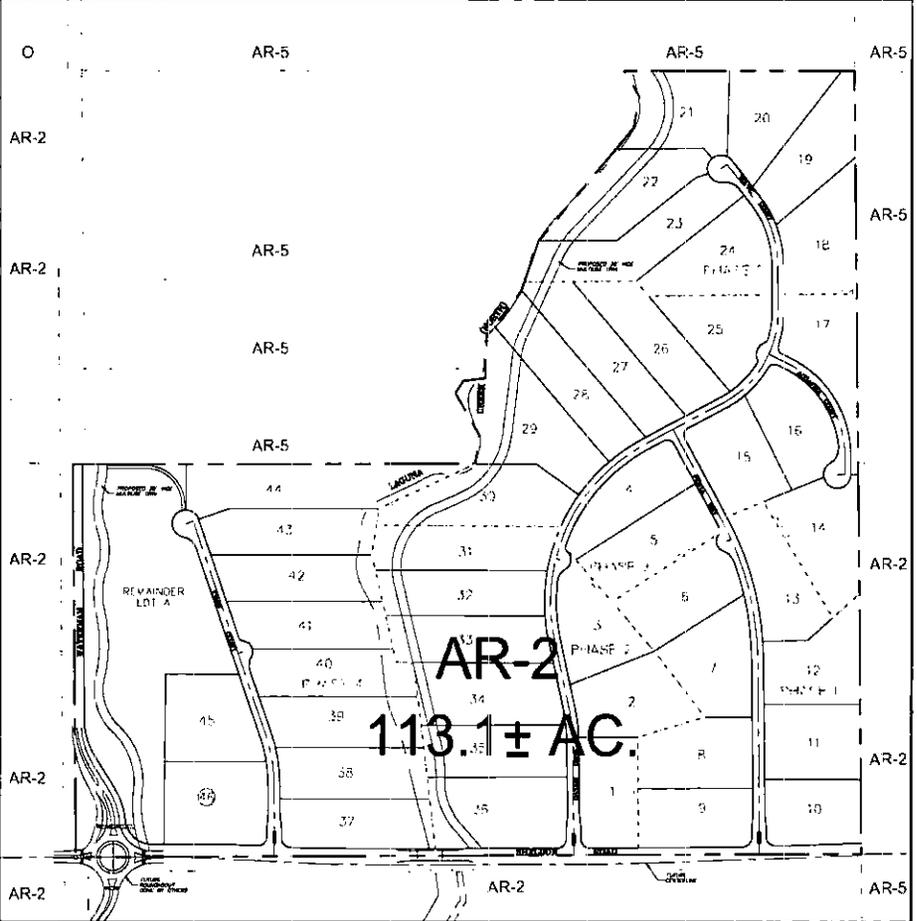
REZONE EXHIBIT

SHELDON PARK ESTATES

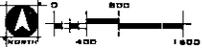
CITY OF ELK GROVE, CALIFORNIA
AUGUST, 2013



EXISTING ZONING

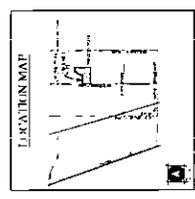
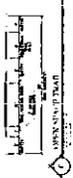
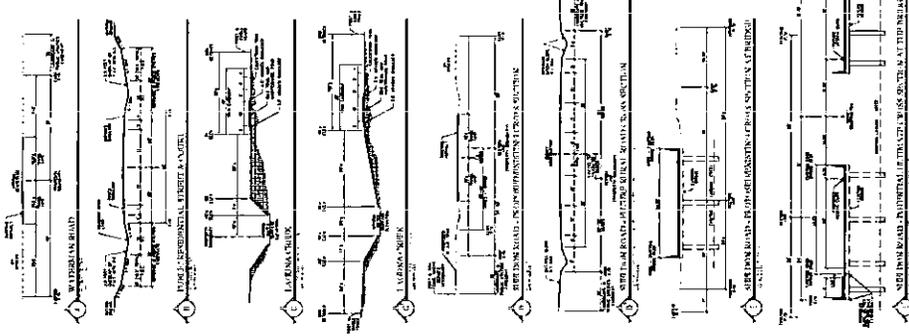
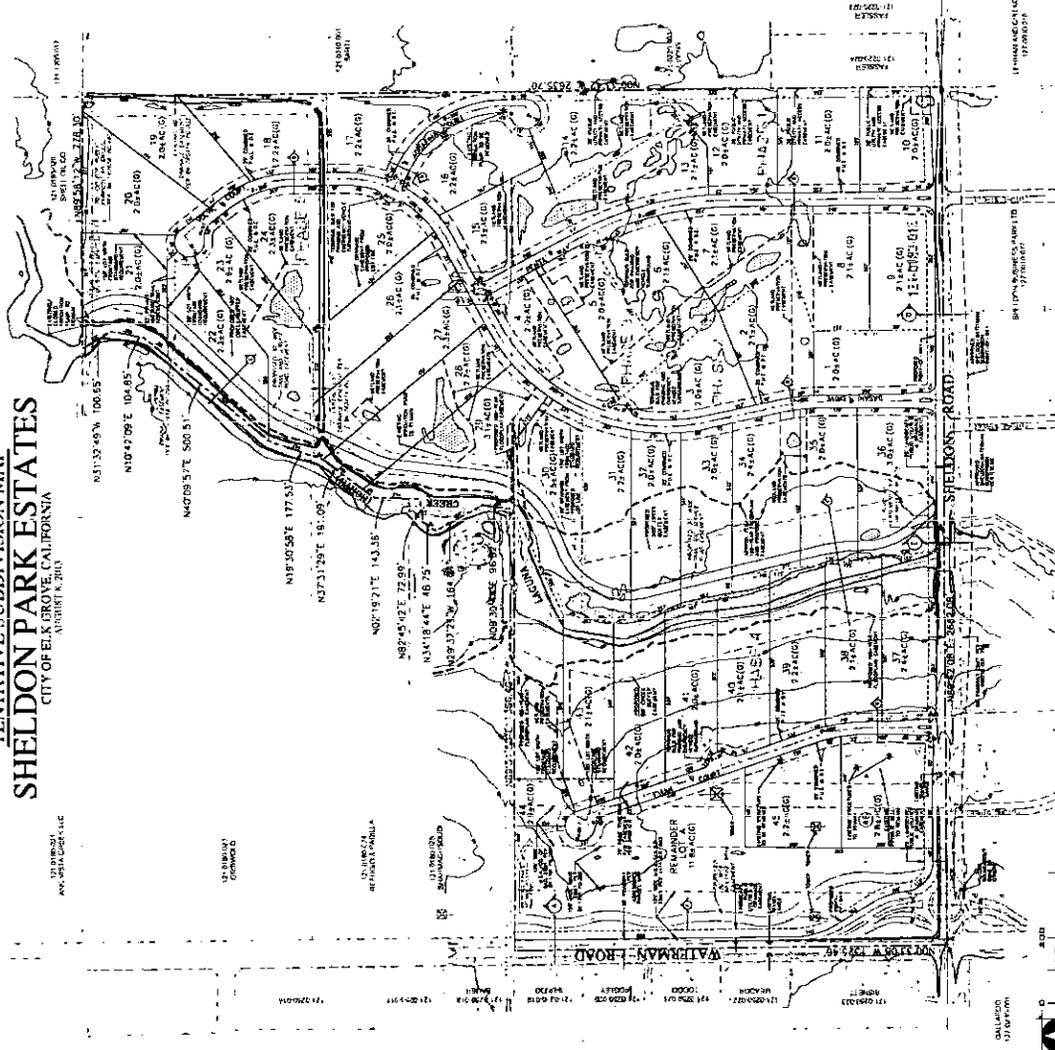


PROPOSED ZONING



TENTATIVE SUBDIVISION MAP
SHELDON PARK ESTATES
 CITY OF ELK GROVE, CALIFORNIA

121000001
 AND ASSOCIATES, INC.



PROJECT NOTES

1. THIS MAP IS A TENTATIVE SUBDIVISION MAP AND IS NOT A GUARANTEE OF THE ACCURACY OF THE INFORMATION HEREON.
2. THE INFORMATION HEREON IS BASED ON THE RECORDS OF THE COUNTY OF SACRAMENTO, CALIFORNIA.
3. THE INFORMATION HEREON IS BASED ON THE RECORDS OF THE COUNTY OF SACRAMENTO, CALIFORNIA.
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10. THE INFORMATION HEREON IS BASED ON THE RECORDS OF THE COUNTY OF SACRAMENTO, CALIFORNIA.

GENERAL NOTES

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SURVEY DATA SUMMARY

DATE: 12/15/2011

BY: [Name]



LAND USE SUMMARY

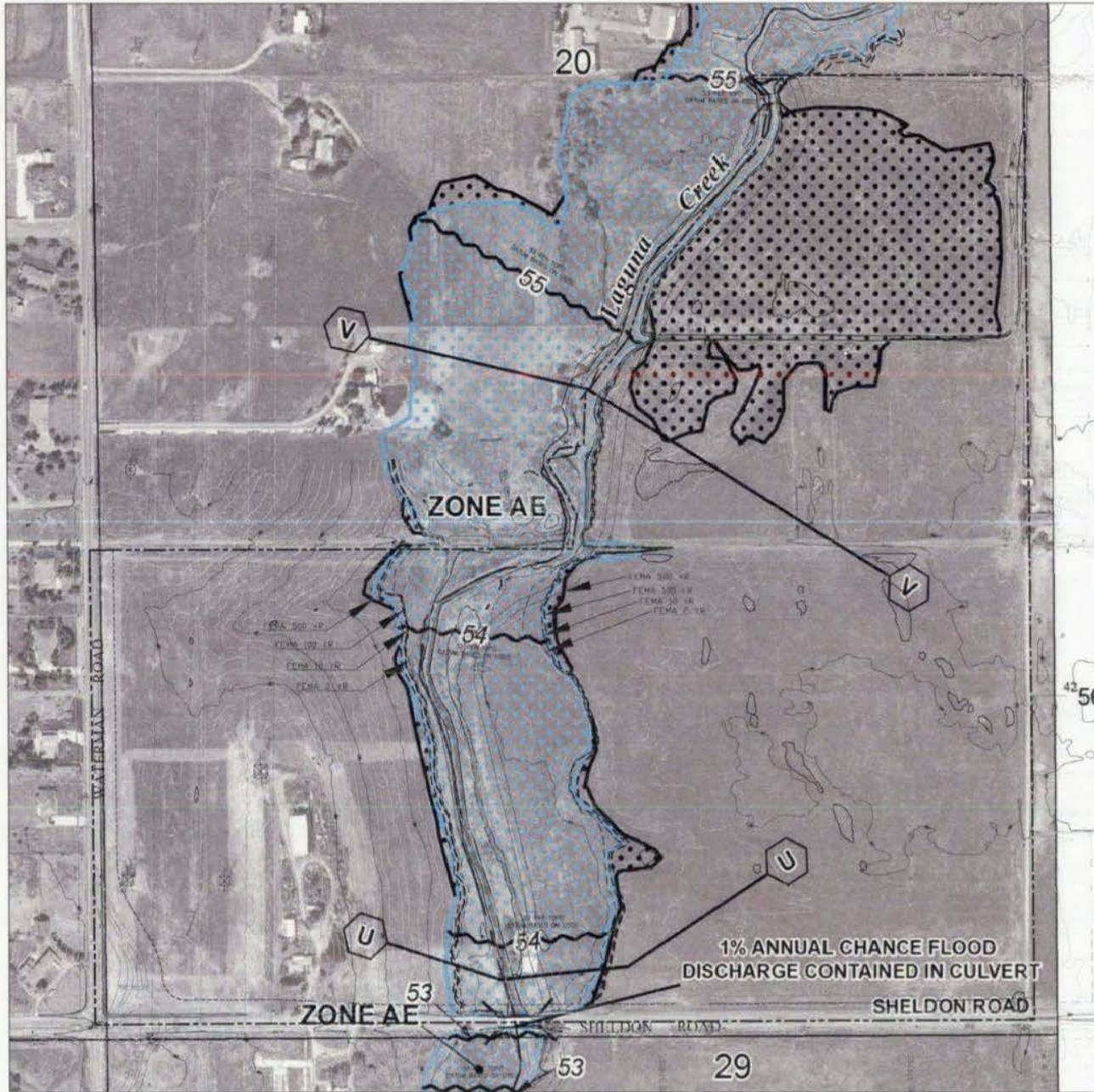
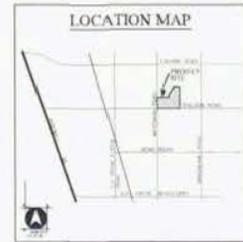
ACRES

RESIDENTIAL	10.00
COMMERCIAL	0.00
INDUSTRIAL	0.00
AGRICULTURAL	0.00
UNDEVELOPED	0.00
TOTAL	10.00

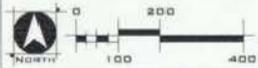


REG. ENGINEER (P) - CIVIL ENGINEERING

PRE-PROJECT DRAINAGE EXHIBIT
SHELDON PARK ESTATES
 CITY OF ELK GROVE, CALIFORNIA
 JUNE, 2013



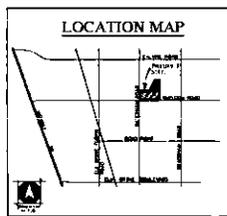
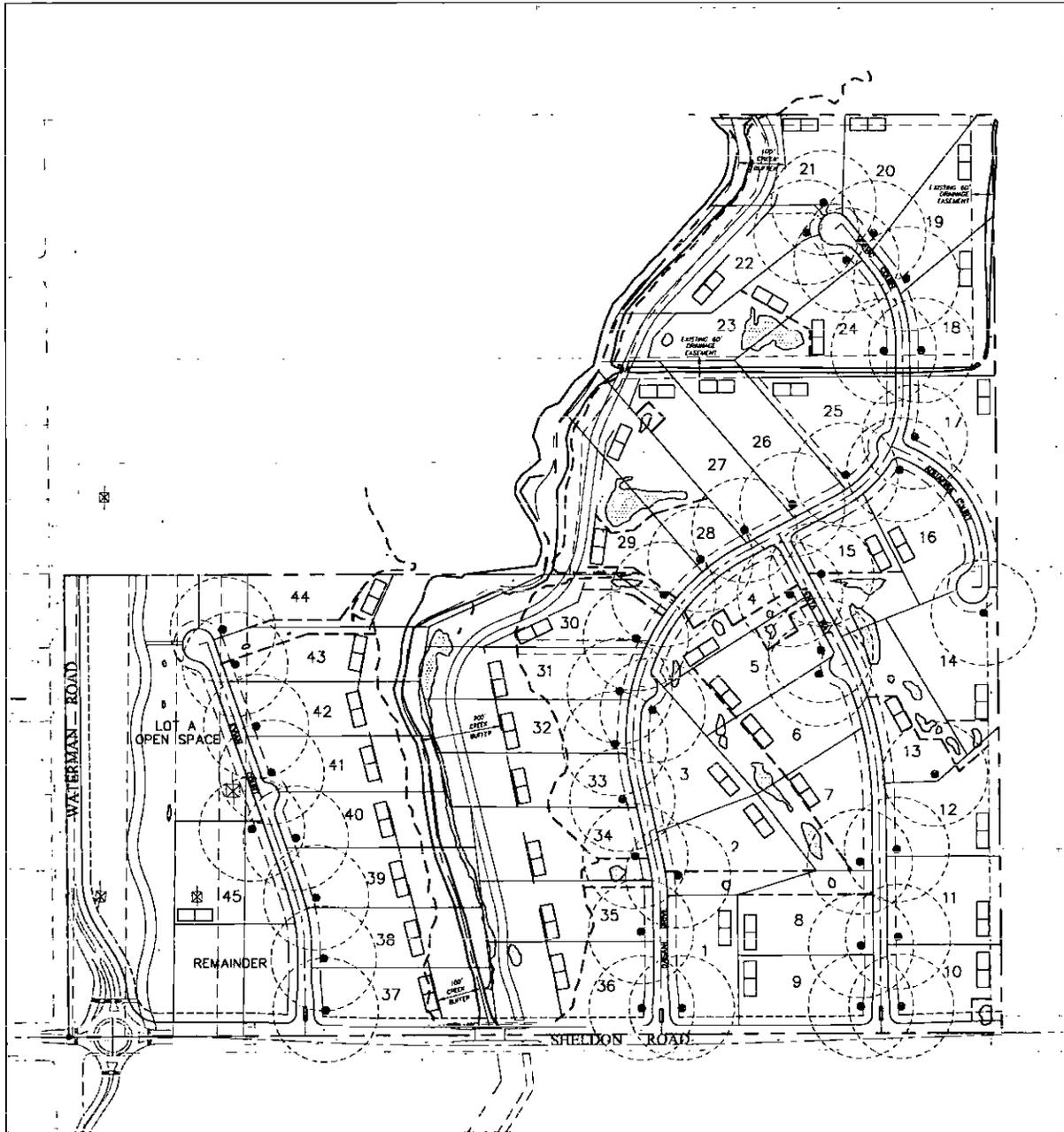
NOTE
 1. FEMA ELEVATIONS ARE 2.5 FEET HIGHER THAN SITE TOPO.
 WITH FEMA DATUM BASED ON NORTH AMERICAN VERTICAL
 DATUM OF 1988 (NAVD: 88) VS TOPO DATUM BASED ON USGS.



TASK
 ENGINEERING INC.
 LAND DEVELOPMENT SERVICES
 THE FALLS, CA

WELL AND SEPTIC EXHIBIT SHELDON PARK ESTATES

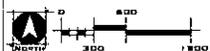
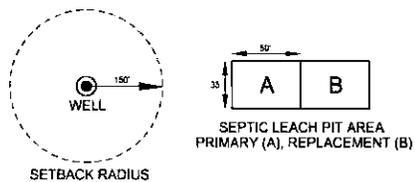
CITY OF ELK GROVE, CALIFORNIA
JUNE, 2013



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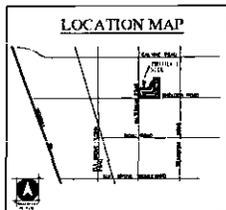
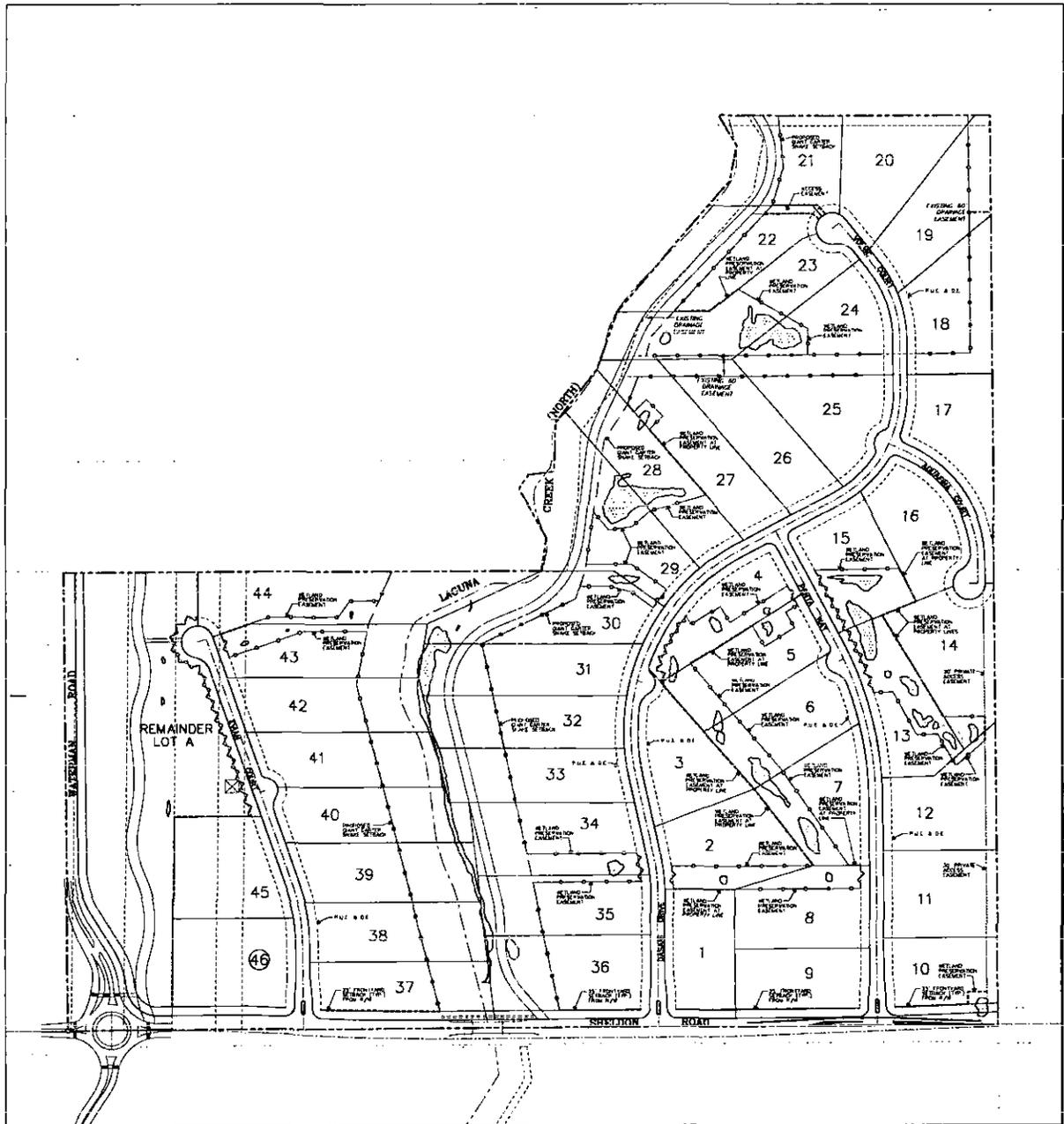
1. FOR CONCEPTUAL PURPOSES ONLY. ACTUAL DIMENSIONS, ROAD ALIGNMENTS, ACREAGES AND YIELDS ARE TO BE VERIFIED PRIOR TO FINAL MAP.
2. WELL AND SEPTIC LOCATIONS ARE ACCEPTABLE WITHIN THE 100-YEAR FLOODPLAIN IN ACCORDANCE WITH CURRENT SACRAMENTO COUNTY ENVIRONMENTAL MANAGEMENT DEPARTMENT CODE STANDARDS.

WELL AND SEPTIC LOCATIONS



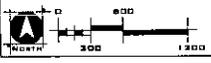
FENCING EXHIBIT SHELDON PARK ESTATES

CITY OF ELK GROVE, CALIFORNIA
AUGUST 8, 2013



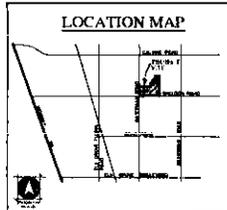
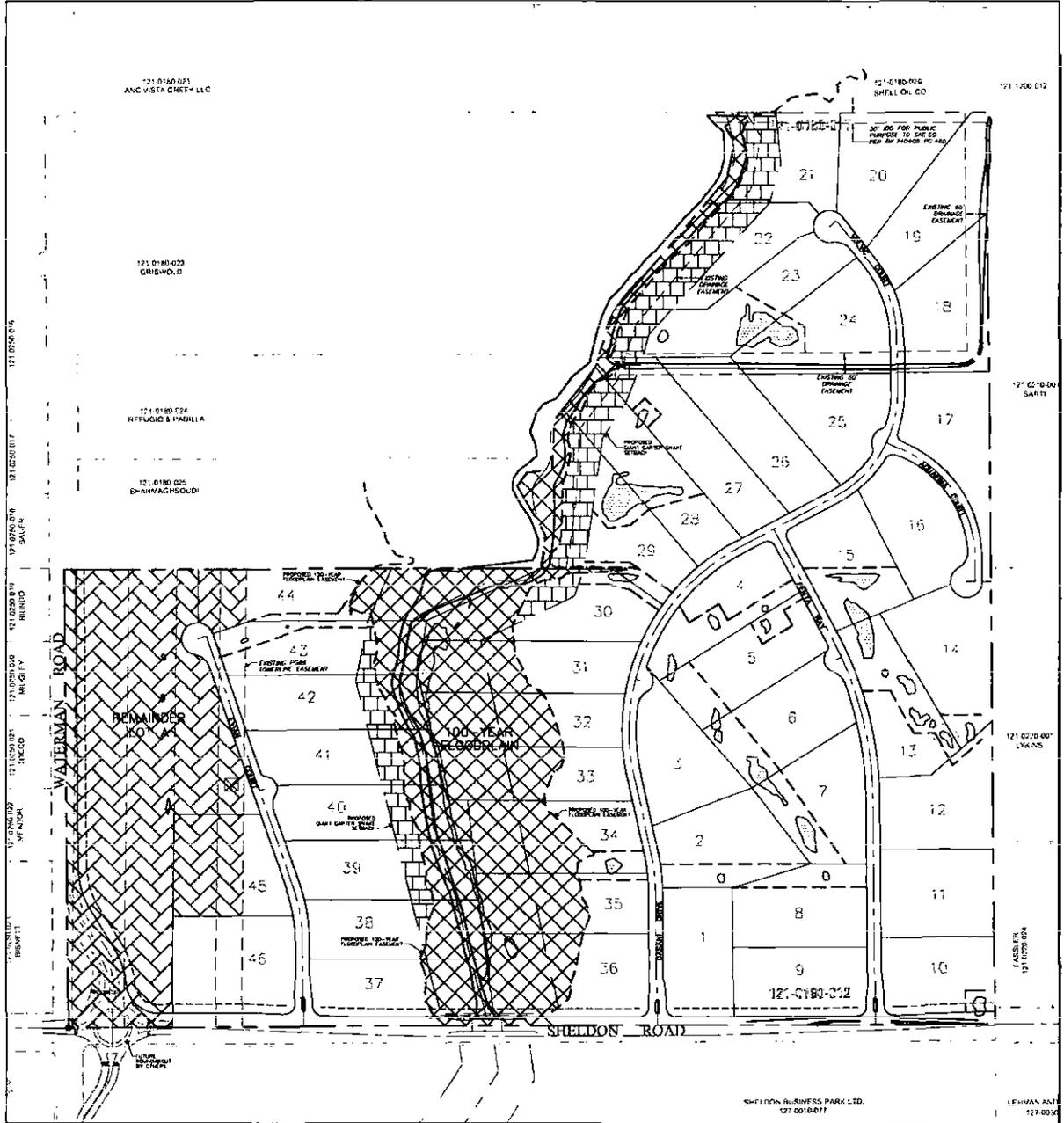
- NOTES:**
1. FOR CONCEPTUAL PURPOSES ONLY. ACTUAL DIMENSIONS, ROAD ALIGNMENTS, ACREAGES AND YIELDS ARE TO BE VERIFIED PRIOR TO FINAL MAP.
 2. AGRICULTURAL/LIVESTOCK GRAZING IS AN ACCEPTABLE USE WITHIN WETLAND EASEMENTS AND 100 YEAR FLOODPLAIN AREAS. WETLAND LOCATIONS BASED ON DELINEATION FROM THE 2007 WET SEASON SURVEY REPORT PREPARED BY GIBSON & SKORDAL, LLC.

FENCE TYPE LEGEND	
	POST AND RAIL
	POST AND CABLE
	POST AND CABLE WITH ACCESS GATE



MITIGATION AREA EXHIBIT SHELDON PARK ESTATES

CITY OF ELK GROVE, CALIFORNIA
AUGUST 8, 2013



MITIGATION CREDIT AREA SUMMARY

LEGEND	AREA	LAND USE DESIGNATION	ACRES±	PERCENT OF PROJECT ACREAGE TOTAL
	LOT A	OPEN SPACE POWERLINE EASEMENTS	13.3	11.8 %
	100-YEAR FLOODPLAIN	CONSERVATION EASEMENT	15.0	13.3 %
	GIANT GARTER SNAKE SETBACK	CONSERVATION EASEMENT	4.7	4.1 %
TOTAL			33.0 (G)	29.2%

- NOTES:**
- FOR CONCEPTUAL PURPOSES ONLY. ACTUAL DIMENSIONS, ROAD ALIGNMENTS, ACREAGES AND YIELDS ARE TO BE VERIFIED PRIOR TO FINAL MAP.
 - AGRICULTURAL/LIVESTOCK CRAZING IS AN ACCEPTABLE USE WITHIN 100-YEAR FLOODPLAIN EASEMENT AREAS.
 - PROJECT SITE IS 113.1 GROSS ACRES, WITH VIABLE MITIGATION LAND REPRESENTING ALMOST ONE THIRD OF TOTAL PROJECT SITE ACREAGE.



APPENDIX B

Wetland Delineation

INTRODUCTION

The report presents the revised results of a jurisdiction delineation of wetlands and other waters of the United States and a review of biological resources existing within the study area with special emphasis on and identification of special status species occurring or potentially occurring within the below described study area. Waters of the United States are those waters that are subject to the jurisdiction of the Corps of Engineers pursuant to Section 404 of the Clean Water Act. The delineation revisions, which include the addition of four wetland polygons, were based on observations of inundation during wet season branchiopod surveys.

LOCATION

The study area is situated north of Sheldon Road and east of Waterman Road in the City of Elk Grove in the southwest ¼ of Section 20, Township 7 North and Range 6 East, MDB&M, Sacramento County, California. The coordinates for the center of the property are latitude 38°, 26' and 26" North and longitude 121°, 20' and 53" West. Figure 1 is a vicinity map showing the location of the study area.

METHODOLOGY

Field studies were conducted on May 29 and September 3, 2003. The purpose of the field surveys were to delineate potential jurisdictional wetlands and other waters of the United States and evaluate the habitats existing within the study area. Where not precluded by the timing, these studies also involved species-specific surveys (i.e. burrowing owl, valley elderberry longhorn beetle and vernal pool fairy shrimp and vernal pool tadpole shrimp dry season surveys). Species-specific surveys were not conducted for several of the special status species potentially occurring within the study area because of the timing of the assessment (e.g. vernal pool fairy shrimp and vernal pool tadpole shrimp wet season surveys).

This delineation was performed in accordance with the 1987 "**Corps of Engineers Wetlands Delineation Manual**"¹ and Sacramento District's "**Minimum Standards for Acceptance of**

¹ Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station. Vicksburg, Miss.

Preliminary Wetlands Delineations" dated November 30, 2001. Corps' regulations (33 CFR 328) were used to determine the presence of waters of the United States other than wetlands. The "**National List of Plant Species That Occur in Wetlands: California (Region 0)**"² was used to determine the wetland indicator status of plants observed in the study area.

The boundaries of all waters including wetlands were mapped in the field onto a 1" = 200' scale black and white aerial photograph and surveyed with global position technology (GPS) by Gibson & Skordal, LLC. Because Laguna Creek has near vertical banks, is incised 5 to 10 feet and is lined with blackberry thickets along various reaches, it was not practical to completely survey its limits. Instead, we surveyed spot locations of the lateral limits of jurisdiction along its banks wherever we could obtain access. A total of 67 discreet points were surveyed along Laguna Creek and its adjacent wetlands. Portions of the western bank of Laguna Creek lie outside of the study area and off the property. The lateral limits of jurisdiction along the western bank of Laguna Creek lying outside the study area were interpolated. The GPS data was imported into ESRI ArcMap along with a topographic survey to prepare the delineation map. Detailed observations on vegetation, soils, and hydrology characteristics were made in the field. The area of jurisdictional waters was determined from the GPS data. Data sheets which document the basis for determining which areas are upland or wetland were completed for representative locations and are provided in Appendix A.

The evaluation of special status species included those species identified as being relatively scarce and/or having declining populations by the U. S. Fish and Wildlife Service (FWS) or the California Department of Fish and Game (CDFG). Special status species include those that are formally listed as threatened or endangered, those that are proposed for listing, those that are candidates for Federal listing and those that are considered to be Species of Concern by the FWS or Species of Special Concern by the CDFG. In addition to these, we also included those species that are considered to be "special animals" or "fully protected" by the CDFG and those plants that are considered to be rare, threatened or endangered by the California Native Plant Society (CNPS).

As part of our evaluation, we conducted a review of the State of California's Natural Diversity Database to obtain records of sensitive species within the general vicinity of the study area. We

² Reed, P.B. 1988. National List of Plant Species That Occur In Wetlands: California (Region 0). Biological Report 88(26.10). May 1988. National Ecology Research Center, National Wetlands Inventory, U.S. Fish & Wildlife Service, St. Petersburg, Florida.

obtained the records for the Elk Grove USGS 7.5 minute topographic map. In addition, we included other special status species that may have potential for occurring within the study area based on their historical range and habitat preferences.

GENERAL SITE CONDITIONS AND HABITAT

Existing Field Conditions

The study area is approximately 160 acres in size. The study area is bordered by Waterman Road and grazing land along its western border, grazing land along its northern and eastern borders, and Sheldon Road along its southern border. The elevation of the property ranges from a low of approximately 48 feet adjacent to Laguna Creek at the Sheldon Road bridge to a high of approximately 69 feet at the northwest corner of the study area. Surface water drains toward Laguna Creek near the center of the study area. Laguna Creek flows from north to south across the study area. The land has been historically farmed but is currently fallow. All or portions of the land are disked each year. An existing residence along with numerous other farm structures is located west of Laguna Creek in the southern portion of the study area.

Plant Communities and Habitat Types

The predominant plant community within the study area is non-native annual grassland. The most common plants comprising this community are medusa head (*Taeniatherum caput-medusae*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus mollis*), yellow star-thistle (*Centaurea solstitialis*), tarweed (*Holocarpha virgata*) and wild oats (*Avena fatua*). Trees within the study area are limited to a narrow riparian corridor along the banks of Laguna Creek. Valley oak (*Quercus lobata*) is the predominant tree but California walnut (*Juglans californica*), willows (*Salix* sp.) and cottonwoods (*Populus fremontii*) are also present. Appendix C is a list of plants observed within the study area along with their status as wetland indicator species.

Hydrology

Laguna Creek bisects the property and drains to the south. Laguna Creek is tributary to Morrison Creek, which empties into Stone Lake. Morrison Creek is pumped into the navigable Sacramento River.

Soils

Soil mapping units within the study area include Hicksville gravelly loam, 0 to 2 percent slopes; Redding gravelly loam, 0 to 8 percent slopes; San Joaquin silt loam, leveled, 0 to 1 percent slope; San Joaquin silt loam, 0 to 3 percent slopes; San Joaquin-Durixeralf complex; 0 to 1 percent slopes; and San Joaquin-Xerarents complex. Redding soils are located at the higher elevations in the eastern portion of the study area. San Joaquin soils are located at lower elevations.

Durixeralfs are areas that were originally Redding soils that have been cut as part of leveling activities where all or most of the original surface layer has been removed. Xerarents are areas that have been filled in the past as part of leveling activities. None of these soil mapping units are listed as hydric soils but all may contain inclusions of hydric soils in depressions and drainage ways.³ Figure 2 is a map extracted from the Sacramento County Soil Survey showing the soil mapping units within the study area.

WETLANDS AND OTHER AQUATIC HABITATS

A total of 1.535 acres of wetlands and other potential waters of the United States, excluding Laguna Creek, were delineated within the study area. Of this total, approximately 0.022 acre is comprised of vernal pools, 1.031 acres are comprised of seasonal wetlands, and 0.482 acre is comprised of excavated drainage channel. The total area of Laguna Creek delineated is 3.366 acres of which only a portion is within the study area. Appendix B contains a delineation map and Table 1 presents the study area acreage totals by feature type.

³ Soil Conservation Service. 1991. Hydric Soils of the United States. Prepared in cooperation with the National Technical Committee for Hydric Soils. Miscellaneous Publication Number 1491.

Vernal Pools

Vernal pools are shallow depressions underlain by a hardpan that restricts the downward movement of water and act to perch groundwater near the surface during and after periods of precipitation. They typically flood after a series of storms in the late fall and early winter and normally dry out in the spring. The vernal pools have been substantially degraded by disking and plowing. Common plants within these vernal pools include perennial rye (*Lolium perenne*), Mediterranean barley (*Hordeum hystrix*), purple hairgrass (*Deschampsia danthonioides*) and loosestrife (*Lythrum hyssopifolia*). The vernal pools are located within topographic swales or other landscape features indicating that there is surface water flow at some periods of heavy precipitation, albeit not necessarily frequent or predictable.

Depressional Seasonal Wetlands

Seasonal wetland depressions are similar to vernal pools in that they are shallow depressions that pond water in the winter and spring. Seasonal wetland swales are sloping wetlands that occur in topographic depressions as opposed to depressions. Like vernal pools, they are underlain by a hardpan. They experience shallow sheet flow during times of heavier precipitation. Shallow depressions within these swales pond water for shorter periods after the surface flow ceases. The most common plants within these seasonal wetlands are perennial rye and Mediterranean barley. All of the seasonal wetlands have been substantially degraded by disking and plowing.

Laguna Creek and Adjacent Wetlands

Laguna Creek is perennially wet at this location. It is incised with vertical banks. At scattered locations wetland vegetation such as soft rush (*Juncus effuses*) and Baltic rush (*Juncus balticus*) is established on the banks or on narrow benches. The riparian corridor consists of an overstory of primarily valley oak with an understory of blackberry (*Rubus procerus*) along with an herbaceous cover of upland species such as yellow star-thistle, ripgut grass and soft chess. The lateral limit of jurisdiction along Laguna Creek is the ordinary high water line or the limits of wetland vegetation, whichever extends further.

Excavated Channels

An excavated drainage channel (depicted as EC1 and EC2 on the delineation map) enters the property midway along its eastern boundary and flows to Laguna Creek. The lower reach of this ditch is below the ordinary high water elevation of Laguna Creek and as a result is inundated throughout the summer because of backwater from Laguna Creek. The upper reach transports runoff from agricultural fields. Emergent vegetation such as cattail (*Typha sp.*) and tall flatsedge (*Cyperus eragrostis*) is dominant in those areas subject to backwater flooding from Laguna Creek while the upper reach supports vegetation more typical of seasonal wetlands.

Jurisdictional Status

The delineated areas represent those features that can be considered potentially jurisdictional waters of the United States because of their physical and biological characteristics. Whether they are, in fact, jurisdictional also depends on their hydrologic relationship to downstream waters. The Corps of Engineers maintains jurisdiction under the Federal Clean Water Act over navigable waters of the United States, interstate waters, their tributaries and wetlands adjacent to these waters.

Laguna Creek empties into Morrison Creek, which historically was tributary to the navigable Sacramento River. It is our opinion that the reach of Laguna Creek within the study area is jurisdictional.

Corps of Engineers regulations (33 CFR Part 328) normally excludes drainage ditches constructed in uplands from regulation under Section 404 of the Clean Water Act. Whether the excavated drainage ditch is jurisdictional will depend on whether it was constructed totally in uplands. We reviewed the Elk Grove, California USGS topographic map (1968, photo-revised 1979) and the Sacramento County Soil Survey to assess whether they provide an indication as to whether the ditch was constructed totally in uplands. The soil survey does not contain any soil mapping units in the vicinity of the ditch that are often associated with drainages (e.g. Hicksville loam). This should not be considered conclusive since such soils can be present as unmapped inclusions. The USGS topographic map indicates that the ditch was not present at the time of the original 1969 map but is shown as a 1979 photo-revision. The ditch does bisect a general topographic drainage feature along the 55' and 60' contours. Figure 3 is a portion of the USGS

map showing the ditch in relation to these topographic features. While this is not conclusive evidence that a natural drainage course was present prior to ditch construction, the Corps has interpreted such evidence in the past to be a reasonable indication that the ditch was not constructed totally in uplands and therefore jurisdictional.

Several of the study area wetlands appear to potentially contribute surface water to Laguna Creek. Depressional seasonal wetlands SW4 and SW5 are in close proximity to Laguna Creek and EC1, respectively while features SW6 through SW11, VP2 and VP4 are situated within topographic swale features. Due to the orientation, we believe these wetlands potentially could overtop into Laguna Creek.

VP1 and VP3 are not located within swales and appear isolated from Laguna Creek which lies over 600 feet east of these wetlands. For these features to be jurisdictional under Section 404, they must be adjacent to a water of the United States. Adjacency is administratively defined in 33 CFR 328.3(c) as "... bordering, contiguous, or neighboring." Therefore, to be determined adjacent and jurisdictional, they must be considered neighboring. To date the Corps has not established a discrete distance standard to define "neighboring." It is our opinion that VP1 and VP3 are isolated and not subject to regulation under Section 404 of the Clean Water Act.

These conclusions represent the professional opinion of Gibson & Skordal, LLC. Ultimately, the Corps of Engineers is responsible for determining the jurisdictional status of features within the study area.

SPECIAL STATUS SPECIES

As stated previously, we conducted a review of the State of California's Natural Diversity Database (CNDDDB) to obtain records of sensitive species within the general vicinity of the study area. We obtained the records for the Elk Grove and Florin USGS 7.5 minute topographic maps. We then evaluated the habitat occurring within the study area with respect to its suitability for each of the species recorded as occurring in the general area. Table 2 lists each of these species, the nature of their special status and whether potential habitat occurs within the study area.

Of the twenty-two species in Table 2, twenty-one are associated with habitat types that are found within the study area. Of these twenty-one, seven are listed as either Federal and/or State threatened or endangered species. These seven species are Swainson's hawk, giant garter snake, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, Bogg's Lake hedge-hyssop and slender orcutt grass. These species are discussed in greater detail below.

Swainson's hawk is a raptor that is currently listed as threatened by the State of California. Swainson's hawks typically nest in mature valley oaks, cottonwoods and willows associated with riparian corridors. They typically forage in cropland, irrigated pastures and grasslands. They normally breed in the spring through early summer before migrating to Central and South America to winter. The NDDB records lists several documented nest sites in the vicinity with the closest being approximately 4 miles away near the Wilton Road crossing of Deer Creek. Swainson's hawks have been shown to forage in grasslands up to 10 miles from their nesting sites.

The giant garter snake is a Federal and State-listed threatened species. The habitat of giant garter snakes is rivers, canals, drainage and irrigation ditches and other aquatic habitats with slow moving water and emergent vegetation. Both Laguna Creek and the excavated ditch provide suitable habitat. Giant garter snakes have been observed at numerous locations in and along Laguna Creek east of Highway 99 within 3 to 4 miles of the study area. There has also been a recent siting of a giant garter snake in a roadside drainage ditch near the Grant Line Road and Waterman Road interchange approximately 3.5 miles to the south within the Elk Grove Creek drainage. Elk Grove Creek is a tributary of Laguna Creek. Given the proximity of these sitings, particularly the recent one at Grant Line and Waterman Road intersection, it is highly likely that

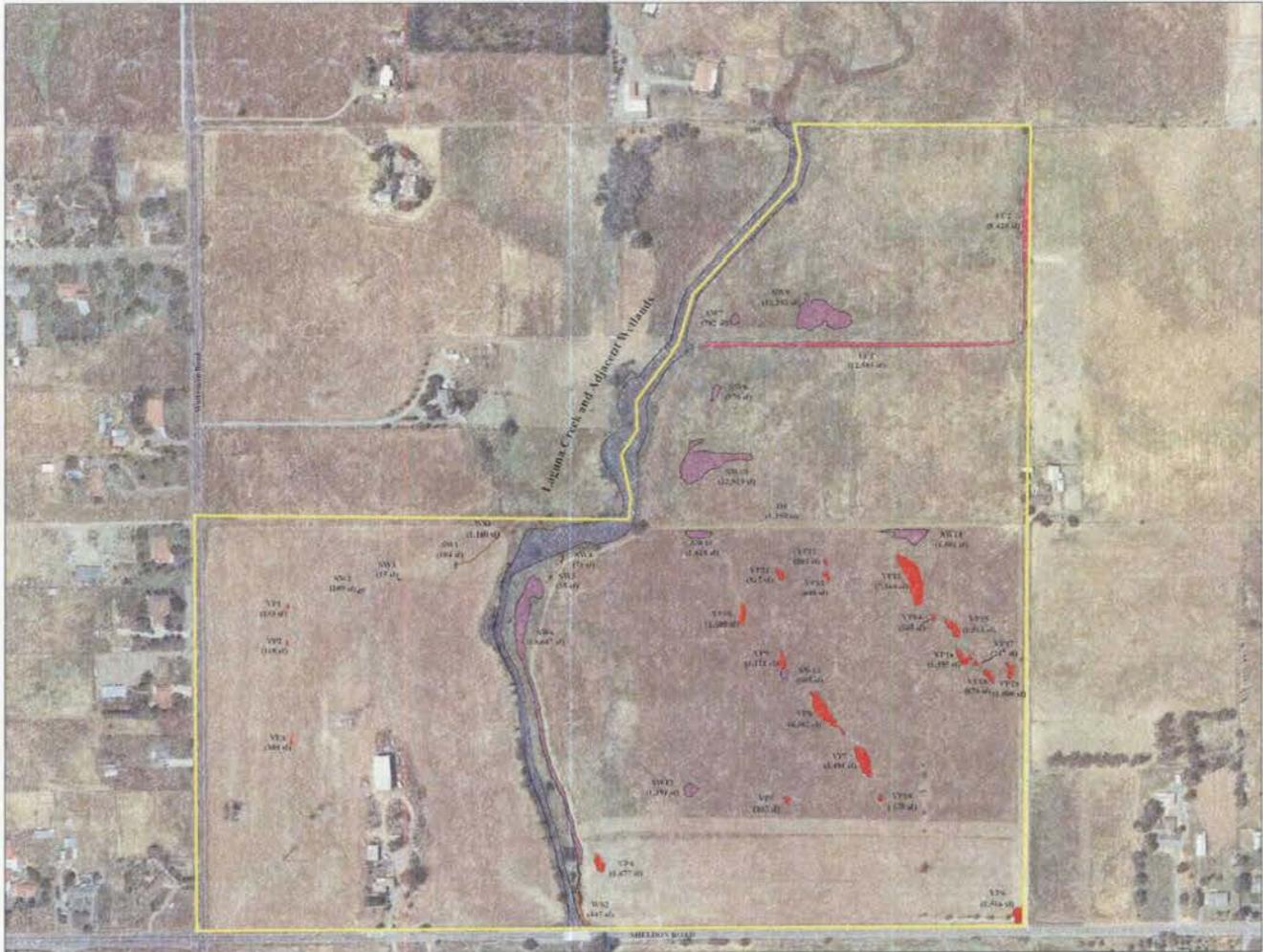
the U.S. Fish and Wildlife Service will consider the habitat within the study area to be occupied habitat.

The valley elderberry longhorn beetle (VELB) is a Federally-listed threatened species. The life cycle of the VELB is very closely associated with the elderberry bushes (*Sambucus mexicanus*). Within their known distribution, the presence of elderberry bushes is considered documentation of suitable VELB habitat. There are no elderberry bushes located within the study area.

Both vernal pool fairy shrimp and vernal pool tadpole shrimp are associated with vernal pools and similar depressional seasonal wetlands. The vernal pools and seasonal wetlands occurring within the study area provide suitable habitat for both of these species. As part of this assessment, Helm Biological Consulting conducted a dry season protocol survey for these species. This survey evaluated not only the delineated wetlands but also several depressions that appeared capable of ponding water. No evidence of these or other large branchiopods was observed. A copy of this report is attached as Appendix D. A wet season protocol survey is planned for the upcoming winter and spring.

There are five species of special status plants normally associated with vernal pools and similar depressional seasonal wetlands. Bogg's Lake hedge-hyssop is listed as endangered by the State of California while slender orcutt grass is federally listed as endangered and State listed as threatened. We did not conduct specific surveys for these species. Because of the severely degraded nature of vernal pools and seasonal wetlands within the study area, it is unlikely that these species are present.

REVISED JURISDICTIONAL DELINEATION NEWLAND HANSEN PROPERTY City of Elk Grove, California



Legend

- Vernal Pools (0.6567 Acres)
- Seasonal Wetlands (1.2369 Acres)
- Laguna Creek and Adjacent Wetlands (3.366 Acres)
- Channel (0.4832 Acres)
- Wetland Swale (0.0266 Acres)
- Ditch (0.0254 Acres)
- Study Area Boundary




Gibson & Skordal, LLC
 Wetlands Consultants
 2277 Fair Oaks Blvd., Suite 105
 Sacramento, CA 95823
 916-566-1830
 Prepared: September 2003
 Revised: December 2006

APPENDIX C

Cultural Resources Report

**CULTURAL RESOURCE ASSESSMENT
FOR THE SHELDON PARK ESTATES PROJECT,
CITY OF ELK GROVE,
SACRAMENTO COUNTY, CALIFORNIA**

Prepared by

Peak & Associates, Inc.
3941 Park Drive, Suite 20 PMB 329
El Dorado Hills, CA 95762
(916) 939-2405

Prepared for

Steve McMurtry
De Novo Planning Group
4630 Brand Way
Sacramento, CA 95819
(916) 812-7927

December 2013
(Job #13-065)

INTRODUCTION

General Plan and Zoning

The project site has a RR (Rural Residential) General Plan Land Use Designation and AR-5 (Agricultural Residential Minimum 5-acre) Zoning Designation.

Project Location

The Project site is located northeast of the intersection of Sheldon Road and Waterman Road in Elk Grove, California (Figures 1 and 2). The Project site is comprised of Sacramento County APNs 121-0180-012 and 017. The Project Site is in the southwest ¼ of Section 20, Township 7 North and Range 6 East, MDB&M, Sacramento County, California. The coordinates for the center of the Project site are latitude 38°, 26' and 26" North and longitude 121°, 20' and 53" West.

Project Setting

The Project site is currently used for rural residential and agriculture and totals approximately 113 acres. Surrounding land use consists of agricultural land and residential. The Project site is bordered by Waterman Road and grazing land along its western border, grazing land along its northern and eastern borders, and Sheldon Road along its southern border. The elevation of the property ranges from a low of approximately 48 feet adjacent to Laguna Creek at the Sheldon Road bridge to a high of approximately 69 feet at the northwest corner of the Project site. Surface water drains toward Laguna Creek near the center of the Project site. Laguna Creek flows from north to south across the Project site. The land has been historically farmed but is currently fallow. All or portions of the land are disked each year. An existing residence along with numerous other farm structures is located west of Laguna Creek in the southern portion of the Project site.

The rural residence, shop building, shed, a portable box storage unit, and a barn are present on the west side of APN 121-0180-012. A domestic water supply well and a propane tank are present north of the residence. An unimproved access road extending north from Sheldon Road lies east of the residence and shop building and loops around to the south end of the barn.

The northernmost portion of the Project site supports a dry-farmed crop. The southeast portion of the Project site also supports a dry-farmed crop. Soil piles, concrete rubble, asphalt rubble, metal debris, and miscellaneous implements and vehicles are present in the fallow areas.

The northeast side of the Project site is split in two by an east/west-trending drainage canal that discharges into the Laguna Creek. The drainage canal enters the Project site at its northeast corner and trends south along the east boundary. The canal then trends west and crosses through the center of the northeast portion of the Project site.

National Register of Historic Places are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

For the purposes of CEQA, an historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources. When a project will impact a site, it needs to be determined whether the site is an historical resource. The criteria are set forth in Section 15064.5(a)(3) of the CEQA Guidelines, and are defined as any resource that does any of the following:

- A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- B. Is associated with the lives of persons important in our past;
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- D. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the CEQA Guidelines, Section 15064.5(a)(4) states:

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code section 5020.1(j) or 5024.1.

California Health and Safety Code Sections 7050.5, 7051, And 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

California Public Resources Code Section 15064.5(e)

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction. The section establishes procedures to be implemented if Native American skeletal remains are discovered

during construction of a project and establishes the Native American Heritage Commission as the entity responsible to resolve disputes regarding the disposition of such remains.

CULTURAL HISTORY

Archeological Background

The Sacramento Delta was one of the first regions in California to attract intensive archeological fieldwork. Between 1893 and 1901, avocational archeologist J. A. Barr excavated many prehistoric mounds in the Stockton area. He collected nearly 2000 artifacts during the course of his investigations. H. C. Meredith was another avocational archeologist of the period who pursued collecting in the same Stockton locality. Meredith (1899, 1900) did publish a compilation of his own and Barr's findings, and these appear to constitute the earliest accounts of Delta archeology. Holmes (1902), from the Smithsonian Institution, further elaborated on the Delta or "Stockton District" archeology, presenting illustrations of artifacts collected by Meredith and Barr.

It was Elmer J. Dawson who first recognized culture changes through time in delta archeology. Though he was an amateur archeologist, Dawson understood the necessity of keeping accurate notes on grave associations and provenience of artifacts. He collaborated with W. E. Schenck to produce an overview of northern San Joaquin Valley archeology (Schenck and Dawson 1929). The overview contained information on more than 90 prehistoric sites as well as data on previous collectors.

By 1931, the focus of archeological work was directed toward the Cosumnes River locality, where survey and exploration were conducted by Sacramento Junior College (Lillard and Purves 1936). Excavations, especially at the stratified Windmill mound (CA-SAC-107), suggested three temporally distinct cultural traditions: Early, Transitional, and Late. Information grew as a result of excavations at other mounds in the Delta and lower Sacramento Valley by Sacramento Junior College and the University of California, Berkeley.

Previous investigations in the project region have focused upon very detailed archival research of Spanish sources (Bennyhoff 1977), and the archeological investigations at a number of small sites (Schulz et al. 1979; Schulz and Simons 1973; Soule 1976). A reexamination of earlier work has also been undertaken (Ragir 1972; Schulz 1981; Doran 1980). Several of the previously investigated sites probably represent satellite encampments or small villages associated with major villages.

The majority of the sites appear to be relatively late in time, and probably represent Plains Miwok. As mentioned above, the sites appear to be satellite encampments or small villages. The activities practiced are varied, but detailed studies on the faunal collection suggest seasonality of occupation and a focus on fish species other than the main channel varieties.

Writing the definitive summary of California archeology, Moratto (1984: 529-547) devoted an entire chapter to linguistic prehistory. For the Central Valley region, Moratto points out that some

Early Horizon and Middle Horizon central California archeological sites appear at least in part, contemporaneous, based on existing radiocarbon dates. Cultural materials recovered from CA-SJO-68, an Early Horizon site, are thought to relate to date to 4350±250 B.P or 2350 B.C. On the other hand, a Middle Horizon component at CA-CCO-308 dates to 4450±400 B.P. or 2450 B.C. The antiquity of other Early and Middle Horizon sites demonstrate an overlap of the two horizons by a millennium or more.

One explanation proposes that the Middle Horizon represents an intrusion of ancestral Miwok speaking people into the lower Cosumnes, Mokelumne, and Sacramento River areas from the Bay Area. The Early Horizon may represent older Yokuts settlements or perhaps the speakers of an Utian language who were somehow replaced by a shift of population(s) from the bay.

Ethnological Background

The Eastern Miwok represent one of the two main divisions of the Miwokan subgroup of the Utian language family (Levy 1978:398). The Plains Miwok, one of five separate cultural and linguistic groups of the Eastern Miwok, occupied the lower reaches of the Mokelumne, Cosumnes and Sacramento Rivers including the area of south Sacramento County surrounding the project area. Linguistic studies and the application of a lexicostatistic model for language divergence suggest that Plains Miwok was a distinct linguistic entity for the last 2000 years (Levy 1970). This result led researchers such as Richard Levy (1978:398) to conclude that the Plains Miwok inhabited the Sacramento Delta for a considerable period of time.

The political organization of the Plains Miwok centered on the tribelet. Tribelets were comprised of 300 to 500 individuals (Levy 1978:410). Each tribelet was thought to control a specific area of resources and usually consisted of several villages or hamlets. Each tribelet also was divided along lineages. These lineages were apparently localized to a specific geographic setting and most likely represented a village site and their associated satellite sites where the seasonal collection of resources occurred (Levy 1978:398-399). Descent was reckoned through males. Each settlement apparently contained roughly 21 individuals according to data collected by Gifford (Cook 1955:35).

The diet of the Plains Miwok emphasized the collection of floral resources such as acorns, buckeye, digger pine nuts, seeds from the native grasses and various fresh greens. Faunal resources such as tule elk, pronghorn antelope, deer, jackrabbits, cottontails, beaver, gray squirrels, woodrats, quail and waterfowl were hunted. Fishing, particularly salmon and sturgeon, contributed significantly to the Plains Miwok diet (Levy 1978:402-403). The primary method of collecting fish was by nets, but the use of bone hooks, harpoons and obsidian-tipped spears is also known ethnographically (Levy 1978:404)

Both twined and coiled basketry were manufactured by the Eastern Miwok. The uses of baskets included the collection and storage of seeds, basketry cradles and gaming (Levy 1978:406). Tule mats were also known to have been used by the Plains Miwok primarily as a floor covering. Other uses of tule included the manufacture of the tule balsa, a water craft in which native people navigated and exploited adjacent delta and major river systems.

Four main types of structures were known among the Eastern Miwok, depending on the environmental setting. In the mountains, the primary structure was a conical structure of bark slabs. At lower elevations the structures consisted of thatched structures, semi-subterranean earth-covered dwellings and two types of assembly houses used for ceremonial purposes (Levy 1978:408-409).

Bennyhoff (1977:11) characterized the Plains Miwok as intensive hunter-gatherers, with an emphasis upon gathering. The seasonal availability of floral resources defined the limits of the group's economic pursuits. Hunting and fishing subsistence pursuits apparently accommodated the given distribution of resources. The Plains Miwok territory covered six seasonally productive biotic communities and as such native people could apparently afford to pick and chose the resources they ranked highest from each of these zones. The subsequent storage of floral resources (such as acorns in granaries) allowed for a more stable use of the resource base (Bennyhoff 1977:10). The acorn was apparently the subsistence base needed to provide an unusually productive environment as earlier non-acorn using peoples who resided in the same geographic setting apparently suffered some seasonal deprivation (Schulz 1981). Such an emphasis upon the gathering of acorns is consistent with the population increase evident during the Upper Emergent Period in California (Doran 1980).

The study of piscine (fish) remains from both CA-SAC-65 (Schulz et al. 1979) and CA-SAC-145 (Schulz n.d.; Schulz and Simons 1973) indicates that small villages away from the major rivers appear to concentrate on the collection of piscine species (particularly the Sacramento perch) that inhabited slow-moving waters.

Historical Background

The project area lies a few miles north of the Sheldon and Daylor grant (Rancho Omochumnes). Both men were assistants of John Sutter, with Jared Sheldon becoming a naturalized citizen of Mexico to obtain a land grant. Sheldon was awarded the grant in 1841, but this grant proved defective and another was issued in 1844 (Hoover, Rensch and Rensch 1970:288). William Daylor oversaw ranch operations as Sheldon pursued several other business ventures.

One of the ventures, a grist mill near Sloughouse, was the indirect cause of Sheldon's death in 1851. The dam that provided water to power the mill had been flooding out miners' claims on the Cosumnes River, so the miners demanded that Sheldon release the water. Sheldon refused, and built a small fort, installing a cannon to back up his refusal. The miners armed themselves and captured the fort. When Sheldon arrived with an armed party, a battle ensued in which Sheldon and two of his men were killed (Hoover, Rensch and Rensch 1970:290). Ironically, the dam washed out during a flood in the winter of the same year.

The name of Elk Grove was originally applied to a spot about a mile away from the eventual location of the town. James Hall built a hotel there in 1850 and named it after his home town in Missouri. This hotel burned down in 1857. The eventual site of Elk Grove was on the ranch of Major James Buckner, who also built a hotel on the site in 1850. The hotel was owned successively by Buckner, Phineas Woodward, Mrs. Jared Erwin, and Nicholas Christophel (Davis 1890:243).

The site did not really become a town until after the railroad was constructed. A farmer named Everson saw potential commercial opportunities for a town at this location, but none of the residents, including Everson, had the money available to construct the necessary buildings. Everson persuaded the citizens to pool their money to form the Elk Grove Building Company in 1876. The profits from the first building, the Chittenden and Everson general merchandise store, fueled further construction which, in turn, brought in merchants from outside the area. Only four years later, the town boasted the original general store and one other, two hotels, a flouring mill, the railroad depot, a hardware store, a meat market, a furniture factory, two drug stores, a harness shop, a grain and hay warehouse, a dressmaking shop, two millinery shops, a boot shop, a wagon factory and a blacksmith (Thompson and West 1880:234). The town continued to grow, first as a commercial center for the farmers in the area and recently as a suburban residential zone for greater Sacramento.

Site Specific History

The 1856 General Land Office plat shows no features in or near the project area. The property is owned by Mary Maitland in 1885 as part of a 160 acre tract, and by M. Maitland (probably still Mary) in 1911 and 1923. Mary Maitland was born in Australia in 1835; emigrating to California in 1863. She was married that same year to Joseph Maitland, a native of Scotland, and they settled in Sacramento County. Her residence was apparently located on the north side of Laguna Creek, just north and west of the project area, with a road to the house from Sheldon Road through the project area (Elk Grove 1:31680 topographic map 1909). Joseph Maitland died in 1871, leaving Mary with seven children. In 1880, her 160 acres and improvements were valued at \$1,500 (Thompson and West 1880: 274).

NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission was contacted on November 6, 2013, for a check of the sacred lands file and a list of Native Americans who might have information or concerns relative to the project (Appendix 3). On November 18, 2013, a letter was received from the NAHC (Appendix 3). They confirmed that there are no Sacred Lands listed for the APE. Letters were written to individuals and organizations known to be knowledgeable regarding resources in the area:

Organization	Contact
Wilton Rancheria	Andrew Franklin, Chairperson
Wilton Rancheria	Steve Hutchason, Director of Cultural Preservation
Ione Band of Miwok Indians	Yvonne Miller, Chairperson
Ione Band of Miwok Indians	Anthony Burris, Cultural Committee Chairperson
Buena Vista Rancheria	Rhonda Morningstar Pope, Chairperson

Two of the groups have replied (Wilton Rancheria and Buena Vista Rancheria) and they will be sent copies of the final report for their files.

Sacramento Municipal Utility District (SMUD) pole-mounted electrical transformers are present near each water supply well. Neighborhood electrical distribution lines powered at 12 kilovolts (kV) are located along the south side of Sheldon Road and west side of Waterman Road. An electrical vault and aboveground panel are present on the Project site near Sheldon Road, west of the farm buildings.

Four electrical transmission lines on steel-towers are present on the west side Project site, west of the existing residence. A communications tower enclosure is present beneath one of the towers on the Project site near the barn. The communications tower enclosure had no back-up emergency power, such as a diesel-powered generator or a bank of batteries. The fenced communications tower enclosure was situated on a concrete slab. A concrete pad-mounted electrical transformer is present just east of the communications tower enclosure.

No municipal water or sanitary sewer service are provided for the Project site. Currently the site has three water supply wells and one septic system. Storm water trenches are located within the Sheldon Road and Waterman Road street easements.

Project Description

The proposed Project is a subdivision and rezone of 113 acres. The subdivision would involve dividing APNs 1210180-012 and 017 into 45 single-family lots with a minimum size of 2 acres each, one open space lot, and one remainder lot for the existing residence. The rezone would involve changing the zoning designation from AR-5 to AR-2. The General Plan designation of Rural Residential would remain the same.

The proposed Project includes a 30' multiuse trail easement along the western portion of the Project site abutting Waterman Road. The 30' multi-use trail easement would be located within Lot A (Remainder Lot). There is also a 30' multi-use trail easement along the Laguna Creek, which bisects the Project site. This easement is located within a 100-year floodplain easement. There are numerous wetland preservation easements throughout the Project site. The 46 residential lots would be located on 101.3 acres and the open space would be located on 11.8 acres.

Water service would be provided by the Sacramento County Water Agency (Zone 40). Sewage Disposal service would be provided by Sacramento Area Sewer District (CSD-1). Electrical service would be provided by Sacramento Municipal Utility District. Gas service would be provided by PG&E. School service would be provided by the Elk Grove Unified School District. Fire Protection Service would be provided by the Cosumnes Community Services District. Parks service would be provided by the Cosumnes Community Services District.

Other Public Agencies Whose Approval is Required

The City of Elk Grove is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050.

Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES), which would require the development to prepare a Storm Water Pollution Prevention Plan (SWPPP) and file a Notice of Intent with the RWQCB.

Personnel

Melinda Peak (resume, Appendix 1) served as principal investigator for the project, with Michael Lawson and Robert Gerry completing the field survey of the project area in November 2013. Robert Gerry prepared site forms for the resources present.

STATE REGULATIONS

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code sections 21083.2 and 21084.1 and sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA Section 15064.5 requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. Public Resources Code Section 21098.1 further cites: A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

An “historical resource” includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (Public Resources Code section 5020.1).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor’s Office of Planning and Research (OPR), *CEQA and Archaeological Resources*, 1994. The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code Section 7050.5, California Public Resources Codes Sections 5097.94 et al).

The California Register of Historical Resources (Public Resources Code Section 5020 et seq.)

The State Historic Preservation Office (SHPO) maintains the California Register of Historical Resources (CRHR). Properties listed, or formally designated as eligible for listing, on the

RESEARCH

Records of previously recorded cultural resources and cultural resource investigations were examined by the North Central Information Center of the California Historical Resources Information System on November 7, 2013 (NCIC File No.: SAC-13-139, Appendix 3). Laguna Creek had been surveyed in 1974 by J. Johnson, and the transmission line corridor had been covered in 1979 by Peak & Associates. The overall property had been field surveyed in 2003 by Peak & Associates with no sites recorded. Some of the buildings within the building complex present on the site are now over 50 years in age. In addition, the 1950s power line, one of four lines that crosses the property was recorded on an adjacent property to the south as P-34-1102.

FIELD SURVEY

The course of Morrison Creek was completely surveyed by Johnson in 1974. The project area was inspected in 2003 by Peak & Associates staff archeologists. No prehistoric artifacts or evidence of prehistoric use of the survey area was found in either of these surveys.

The current field survey effort was undertaken by Michael Lawson and Robert Gerry on November 25 and 26, 2013. There was no evidence of prehistoric period resources in the Project site. The building complex and power line were formally recorded (site forms, Appendix 4).

Building Complex

The residence is part of a complex of buildings forming the ranch/farm headquarters, however, the only other substantial building in the group, a large barn, was built and used elsewhere and then moved to this site in the 1960s (information from current landowner). The associated storage structures are not fifty years old, so the residence is the only potentially eligible structure.

The house is essentially a long side-gabled building but it has extensions of the roof lines on part of the front (south) and part of the rear to cover a patio and a one car garage, respectively. It is a one story frame with composite roofing, stucco siding, vinyl-framed windows (probably replacements) and a poured concrete foundation. The owner said it was built in "the forties or early fifties" and this fits with the style, Minimal Traditional, and the materials used. It is entirely typical of small rural residences of the immediate post-war period.

The other buildings on the property are also wood frame but they employ corrugated metal roofing and siding. The smaller buildings, a 44 by 25 foot shed and a 10 by 10 foot shed, are in fairly good condition and appear to be coeval, *circa* late fifties. The barn is badly deteriorated, 60 feet north/south by 40 feet east/west, and constructed with telephone poles for posts, and rough lumber for truss and framework. It is 25 feet tall at the roof peak. Much of the siding and roofing is gone and some of the framework is broken.

The residence was built in the immediate post-war era, probably in the late 1940s. The rest of the buildings were built later according to the 1952 USGS Elk Grove quadrangle that shows only the residence on-site, and the statement of the landowner. The barn was built and used elsewhere, disassembled, and rebuilt on-site.

Transmission Line

The transmission line is a section of a power line built in 1952. In an overly generous evaluation, this piece of infrastructure has been deemed “potentially significant” for its association with the Central Valley Project. We disagree that there is some special significance to this transmission line above other transmission lines in the corridor.

CONCLUSIONS

Prehistoric Period Resources

No evidence of prehistoric period resource has been found in or near the property. The Project site lies on a flat open plain, near Laguna Creek. Campsites and villages would more likely be located near the larger, more reliable water sources such as the Cosumnes River. As a result, it is likely that the Native American inhabitants of the region used the Project site for collecting plant foods and for hunting, but such activities leave little physical evidence.

Historic Period Resources

The residence is over 50 years old, but it is not associated with important events or important people in local history. It is not a unique building in any way; one of many post-war residential buildings built throughout California. The building has been altered to some degree over the years, and is not an important resource.

The transmission line is one of four lines crossing the western edge of the Project site. It is part of the infrastructure that provides power in California, and is not particularly associated with important events or people, and it is not of unique construction. The transmission line is not an important resource.

RECOMMENDATIONS

Although no prehistoric sites were found during the survey, there is a slight possibility that a site may exist and be totally obscured by vegetation, fill, or other historic activities, leaving no surface evidence. Should artifacts or unusual amounts of stone, bone, or shell be uncovered during construction activities, an archeologist should be consulted for on-the-spot evaluation of the finding. If the bone appears to be human, state law requires that the Sacramento County Coroner be contacted. If the Coroner determines that the bone is human and is most likely Native American in origin, he must contact the Native American Heritage Commission (916-322-7791).

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APPENDIX 1

Resume of Principal Investigator

**PEAK & ASSOCIATES, INC.
RESUME**

MELINDA A. PEAK
Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

January 2013

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey, Native American consultation and report preparation.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site-specific research for historic period resources. She is a registered professional historian and has completed a number of historical research projects for a wide variety of site types.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*
B.A. - Anthropology - University of California, Berkeley

RECENT PROJECTS

Ms. Peak completed the cultural resource research and contributed to the text prepared for the DeSabra-Centerville PAD for the initial stage of the FERC relicensing. She also served cultural resource project manager for the FERC relicensing of the Beardsley-Donnells Project. For the South Feather Power Project and the Woodleaf-Palermo and Sly Creek Transmission Lines, her team completing the technical work for the project.

In recent months, Ms. Peak has completed several determinations of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places. She has also completed historical research projects on a wide variety of topics for a number of projects including the development of navigation and landings on the Napa River, farmhouses dating to the

1860s, bridges, an early roadhouse, Folsom Dam and a section of an electric railway line. In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct a number of surveys of these areas, allowing the model to be tested.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of a number of prehistoric sites. She is currently involved as the principal investigator for the Clover Valley Lakes project adjacent to Twelve Bridges in the City of Rocklin, coordinating contacts with Native Americans, the Corps of Engineers and the Office of Historic Preservation.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project. She also served as principal investigator for a major coaxial cable removal project for AT&T.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and conducted emergency recovery excavations for sites found during monitoring. She has directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of a published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Legacy*. She served as the consultant for a children's book on California, published by Capstone Press in 2003 in the Land of Liberty series.

APPENDIX 2

Native American Consultation

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY
30 Years: 1975-2005



November 6, 2013

Ms. Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall, Room 288
Sacramento, CA 95814

Dear Ms. Treadway:

Peak & Associates, Inc. has contracted with DeNovo Consultants to perform a cultural resources assessment for the proposed Sheldon/Waterman Project in Sacramento County. The project involves a land parcel of about 113 acres northwest of the corner of Waterman Road and Sheldon Road in Elk Grove. The project area lies in T7N, R6E, Section 20 and is mapped on the Elk Grove 7.5' USGS quadrangle, which is the base for the attached map.

Because of wetlands issues and the need for a Section 404 permit, the project is a federal undertaking. In accordance with the Secretary of the Interior's Guidelines for implementing Section 106, we are requesting a list of appropriate Native American contacts for the project area. We also request a check of the Sacred Lands Inventory for any potential conflicts.

Thank you for your assistance.

Sincerely,

Robert A. Gerry, Consulting Archeologist
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762
(916)283-5238
FAX: (916)283-5239
peakinc@surewest.net

//RG
Encl.

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd.
West SACRAMENTO, CA 95891
(916) 373-3710
Fax (916) 373-5471



November 18, 2013

Robert A Gerry
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

By Fax: 916-283-5239

Number of Pages: 2

Re: Sheldon/Waterman Project, Sacramento County

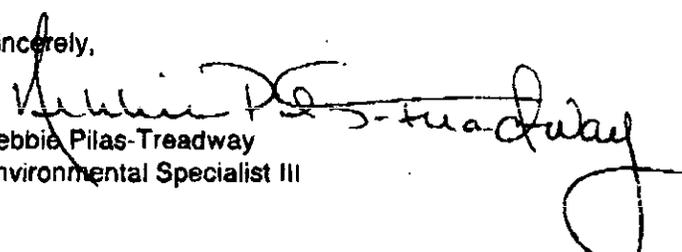
Dear Mr. Gerry,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3713.

Sincerely,


Debbie Pilas-Treadway
Environmental Specialist III

**Native American Contacts
Sacramento County
November 18, 2013**

Randy Yonemura
4305 - 39th Avenue
Sacramento , CA 95824
honortraditions@mail.com
(916) 421-1600
(916) 601-4069-cell

Miwok

Wilton Rancheria
Steven Hutchason, Director of Cultural Preservation
9300 W. Stockton, Suite 200
Elk Grove , CA 95758
shutchason@wiltonrancheria-nsn.gov
916-683-6000
916-683-6015

Buena Vista Rancheria
Rhonda Morningstar Pope, Chairperson
1418 20th Street, Suite 200
Sacramento , CA 95811
rhonda@buenavistatribe.com
916 491-0011
916 491-0012 - fax

Me-Wuk / Miwok

Ione Band of Miwok Indians
Yvonne Miller, Chairperson
PO Box 699
Plymouth , CA 95669
(209) 274-6753
(209) 274-6636 Fax

Miwok

Ione Band of Miwok Indians Cultural Committee
Anthony Burris, Chairperson
PO Box 699
Plymouth , CA 95669
(209) 274-6753
(209) 274-6636 Fax

Miwok

Wilton Rancheria
Andrew Franklin, Chairperson
9300 W. Stockton, Suite 200
Elk Grove , CA 95758
916-683-6000
916-683-6015

Miwok

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Sheldon/Waterman project, Sacramento County

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY



November 21, 2013

Dear :

Peak & Associates, Inc. has contracted with DeNovo Consultants to perform a cultural resources assessment for the proposed Sheldon/Waterman Project in Sacramento County. The project involves a land parcel of about 113 acres northwest of the corner of Waterman Road and Sheldon Road in Elk Grove. The project area lies in T7N, R6E, Section 20 and is mapped on the Elk Grove 7.5' USGS quadrangle, which is the base for the attached map. Peak & Associates surveyed the project in 2005 (then called the Hanson and Newland Properties) and found no resources related to Native American use of the area. The current project is to update that survey to modern standards.

We are contacting individuals identified by the Native American Heritage Commission as persons who might have information to contribute regarding potential Native American concerns in the project area. Any information or concerns that you may have regarding village sites, traditional properties or modern Native American uses in any portion of the project vicinity will be welcomed. If you know other individuals who are familiar with the vicinity, we would welcome this information as well.

We recognize that much of the information about protected and sacred sites may be confidential within your community and cannot be shared with those outside of your community. We will work with you to minimize impact on your cultural resources. Please contact me to discuss how we can accomplish protection of your cultural resources within your limits of confidentiality and the needs of the project.

Thank you for your assistance.

Sincerely,

Robert A. Gerry
Consulting Archeologist

RG//
Encl.



December 10, 2013

Peak & Associates, Inc.
Attn: Robert A. Gerry, Consulting Archeologist
3941 Park Drive
Suite 20-329
El Dorado Hills, CA 95762

Re: Sheldon/Waterman Project, request for information

Dear Mr. Gerry,

Buena Vista Rancheria has received your letter dated November 29, 2013, requesting information regarding American Indian village sites, traditional properties, or modern Native American uses within the vicinity of the subject project area.

The project area is within the ancestral territory of the Me-Wuk peoples, and continues to have cultural and spiritual significance to the living descendants. Please provide additional information regarding the nature of the proposed Sheldon/Waterman Project so that Buena Vista might determine the potential impacts to cultural resources.

We recommend that you contact all of the American Indian tribes and groups in the region by mail and follow up telephone calls. Please direct any questions to me by telephone at 916-491-0010, by email at roselynn@buenavistatribe.com, or by mail at the above address. We look forward to hearing from you soon.

Sincerely

A handwritten signature in black ink, appearing to read "Roselynn Lwenya".

Roselynn Lwenya, Ph.D
Environmental Resources Director/THPO
BUENA VISTA RANCHERIA OF ME-WUK INDIANS



Wilton Rancheria

Department of Environmental Resources
9300 W. Stockton Blvd., Suite 200
Elk Grove, CA 95758
Ph: (916) 683-6000
Fax: (916) 683-6015

December 9, 2013

Peak & Associates, INC
Robert A. Gerry, Consulting Archeologist
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

RE: Sheldon/Waterman Project in Sacramento County.

Dear Robert,

Thank you for your letter the above named project. Wilton Rancheria's indigenous territory is in Sacramento and spans into San Joaquin County. Wilton Rancheria is concerned about development and projects within its indigenous territory that has potential to impact its environmental resources. These resources include but are not limited to lifeways, traditional cultural properties and landscapes that may be of sacred or ceremonial significance to the Tribe. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

To determine whether or not the project could affect the resources that may be of importance to Wilton Rancheria. We would like to receive copies of any completed record searches. We would also like to request any archeological, cultural and environmental surveys and reports that have been, or will be, completed for the project. The information gathered will provide us with a better understanding of the project and resources on site.

Thank you again for taking these matters into consideration, if you have any questions please contact Steven Hutchason at (916) 683-6000 ext. 2006 or email at shutchason@wiltonrancheria-nsn.gov.

Sincerely,

Steven Hutchason
Director of Environmental Resources

APPENDIX 3
Records Search

NORTH CENTRAL INFORMATION CENTER

916-278-6217

ncic@csus.edu

FAX 916-278-5162

CSU-SACRAMENTO - 6000 J STREET, FOLSOM HALL-STE. 2042-SACRAMENTO, CA 95819-6100

Amador, El Dorado, Nevada, Placer, Sacramento, and Yuba Counties

11/7/2013

NCIC File No.: SAC-13-139

Robert A. Gerry
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

Records Search Results for
Sheldon/Waterman Project
T7N/R6E Section(s) 20
USGS Elk Grove 7.5' Quad, Sacramento County

- **NCIC Resources Within Search Area:**
P-34-1102

- **NCIC Reports Within Search Area:**
88 418 5917 9188 11151

- **OHP Historic Properties Directory:** enclosed not requested nothing listed
- **OHP Determinations of Eligibility:** enclosed not requested nothing listed
- **CA Inventory of Historical Resources:** enclosed not requested nothing listed
- **Caltrans Bridge Inventory:** enclosed not requested nothing listed
- **Ethnographic Information:** enclosed not requested nothing listed
- **Historical Literature:** enclosed not requested nothing listed
- **Historical Maps:** enclosed not requested nothing listed
- **Local Inventories:** enclosed not requested nothing listed
- **GLO and/or Rancho Plat Maps:** enclosed not requested nothing listed
- **Shipwreck Inventory:** enclosed not requested nothing listed
- **Soil Survey Maps:** enclosed not requested nothing listed

Thank you for using our services. An invoice confidentiality agreement is enclosed; please sign and return a copy for our files.

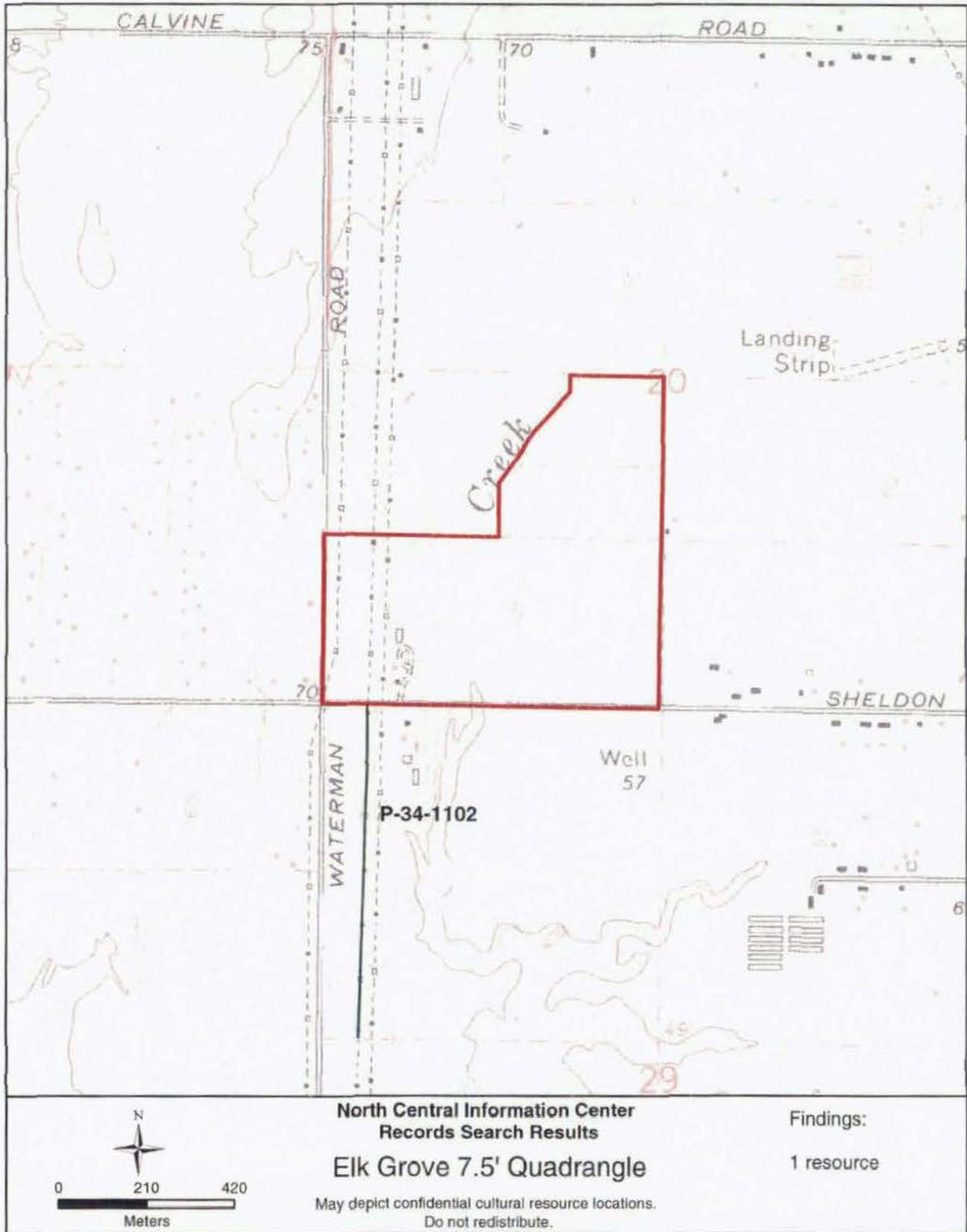
North Central Information Center Report Listing

Doc no.	Year	Author(s)	Title	Affiliation	Client
00088	1974	Johnson, Jerald J.	Reconnaissance Archeological Survey of the Morrison Stream Group in Sacramento County, California.		U.S. Army Corps of Engineers, Sacramento District, 650 Capitol Mall, Sacramento, CA 95814.
00418	1979	Peak, Ann S. and Associates	Cultural Resource Assessment of Sacramento Municipal Utility District's Project A, Phase I, 230kV Transmission Line, Sacramento County, California.		Sacramento Municipal Utility District.
05917	2003	Peak & Associates, Inc.	Cultural Resource Assessment of the Hanson and Newland Properties		Waterman and Bond LLC
09188	2002	Wendy J. Nelson and Kimberley Carpenter	Cultural Resources Survey for Right-of-Way Maintenance Along the Western Area Power Administration Transmission Lines Volumes I, II, and II	Far Western Anthropological Group	Tera Tech NUS, Inc
11151	2012	Carrie Wills	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SC06855A (Waterman/Sheldon Rd), 9345 Sheldon Road, Eld Grove, Sacramento County, California	Michael Brandman Associates	T-Mobile West

North Central Information Center Resource Listing

Primary No.	HRI No.	Trinomial	Name	Other IDs	Associated reports
P-34-001102			Hurley-Tracy Transmission	Other SL-4, Other Segment of Hurley-Tracy Transmission Line #1	05929

Sheldon/Waterman Project



North Central Information Center
Records Search Results

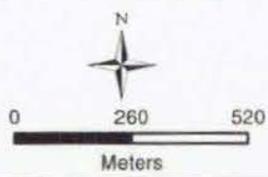
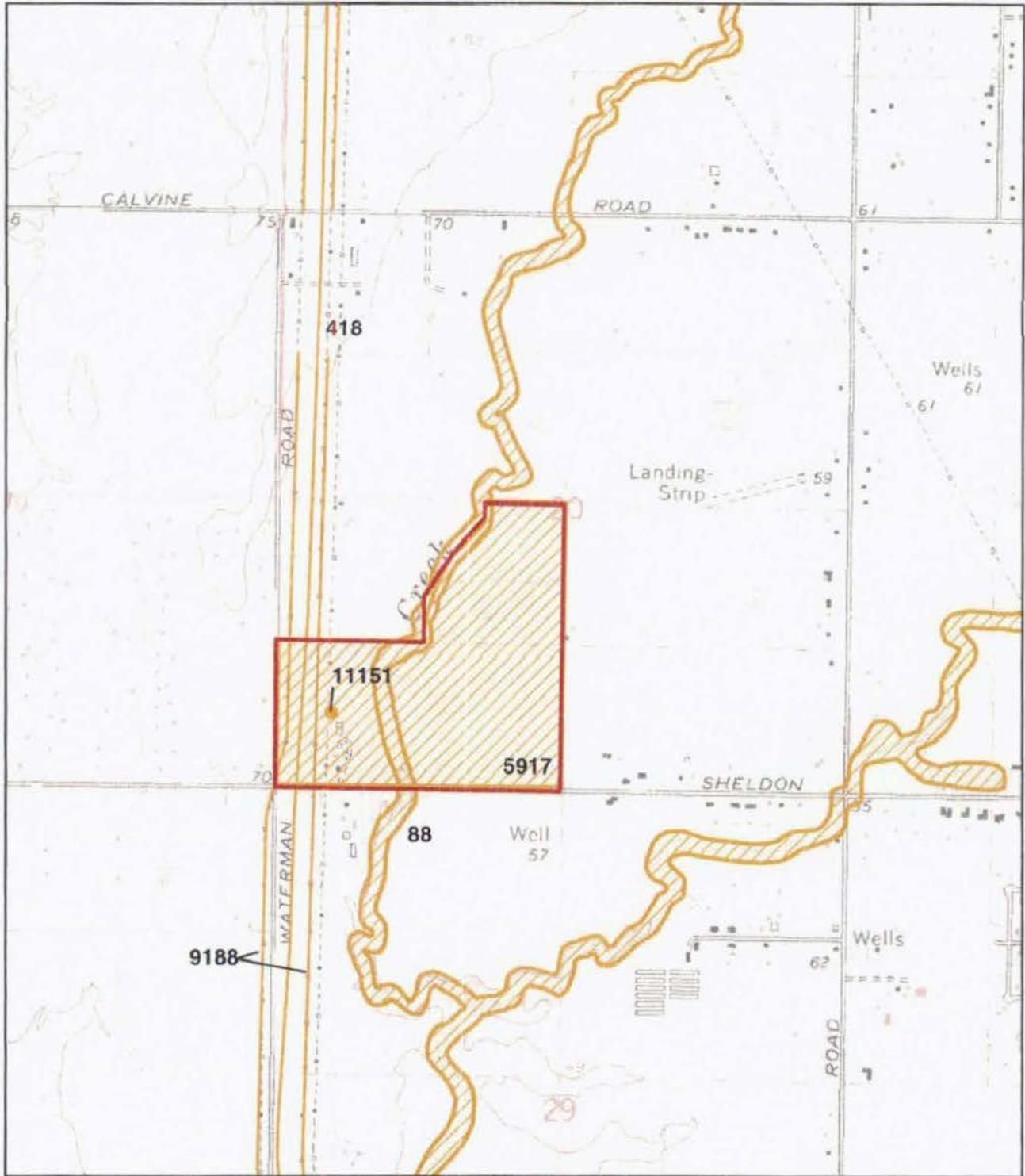
Elk Grove 7.5' Quadrangle

May depict confidential cultural resource locations.
Do not redistribute.

Findings:

1 resource

Sheldon/Waterman Project



North Central Information Center
Records Search Results

Elk Grove 7.5' Quadrangle

May depict confidential cultural resource locations.
Do not redistribute.

Findings:
5 survey reports

APPENDIX 4

Site Records

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI# _____
Trinomial _____
NRHP Status Code 6Z

Other Listings: _____
Review Code: _____ Reviewer: _____ Date: _____

Page 1 of 5 Resource Name or #: (assigned by recorder) 9345 Sheldon Rd

P1. Other Identifier:

P2. Location: Not for Publication Unrestricted (P2b and P2c or P2d. Attach a Location Map as necessary)

- a. County: Sacramento
b. USGS 7.5' Quad: Elk Grove Date: 1968 (PR89) T. 7N ; R. 6E ; SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Sec. 20 ; MD B.M.
c. Address: 9345 Sheldon Road City: Elk Grove Zip: 95624
d. UTM: (Give more than one for large and/or linear resources) Zone: 10 ; 06 43 990 mE/; 42 55 970 mN
e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
APN: 121-0180-012. The house is north of Sheldon and the driveway intersects 600 feet east of Waterman

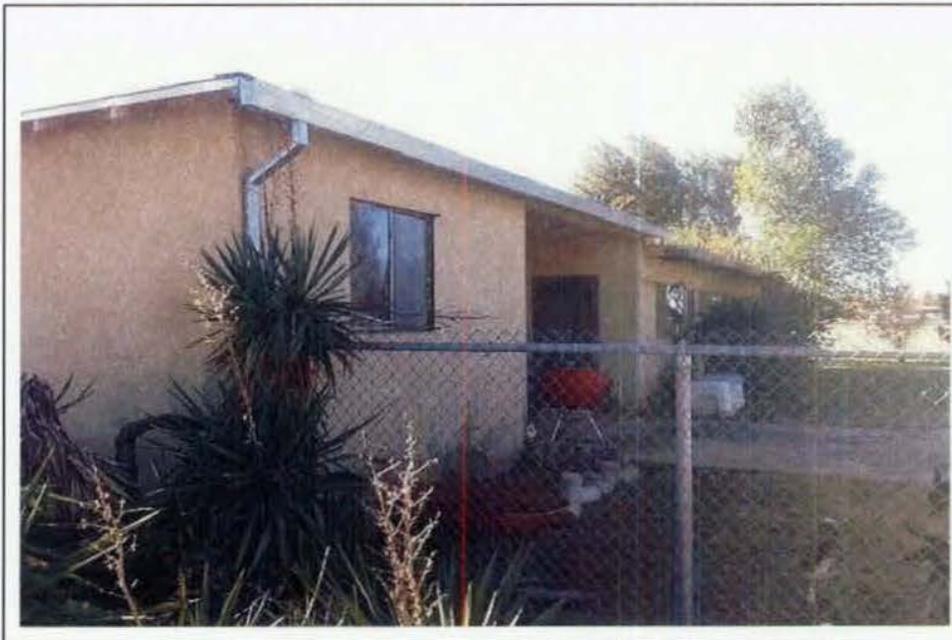
P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The residence is part of a complex of buildings forming the ranch/farm headquarters, however, the only other substantial building in the group, a large barn, was built and used elsewhere and then moved to this site in the 1960s (information from landowner.) The associated storage structures are not fifty years old, so the residence is the only potentially eligible structure.

The house is essentially a long side-gabled building but it has extensions of the roof lines on part of the front (south) and part of the rear to cover a patio and a one car garage, respectively. It is a one story frame with composite roofing, stucco siding, vinyl-framed windows (probably replacements) and a poured concrete foundation. The owner said it was built in "the forties or early fifties" and this fits with the style, Minimal Traditional, and the materials used. It is entirely typical of small rural residences of the immediate post-war period.

The other structures on the property are also wood frame but they employ corrugated metal roofing and siding. The smaller buildings, 44x25 foot shed and a 10x10 foot shed, are in fairly good condition and appear to be coeval, circa late fifties. The barn is badly deteriorated, 60' north/south x 40' east/west, and constructed with telephone poles for posts, and rough lumber for truss and framework. It is 25 feet tall at the roof peak. Much of the siding and roofing is gone and some of the framework is broken.

P3b. Resource Attributes: (List attributes and codes) HP2 -- Single Family Property

P4. Resources Present: Building Structure Object Site District Element of a District Other (Isolates etc.)



P5b. Description of Photo: (View, date, accession #) Residence looking southwest at rear of building.
11/21/13

P6. Date Construction/Age and Sources: Historic
Prehistoric Both

P7. Owner and Address:
On site

P8. Recorded By: (Name, affiliation, and address)
Robert Gerry, Michael Lawson
Peak & Associates, Inc.
3941 Park Drive, Suite 20, #329
El Dorado Hills, CA 95762

P9. Date Recorded:
11/21/13

P10. Survey Type: (Describe)
Re-examination of earlier survey due to time lapse. Looked primarily at structures and most likely site locations.

P11. Report Citation: (Cite Survey report and other resources, or enter "none") Cultural Resources Assessment for the Sheldon Park Estates Project, City of Elk Grove, Sacramento County, California. Peak & Associates, December 2013.

ATTACHMENTS: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other: _____

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary #: _____
HRI #: _____

Page 2 of 5 *NRHP Status Code: 6Z Resource Name or #: (assigned by recorder) 9345 Sheldon Rd

- B1. Historic Name: _____
B2. Common Name: _____
B3. Original Use: Residence B4. Present Use: Residence
B5. Architectural Style: Minimal Traditional
B6. Construction History: (Construction date, alterations, and date of alterations.)
Residence was built in the immediate post war era, probably late 1940s. The rest of the buildings were built later according to the 1952 USGS Elk Grove map, which shows only the residence on-site, and the statement of the landowner. The barn was built and used elsewhere, disassembled, and rebuilt on-site.
B7. Moved? No Yes Unknown Date: 1950s Original Location: Only the barn was moved. Unknown site.
B8. Related Features: Two sheds and a barn.

B9a. Architect: _____ b. Builder: _____
B10. Significance: Theme _____ Area _____

Period of Significance _____ Property Type _____ Applicable Criteria _____
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)
There are no known associations between these buildings and people important in State or local history [NRHP criterion b; CRHR criterion B (2)]. The residents were apparently small farmers, with no one of social prominence or historical importance associated with any of the residences.

The residence is not a particularly good example of the Minimal Traditional architectural style. It has several additions and alterations since its original. As a result, it can be concluded that none of the extant buildings "embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values" [NRHP criterion c; CRHR criterion B (3)].

In consideration of the ability of any of the property to yield information important in history by archeological techniques, it should be noted that farm practices limit the possibilities of finding subsurface materials. The farm was more or less a subsistence farm in the earlier period. Manufactured items would have been costly and time-consuming to acquire. As a result, most farms tended to reuse manufactured items such as glass containers, fabric, metal implements, and milled lumber. Other waste was burned on site, resulting in a lack of subsurface features that might be useful in defining early lifeways. As a result, we do not believe that the site is significant for its archeological values [NRHP criterion d; CRHR criterion B (4)].

Therefore, it can be concluded that the residence is not a significant resource under the criteria of the National Register of Historic Places or under the criteria of the California Register of Historical Resources.

B11. Additional Resource Attributes: (List attributes and codes) _____

B12. References:

B13. Remarks:

B14. Evaluator: M. Peak, Peak & Associates, Inc.

Date of Evaluation: 12/10/13

This space reserved for official comments.

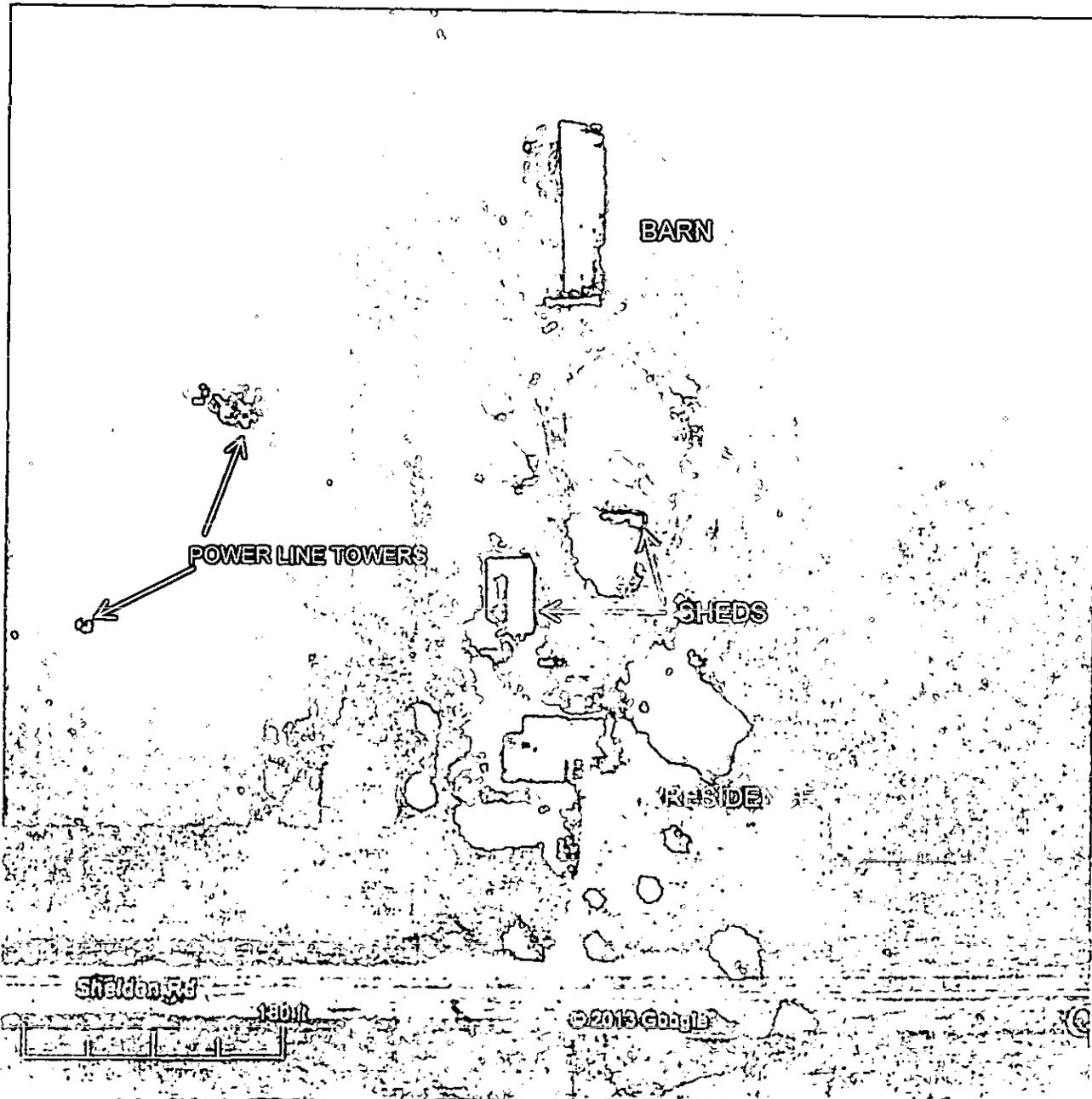
See attached sketch and location maps.



Front of house looking northwest



Looking north at barn



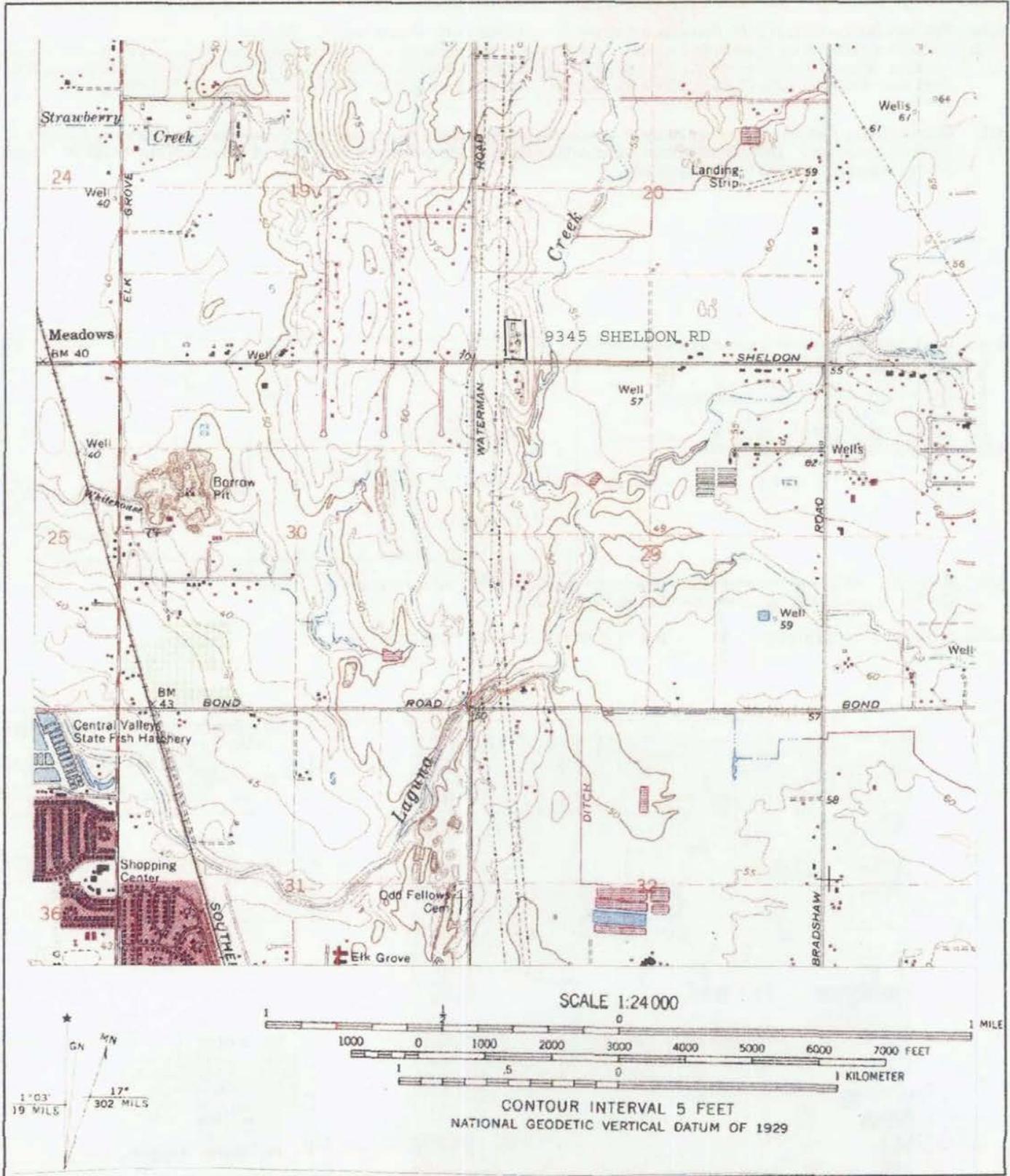
NORTH



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #: _____
HRI #: _____
Trinomial: _____

Page 5 of 5 Resource Name or #: (assigned by recorder) 9345 Sheldon Rd
Map Name: Elk Grove 7.5' Scale: 1:24,000 Date of Map: 1968 (PR79)



L1. **Historic and/or Common Name:** Hurley-Tracy Transmission Line Number 1

L2a. **Portion Described:** Entire Resource Segment Point Observation **Designation:** Section 2

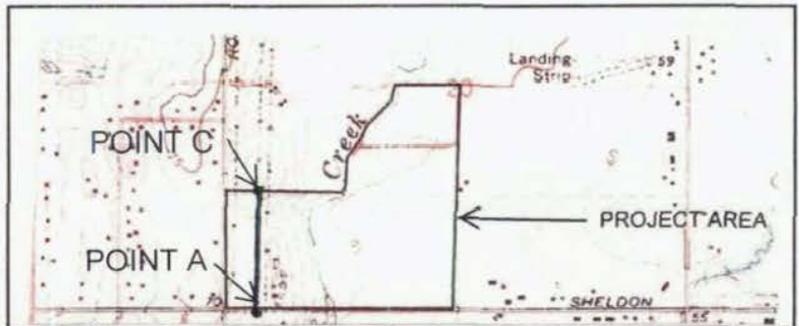
b. **Location of point or segment:** (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map.) This segment extends the original recording by PAR Environmental Services, Inc., from their Point A (10/6 43 920 mE/42 55 520 mN) 410 meters north to 10/6 43 930 mE/42 55 930 mN (Point C).

L3. **Description:** (Describe construction details, materials, and artifacts found at the segment/point. Provide plans/sections as appropriate.) See original record. This transmission line is one of several using this utility corridor, as depicted on the USGS. There are no unusual features on this segment.

L4. **Dimensions:** (In feet for historic features and meters for prehistoric features)

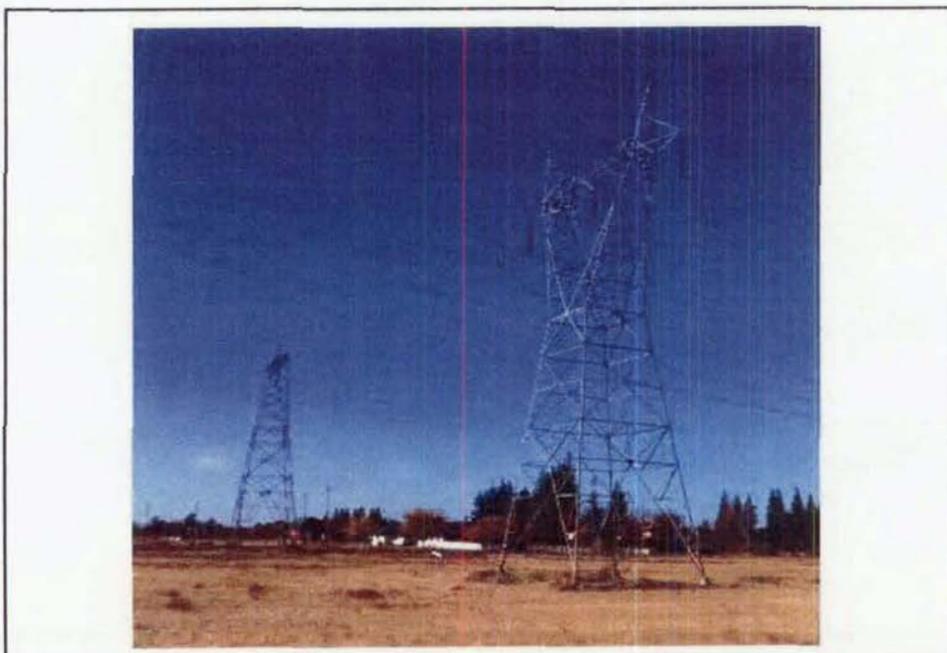
- a. **Top Width** _____
- b. **Bottom Width** 125 foot wide easement
- c. **Height or Depth** _____
- d. **Length of Segment** 410 meters

L5. **Associated Resources:** None



L6. **Setting:** (Describe natural features, landscape of characteristics, slope, etc., as appropriate) Open pasture land now. Has been farmed in the past.

L7. **Integrity Considerations:** Maintained by WAPA and in excellent condition.



L8b. **Description of Photo, Map, or Drawing** (View, scale, etc.)

Looking west from near buildings at 9345 Sheldon Road

L9. **Remarks:**

Tower in foreground carries Hurley-Tracy No. 1.

L10. **Form Prepared by:** (name, affiliation, and address)

Robert Gerry/Michael Lawson
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

L11. **Date:** 12/18/2013

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION PRIMARY RECORD		Primary # <u>P. 34-1102-14</u>
		HRI# _____
		Trinomial _____
		NRHP Status Code <u>6Z</u>
Other Listings	Review Code _____	Reviewer _____ Date _____

Page P1 of P2 *Resource Name or #: (Assigned by recorder) SL-4

P1. Other Identifier: Segment of Hurley-Tracy Transmission Line No. 1

*P2. Location: Not for Publication Unrestricted 'a. County Sacramento
and (P2b) and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Elk Grove Date 1968, photorevised 1979 T 7N R 6E; NW $\frac{1}{4}$ & SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Sect. 29; MDM

c. Address N/A City Elk Grove Zip 95624

d. UTM: (Give more than one for large and/or linear resources) Zone 10 ; A. 643920 mE, 4255520 mN
B. 643920 mE, 4254710 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
The transmission lines extend in a northerly-southerly direction, approximately 225 feet east of Waterman Road. The segment of the lines extends between Sheldon Road to the north and Bond Road to the south.

*P3a. Description: (Describe resource and its major elements. Include design, materials condition, alterations, size, setting and boundaries).
This segment of Hurley-Tracy Transmission Line No. 1 was completed by the Bureau of Reclamation by 1952. It consists of standard design, lattice steel towers suspending high-voltage electrical lines. The towers are set on concrete piers on a 125-foot-wide easement. A Sacramento Municipal Utility District (SMUD) transmission tower line is to the west of the Hurley-Tracy segment and a Pacific Gas & Electric transmission line is to the east of the Hurley-Tracy segment. Hurley-Tracy Transmission Line No. 2, installed in 1962, is to the west side of Waterman Road. Transmission lines No. 1 and No. 2 both start at the Hurly Substation in Sacramento and eventually come together to run parallel to each other and terminate at Tracy Substation in Alameda County.

*P3b. Resource Attributes: (List attributes and codes) HP11. Engineering Structure

*P4. Resources Present: Building Structure Object Site District Element of District Other (isolates, etc.)
P5a. Photo or Drawing (Photo required for buildings, structures and objects.)



P5b. Description of Photo: (View, date, accession #) View of segment SE of the Sheldon/Waterman intersection, View SW, 1/4/02, file P1010233b.jpg.

Accession #01-957-dig-1

*P6. Date Constructed/Age and Sources: Historic Prehistoric Both
circa 1952

*P7. Owner and Address:
Western Area Power Administration
114 Parkshore Drive
Folsom, CA 95630

*P8. Recorded by: (Name, affiliation and address)

Tracy Bakic/Cindy Baker
PAR Environmental Services, Inc.
1906 21st Street, Sacramento

*P9. Date Recorded: 10/04/01

*P10. Survey Type: (Describe)
Inventory and evaluation

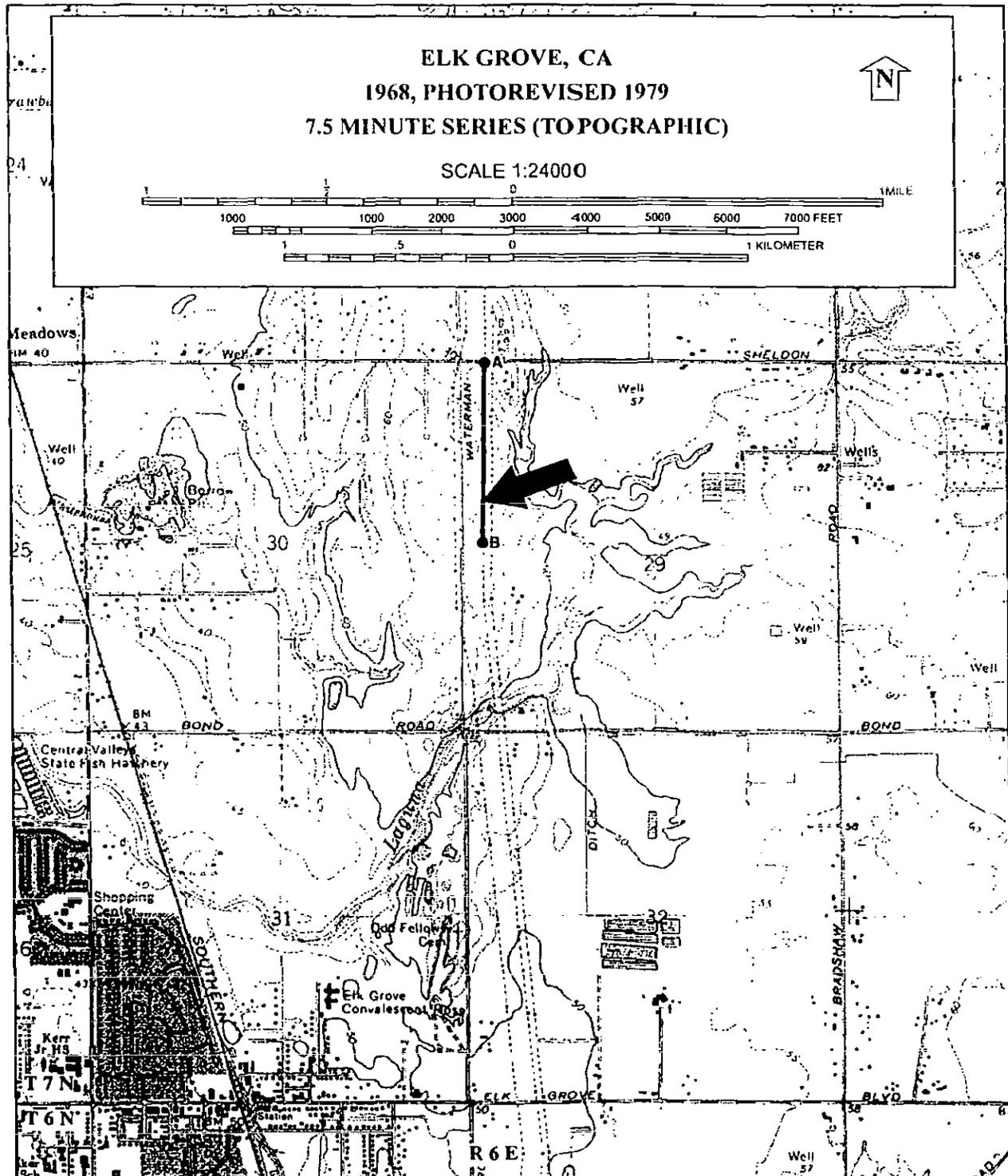
*P11. Report Citation: (Cite survey report and other sources, or enter "None")

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List)

DPR 523A (1/95)

5929

*Required Information



Page L1 of L3 *Resource Name or #: (Assigned by recorder) SL-4

Historic and/or Common Name: Segment of Hurley-Tracy Transmission Line No. 1

1.2a. Portion Described: Entire Resource Segment Point Observation Designation: 6Z

b. Location of point or segment (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

The transmission line in the project area crosses Byron Bethany Road approximately one mile west of the San Joaquin-Alameda county line. The UTM coordinates for this segment are Zone 10, 0626839 mE, 4187158 mN and 0625003 mE, 4184199 mN.

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate)
This 230 kv high-tension electrical transmission line was constructed circa 1952 by the Bureau of Reclamation (Western Area Power Administration [WAPA] 2002). The line is supported by latticed steel towers of standard design, which rest on concrete pier foundations on a 125-foot-wide easement.

L4. Dimensions: (In feet for historic features and Meters for prehistoric features) L4e. Sketch of Cross-Section (include scale) Facing: _____

a. Top Width Unknown (approx. 50 ft)

b. Bottom Width 125 feet easement, 25 feet tower base

c. Height or Depth Unknown (approx. 50-70 ft)

d. Length of Segment 1/2 mile

N/A

L5. Associated Resources:
Hurley-Tracy Transmission Line No. 2 (west of Line No. 1 segment, to west side of Waterman Road)

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate)
This segment of transmission line crosses a flat and largely undeveloped grazing field land. A Sacramento Municipal Utility District (SMUD) transmission tower line is to the west of the Hurley-Tracy No. 1 segment and a Pacific Gas & Electric (PG&E) transmission line is to the east of the Hurley-Tracy No. 1 segment. Hurley-Tracy Transmission Line No. 2, installed in 1962, is to the west side of Waterman Road. Transmission lines No. 1 and No. 2 both start at the Hurly Substation in Sacramento and eventually come together to run parallel to each other and terminate at Tracy Substation in Alameda County.

L7. Integrity Considerations:
The Bureau of Reclamation began the Central Valley Project (CVP) in 1946, considered among the most massive human water developments ever attempted. This project consisted of two developments, each containing a dam and a conduit. For Tracy, water that previously came from the San Joaquin River was dammed by the new Friant Dam. To replace Tracy's water, Shasta Dam was constructed to impound water in the southern Cascade Range, which was then delivered to the area by the Sacramento River. The Tracy Pumping Plant, completed in 1951, lifted water 197 feet from the river into the Delta-Mendota Canal (DMC). The canal then carried the water 115 miles along the western San Joaquin Valley for irrigation (United States Department of the Interior [USDI] 1981:014-015).
The massive pumps at the plant were designed to operate using electricity generated at Shasta Dam. This power was transmitted to the Tracy Substation adjacent to the pumping plant in Alameda County, where it could then be converted and used at the plant. Surplus energy could also be sold to help fund the project (JRP 2000:74). Three right-of-ways for power lines were purchased in 1949-1950 to transmit power to and from the Tracy Substation. These were the Shasta-Tracy line, the Hurley-Tracy line, and the Tracy-Contra Costa-Ygnacio line. All three of these tall latticed tower lines were constructed by 1952 by the Bureau of Reclamation as integral aspects of the CVP.

The Hurley-Tracy 230 Kv Transmission Line No. 1 rests on a 125-foot-wide easement the extends from the Hurley Substation in Sacramento to the Tracy Substation. In 1962, an additional 125 feet width of easement was purchased to the west of the first right-of-way for construction of the Hurley-Tracy Transmission Line No. 2 230-Kv line. In 1977, the Western Area Power Administration (WAPA) was created by the Federal Government and ownership and management of the transmission lines in the CVP were transferred from the Bureau of Reclamation to WAPA. In 1991, another right-of-way was purchased for the Olinda-Tracy 500 Kv line, which was energized in 1993. All of these major power lines are owned by WAPA, which manages the energy transmitted over the lines (WAPA 2001).

Segment of Hurley-Tracy Transmission Line (SL-4)
1.2 of 1.3

This resource does not reflect any breakthrough in electric transmission technology or design. Steel transmission towers with lattice bracing have been in use since the earliest years of electric power transmission and are actually derived from earlier structural design of windmills and radio towers.

Under California Environmental Quality Act (CEQA) guidelines Section 15064.5(a), historical resources can be eligible for the California Register of Historical Resources (California Register) if they are associated with events that have made a significant contribution to the broad patterns of our history (Criterion A), with persons important in the past (Criterion B), with manmade expressions of culture or technology (Criterion C), or are likely to yield important information about prehistory or history (Criterion D).

This segment of the Hurley-Tracy Transmission Line No. 1 is associated with the development of the Central Valley Project (CVP), California's statewide water control project that made a significant contribution to the development of agricultural operations and communities throughout California's inland valleys. As an integral part of the CVP, this segment of the Hurley-Tracy Transmission Line appears to be eligible for the California Register under Criterion A. This portion of the Hurley-Tracy Transmission Line No. 1 is not associated with any individual person, since it was designed by the United States Department of the Interior, Bureau of Reclamation. As such, it does not appear eligible for the California Register under Criterion B. The segment is an electrical transmission line that supplies power to the Tracy Pumping Station designed to lift a vast quantity of water into the DMC. The transmission line's basic function and design does not represent a technological breakthrough. Pacific Gas and Electric Company (PG&E) and California utility companies had constructed electrical transmission lines of comparable size and design previously. As such, this segment of the Hurley-Tracy Transmission Line does not appear eligible under Criterion C. The transmission line does not have any archaeological resources and plans of its construction and modifications are on file with the Bureau of Reclamation and the Western Area Power Administration. As such, the line does not have the ability to yield important information about prehistory or history and, therefore, does not appear eligible under Criterion D. Its period of significance would be circa 1952, the year the project completed.

The transmission line itself has been slightly modified during the past 50 years under the control of the Western Area Power Administration as original equipment has been replaced and transmission technology and environmental concerns have facilitated upgrades to materials. The segment's feeling and setting during its period of significance has changed with the addition of parallel transmission lines installed by PG&E around 1960 and SMUD in the 1980s (PG&E 2002; Sacramento Municipal Utility Department [SMUD] 2002). As a result, the line does not retain its integrity of materials, workmanship, feeling, setting, and design. Since it has not been moved, it does retain its integrity of location. Its integrity of association with the CVP has been somewhat compromised, since the newer parallel transmission lines are not associated with the CVP. Given this information, the transmission line does not retain sufficient integrity to support its eligibility under Criterion A. In this light, the transmission line does not appear to meet the criteria for eligibility to the California Register as outlined in the CEQA guidelines Section 15064.5(a) and Public Resources Code 5024.1 Title CCR, Section 4852.

In recent years, numerous cultural resource specialists have addressed the historical significance of the CVP. All have determined the CVP to be of great historic importance as one of the first civil engineering projects designed for the control and delivery water on a massive scale (Hattersley-Drayton 2000; JRP Historic Consulting Services 2000; San Luis and Delta Mendota Water Authority 2001). In this light, the current form has been prepared with the assumption that the CVP is eligible for the NRHP and could potentially be recorded in the future as an historic district. As an integral component of the CVP, the Segment of the Hurley-Tracy Transmission Line No. 1 may be a contributor to the CVP historic district.

Segment of Hurley-Tracy Transmission Line (SL-4)
L3 of L3

References:

Hattersley-Drayton, Karana

2000 *Historic Architectural Survey Report and Historic Resource Evaluation Report for Rehabilitation State Route 165, Merced County*. California Department of Transportation, District 6.

JRP Historic Consulting Services

2000 *Water Conveyance Systems in California*. California Department of Transportation, Environment Program, Cultural Studies Office, Sacramento.

Pacific Gas & Electric (PG&E)

2002 Personal communication with Bill Snyder of the PG&E Land Services Office (Auburn) and Tracy Bakic, PAR Environmental Services, Inc.

Sacramento Municipal Utility Department (SMUD)

2002 Personal communication between Lames Leigh-Kendall of SMUD and Tracy Bakic, PAR Environmental Services, Inc.

San Luis and Delta Mendota Water Authority

2001 *The Delta Mendota Canal*. http://sldmwa.org/delta-mendota_canal.

United States Department of the Interior (USDI)

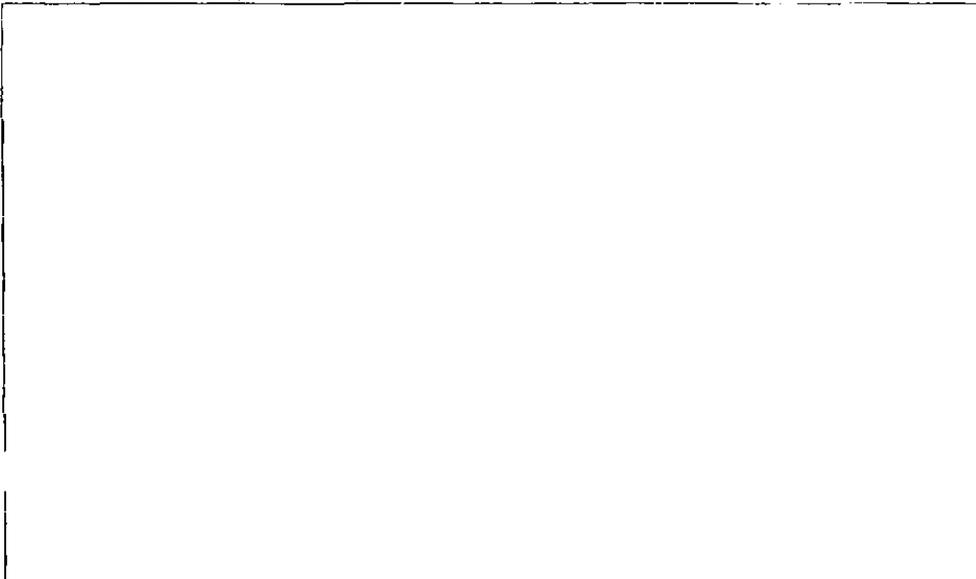
1981 *Water and Power Resources Service, Project Data*. United States Department of the Interior, Water and Power Resources Service, Mid-Pacific Region. On file, Mid-Pacific Region Library, U.S. Bureau of Reclamation, Sacramento, California.

Western Area Power Administration (WAPA)

2001 Personal communication with WAPA employee Heidi Miller, Sierra Nevada Regional Office, Folsom, California, with Cindy L. Baker, PAR Environmental Services, Inc. Records of communication on file, PAR Environmental Services, Inc., Sacramento.

2002 Personal communication between an associate of the WAPA Land Department and Tracy Bakic, PAR Environmental Services, Inc. Records of communication on file, PAR Environmental Services, Inc., Sacramento.

L8a. Photograph, Map or Drawing



L8b. Description of Photo, Map or Drawing (View, scale, etc.)

See photograph on Primary Record for SL-4

L9. Remarks:

None

L10. Form Prepared by: (Name, affiliation, and address)

Tracy Bakic/Cindy Baker
PAR Environmental Services, Inc.
1906 21st Street
Sacramento, CA 95814

L11. Date

1/16/2002

APPENDIX D

Phase I Environmental Site Assessment



Phase I Environmental Site Assessment
ELK GROVE SENIOR VILLAGE LIVING
Elk Grove, California

WKA No. 7986.01

March 24, 2008

Prepared for:

Senior Village Living, LLC
140 Diamond Creek Place
Roseville, California 95747

Prepared By:

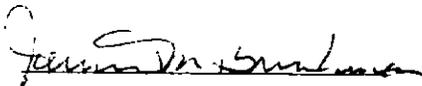
Wallace-Kuhl & Associates, Inc.
500 Menlo Drive, Suite 100
Rocklin, California 95765

Phase I Environmental Site Assessment
ELK GROVE SENIOR VILLAGE LIVING
Elk Grove, California
WKA No. 7986.01
March 24, 2008

Wallace-Kuhl & Associates, Inc. (WKA), on behalf of Senior Village Living, LLC, prepared this Phase I Environmental Site Assessment for the property located at 9345 Sheldon Road in Elk Grove, California. We declare that, to the best of our professional knowledge and belief, the report preparer and reviewer meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312 and have the "specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312." Resumes of the key staff who prepared this report are included in Appendix A.

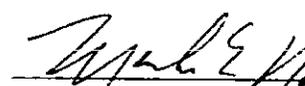
WALLACE-KUHL & ASSOCIATES, INC.

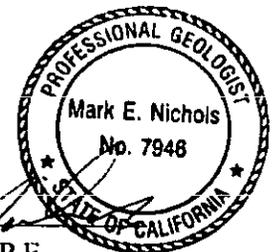
Prepared By:


Janine M. Brinkman
Senior Staff Geologist



Reviewed By:


Mark E. Nichols, P.G., P.E.
Senior Geologist



Phase I Environmental Site Assessment
ELK GROVE SENIOR VILLAGE LIVING

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Phase I Environmental Site Assessment
ELK GROVE SENIOR VILLAGE LIVING

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FIGURES

- 1 Vicinity Map
- 2 Topographic Map
- 3 Parcel Map
- 4 Color Photographs

APPENDICES

- A Resumes
- B ASTM E 1527-05 User Questionnaire
- C EDR® Radius Map Report Executive Summary

Attached CD contains: EDR® Reports: (Radius Map Report, Aerial Photographic Decade Package, Historical Topographic Maps, Sanborn Map Search, City Directory Abstract), and Phase I ESA, Elk Grove Senior Village Living (WKA No. 7986.01, dated March 24, 2008).



Phase I Environmental Site Assessment
ELK GROVE SENIOR VILLAGE LIVING

EXECUTIVE SUMMARY

The proposed Elk Grove Senior Village Living (herein referred to as site) is located at the northeast corner of Sheldon Road and Waterman Road in Elk Grove, California. The site is comprised of approximately 113 acres of rural residential and agricultural land. Surrounding land use consists of rural residential and agricultural land. The following presents a list of observations and findings identified during the preparation of this report:

- The site supported dry-farmed crops since at least 1937. Prior to 1937, the southeast side of the site supported an orchard. The house was constructed on the site by 1955, and the other buildings were constructed by 1961. An aboveground storage tank (AST) existed on the west side of the site for an undisclosed number of years. Three water supply wells were observed on the site.
- A moderate amount of debris consisting of wood, metal, glass, and tire casings, exists on the northeast portion of the site and within the farm buildings area. Three parked trucks also exist in an agricultural field on the northeast portion of the site.
- Given the age of development on the site, it is possible that asbestos containing building materials (ACMs) and lead-based paints were used in construction of existing and pre-existing development.

Fallow land and dry-farmed land typically require little to no applications of environmentally persistent pesticides, and therefore sampling and testing surficial site soils in the dry-farmed areas for potential persistent pesticide residuals is not recommended. Although the portion of the site east of Laguna Creek is planned as senior living attached houses with landscaped front yards and patios and landscaped walkways between the houses, WKA suggests that a surface soil sampling and testing survey for persistent pesticides be completed on the former orchard to forestall potential permitting issues.

Regarding the former AST location, soils beneath the AST may have become contaminated from overfilling or dripping. WKA recommends that the soil in the vicinity of the former location of the AST be sampled and tested for petroleum hydrocarbons.

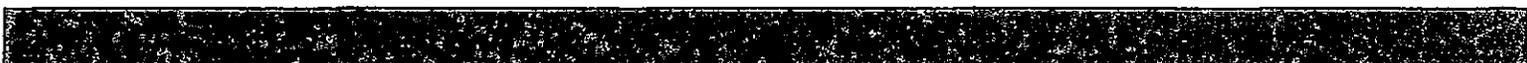


The described debris and stored items observed on the site should be removed and appropriately disposed or recycled. WKA recommends that the surface soils and concrete floors not observed during the site reconnaissance be visually inspected following the removal of the items. If visual or olfactory evidence of potential soils contamination or the degradation of the concrete floors is observed, soils sampling and testing may be warranted.

The three water supply wells located on the site must be properly destroyed if the use of the wells ceases in the future.

When the residential portion of the site is redeveloped, WKA recommends that prior to demolition, a qualified contractor survey the structures for ACMs, lead-based paint, and persistent pesticides. Additionally, the septic system(s) and associated dry-well(s) or leachfield(s) must be abandoned in accordance with the recommendations of a qualified geotechnical engineer.

This assessment has not revealed evidence of Recognized Environmental Conditions in connection with the site.



Phase I Environmental Site Assessment
ELK GROVE SENIOR VILLAGE LIVING

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) was to evaluate the proposed Elk Grove Senior Village Living (herein referred to as site) for evidence of potential Recognized Environmental Conditions (RECs) resulting from current and/or former site activities. According to the American Society of Testing and Materials (ASTM) Standard E 1527-05 the term REC is defined as “the presence or likely presence of any *hazardous substances* or *petroleum products* on a *property* under conditions that indicate an existing release, a past release, or a *material threat* of a release of any *hazardous substances* or *petroleum products* into structures on the *property* or into the ground, groundwater, or surface water of the *property*.”

According to the ASTM, “this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner*, *contiguous property owner*, or *bona fide prospective purchaser* limitations on CERCLA [Comprehensive Environmental Response, Compensation and Liability Act] liability (hereinafter, the “*landowner liability protections*,” or “*LLPs*”): that is, the practice that constitutes “*all appropriate inquiry* into the previous ownership and uses of the *property* consistent with good commercial or customary practice” as defined at 42 U.S.C. §9601(35)(B).”

1.2 Scope of Services

Wallace-Kuhl & Associates, Inc. (WKA) has completed this ESA for the site shown on various maps included as Figures 1 through 3. Mr. Ed Johanson, Manager of Senior Village Living, Inc., authorized this assessment on February 5, 2008. This ESA has been performed in conformance with the ASTM Standard E 1527-05 and the scope and limitations defined in WKA proposal, 7PR07183, dated October 16, 2007. The scope of this assessment included the following:

- Site Reconnaissance
- Interviews
- Records Review
- Report Preparation



1.3 Special Terms and Conditions

Mr. Johanson did not authorize WKA to perform a search for recorded Environmental Liens and Activity and Use Limitations (AULs) for the Sacramento County Assessor Parcel Number (APN) related to the site.

1.4 User Provided Information

Mr. Darren Suen, Forward Planning and Acquisitions Manager with Lakemont Homes and representative of Senior Village Living, Inc., completed an ASTM User Questionnaire on February 4, 2008. A copy of the completed questionnaire is included in Appendix B.

In summary, Mr. Suen was not aware of any records of Environmental Liens or AULs currently recorded against the site. Mr. Suen stated he has no specialized knowledge or experience related to the site. Mr. Suen indicated the site was priced at fair market value. Mr. Suen stated he not was aware of the general site history. Mr. Suen stated that he is not aware of any obvious indicators that point to the presence or likely presence of existing contamination at the site.



2.0 SITE DESCRIPTION

2.1 Site and Vicinity General Characteristics

The site is located northeast of the intersection of Sheldon Road and Waterman Road in Elk Grove, California (Figures 1 and 2). The site is comprised of Sacramento County APNs 121-0180-012 and 017. The land use of the site is rural residential and agriculture and totals approximately 113 acres (Figure 3). Surrounding land use consists of agricultural land and residential.

2.2 Site Reconnaissance

A visual site reconnaissance was conducted by WKA on February 19, 2008. The site supported a rural residence and farm buildings, oat fields, and fallow land. The site is split into east and west parts by the north/south-trending Laguna Creek. Color photographs of the site are included in Figure 4.

The rural residence, shop building, shed, a portable box storage unit, and a barn were observed on the west side of Parcel 12. A domestic water supply well and a propane tank were observed north of the house. An unimproved access road extending north from Sheldon Road lies east of the residence and shop building and loops around to the south end of the barn. Only the barn was accessed during the site reconnaissance, although the interior of the shed was observed through an open window. Most of the shed floor was not visible due to stored wood signs and equipment. Portions of the shed floor that were visible consisted of concrete and bare soil. The visible portions of the ground surface appeared stained from years of storage and an oily odor was apparent in the shed; the source of the odor was not determined.

The barn had a wood frame and corrugated metal siding and roof. The interior was a bare soil floor. The barn contained bales of hay, a hay baler, numerous tire casings and wheels, tools, equipment, piping, rope, a bicycle, corrugated metal panels, a metal gate, wood pallets, wood drawers, an engine situated on a tire casing, a small gas-powered motor, and several bags of base mix for interlocking pavers. The majority of the barn floor was either covered with hay or stored items. No significant stains or odors were apparent on the visible portions of the barn floor.



The approximate location of an aboveground storage tank (AST) was observed. Based on the interview with the current owner (see Section 3.1) and review of a recent aerial photograph, the AST was situated west of the barn, beyond an access road. The entire area west of the barn had new green grassy growth. No unusual stains or odors were observed west of the barn.

Stored items were also observed within the farm buildings area. Worktables, tire casings, a cable spool, a ladder, equipment, a bird coop, a rabbit hutch, a dog enclosure and doghouses, a cobble pile, engine parts, and several 55-gallon drums containing cans, bottles, and other domestic trash were observed. No unusual stains or odors were apparent around the stored items.

A moderate amount of debris and piles of soil was observed around the farm buildings area. A large grass-covered soil pile was observed north of the barn. A debris pile consisting of tree clippings and wood was observed southeast of the house. A pile of hay clippings, remnants of a rusted one-gallon container, and a short drum identified as Mobil oil was observed east of the barn. Additionally, a remnant pile of crushed aggregate was observed northeast of the barn.

Three pits were observed west of the house. The pits were filled with rainwater at the time of the site reconnaissance. Excavated soils were piled west of the pits. PVC piping and cut tree trunks were observed within and around the pits. The pits appeared to be the result of a buried irrigation installation or repair project.

The northernmost portion of the site (Parcel 17) supported a dry-farmed crop. The southeast portion of the site, the east side of Parcel 12, also supported a dry-farmed crop. Farm implements and a pile of soil were observed on the northeast side of Parcel 12.

The southwest portion of the northeast side (Parcel 17) is fallow and the remainder of the area supported a dry-farmed crop. Soil piles, concrete rubble, asphalt rubble, and metal debris were observed on the fallow area. A domestic water supply well and an irrigation water supply well were observed on this portion of the site. Domestic debris including a tub, wood, hoses, tire casings, piping, and metal scraps were observed around the irrigation water supply well. The wood-framed concrete base of the irrigation water supply well was stained with oil; the surrounding vegetation did not appear stressed. Three parked semi trucks, four cable spools, and a disc attachment for a tractor were also observed on the fallow portion of the northeast side of the site (Parcel 17) near the drainage canal.



The northeast side of the site is split in two by an east/west-trending drainage canal that discharges into the Laguna Creek. The drainage canal enters the site at its northeast corner and trends south along the east boundary. The canal then trends west and crosses through the center of the northeast portion of the site. Metal and concrete piping, tree debris, and concrete and asphalt rubble were observed in and adjacent to the canal. The canal had lush vegetation and a minor amount of clear flowing water.

2.2.1 Municipal Infrastructure and Utilities

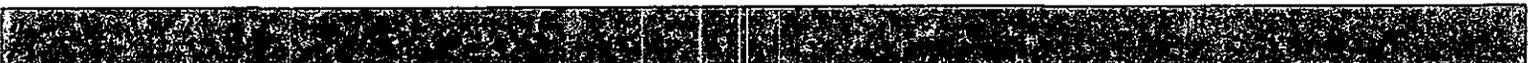
Sacramento Municipal Utility District (SMUD) pole-mounted electrical transformers were observed near each water supply well. The on-site electrical transformers were labeled non-PCB. Neighborhood electrical distribution lines powered at 12 kilovolts (kV) were located along the south side of Sheldon Road and west side of Waterman Road. An electrical vault and aboveground panel were observed on the site near Sheldon Road, west of the farm buildings.

Four electrical transmission lines on steel-towers were observed on the west side of the south parcel, west of the residence. A communications tower enclosure was observed beneath one of the towers on the site near the barn. The communications tower enclosure had no back-up emergency power, such as a diesel-powered generator or a bank of batteries. The fenced communications tower enclosure was situated on a concrete slab and appeared free of debris, stains, and odors. A concrete pad-mounted electrical transformer was observed just east of the communications tower enclosure.

No municipal water or sanitary sewer service are provided for the site. Currently the site has three water supply wells and one septic system. Stormwater trenches were located within the Sheldon Road and Waterman Road street easements.

2.3 Adjoining Properties

The site is located within a largely residential and agricultural area of Elk Grove, California. Fallow land and rural residential land bound the site to the northwest and north. Rural residential land and an access road bound the site to the east. Sheldon Road bounds the site to the south, beyond which is rural residential and agricultural land. Waterman Road bounds the site to the southwest, beyond which are rural residences.



3.0 INTERVIEWS

Interviews with various persons familiar with the site vicinity, including representatives of public agencies, were conducted for the purpose of identifying past and present uses, which may have contributed to RECs on the site. Results of those interviews are discussed in the following sections.

3.1 Owner or Key Site Manager

Mr. Gyan Kalwani was interviewed on March 13, 2008. Mr. Kalwani indicated that he purchased the site in February 2005 and has been familiar with the site since 1989. Mr. Kalwani stated that the crops since 1989 have been oat and wheat hay, oats and on a rare occasion irrigated corn. To the best of his knowledge the site has not supported irrigated pasture or other irrigated crops. The site has supported wheat for the last two years. Mr. Kalwani stated that no pesticides have been applied to the site since he purchased it, and that it was unlikely that pesticides were applied to the crops cultivated by the previous owner. Mr. Kalwani indicated that the previous owner used the barn for hay storage and that the shop building and shed were used for storage of farm equipment. Mr. Kalwani stated that to the best of his knowledge the site has had no USTs, sumps, in-ground hydraulic systems, buried livestock or trash pits, or burn areas. Mr. Kalwani was aware of an AST existing near the barn prior to his acquisition of the site.

Regarding the north parcel, Mr. Kalwani does not recall a house existing near the domestic water supply, but believes a modular home may have existed for a short time. Mr. Kalwani did not know if a septic system existed on the north portion of the site. A representative of the previous owner placed the trucks and cable spools on the north parcel. Mr. Kalwani is not aware of any imported fill being placed on the site and has no knowledge of the piled soil located on the north parcel.

3.2 Occupants (Multi-family or Major)

The tenant and tenant farmer were not interviewed.



3.3 Past and Present Owners, Operators, and/or Occupants

No past owners, operators, and/or occupants were interviewed.

3.4 State and/or Local Government Officials

The Sacramento County Agricultural Department was contacted on March 13, 2008 regarding the agricultural use of the site. Ms. Debbie Thompson with the Sacramento County Agricultural Department was familiar with the site. Ms. Thompson indicated that the site has been cultivated in dry-farmed haycrops for at least the past 28 years. Ms. Thompson stated that to the best of her knowledge no restricted pesticides have been used on the site during that time period.

The Elk Grove Building Department was contacted on March 11, 2008. Ms. Stephanie Martin with the Elk Grove Building Department indicated that three building permits were on file for the site; the permits are discussed in Section 4.2.6 below. Ms. Martin has no personal knowledge of the site.

3.5 Abandoned Properties

As referenced in 40 CFR Part 312, in the case of inquiries conducted at "abandoned properties," as defined in §312.23(d), "where there is evidence of potential unauthorized uses of the site or evidence of uncontrolled access to the site, the environmental professional's inquiry must include interviewing one or more (as necessary) owners or occupants of neighboring or nearby properties from which it appears possible to have observed uses of, or releases at, such abandoned properties..." No evidence of potential unauthorized uses, or evidence of uncontrolled access to the site was observed. Therefore, WKA did not interview owners or occupants of neighboring properties.



4.0 RECORDS REVIEW

The purpose of the records review is to obtain and review information concerning the current and historical use of the site and adjoining properties that would help identify the presence of RECs in connection with the site. The records review included review and discussion of the following, as available:

- Physical Setting Source(s)
- Historical Use Information
- Environmental Record Sources

4.1 Physical Setting Source(s)

The site is depicted on the 1979 United States Geological Survey (USGS) 7.5 Minute topographic map of the *Elk Grove, California Quadrangle* as developed land. The site is located within southwest quarter of Section 20, Township 7 North, Range 6 East, Mount Diablo Base and Meridian, at an elevation of approximately +60 feet relative to mean sea level (msl).

4.1.1 Regional and Local Geology

The site is located in the Great Valley geomorphic province of California, a large, elongate, northwest-trending structural trough, generally constrained to the west by the Coast Ranges and to the east by the foothills of the Sierra Nevada Range (Norris and Webb, 1990). The Great Valley consists of two valleys lying end-to-end, with the Sacramento Valley to the north and the San Joaquin Valley to the south.

The Sacramento and San Joaquin Valleys have been filled to their present elevations with thick sequences of sediment derived from both marine and continental sources. The sedimentary deposits range in thickness from relatively thin deposits along the eastern valley edge to more than 25,000 feet in the south central portion of the Great Valley (Norris and Webb, 1990). The sedimentary geologic formations of the Great Valley province vary in age from Jurassic to Quaternary, with the older deposits being primarily marine in origin. Younger sediments are continentally derived and were typically deposited in lacustrine, fluvial, and alluvial environments with their main source being the Sierra Nevada Range.



The State of California Department of Mines and Geology, *Geologic Map of the Sacramento Quadrangle, California*, shows the east side of the site to be underlain by the Riverbank Formation and the west side by the Laguna Formation. The Riverbank Formation consists of alluvium. The Laguna Formation consists of consolidated alluvial deposits.

4.1.2 Soil Survey

Review of the April 1993 United States Department of Agriculture (USDA), Soil Conservation Service *Soil Survey of Sacramento County, California* indicates the near-surface soils on the site consist of "Hicksville Loam, 0 to 2 percent slopes, occasionally flooded," "Redding gravelly loam, 0 to 8 percent slopes," "San Joaquin silt loam, 0 to 3 percent slopes," "San Joaquin-Durixeralfs complex, 0 to 1 percent slopes," "San Joaquin-Xerarents complex, leveled, 0 to 1 percent slopes," and "San Joaquin silt loam, leveled, 0 to 1 percent slopes." These soils formed in alluvium from mixed rock sources.

The Hicksville Loam is mapped within the creek area. The surface layer consists of "grayish brown loam about 13 inches thick. The upper 30 inches of subsoil is brown clay loam and sandy clay loam. The lower part to a depth of 64 inches is pale brown sandy clay loam. In some areas the surface layer is sandy loam or gravelly loam." This soil is "used mainly for irrigated hay and pasture. Some areas are used as rangeland or for irrigated crops, mainly corn and wheat."

The Redding gravelly loam is mapped within the area west of Laguna Creek. The surface layer consists of "strong brown gravelly loam about 7 inches thick. The upper 13 inches of subsoil is yellowish red loam and gravelly loam. The lower 8 inches is a claypan of reddish brown and yellowish red gravelly clay. A very gravelly hardpan that is strongly cemented with silica is at a depth of about 28 inches. In some areas the surface layer is gravelly sandy loam. In other areas the subsoil has very gravelly strata." The soil is used mainly for rangeland. Other uses are irrigated hay, pasture, or dryland crops, such as wheat.

The San Joaquin silt loam is mapped east of Laguna Creek. The surface layer consists of "strong brown silt loam about 23 inches thick. The subsoil is a claypan of yellowish red clay loam about 5 inches thick." The next layer is an indurated hardpan between 11 and 26 inches thick. "The substratum to a depth of 60 inches is light yellowish brown loam." On the southeast portion of the site the lower 15 inches of hardpan is strongly cemented with silica. "In some areas the



surface layer is sandy loam, fine sandy loam, or loam.” The soil is used mainly for rangeland or dryland crops, such as wheat.

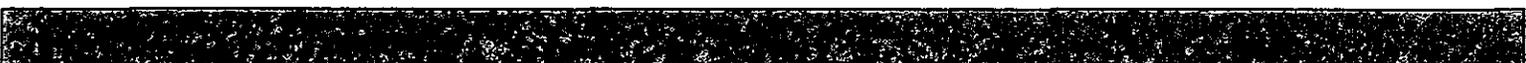
The Durixeralfs soil is mapped within the north portion of the northeast field. “The surface layer is brown clay about 6 inches thick.” The subsoil is also brown clay, about 14 inches thick. “Below this to a depth of 60 inches is a continuous hardpan that is strongly cemented with silica. In some areas the surface layer is clay loam or sandy clay loam.” This soil is used for irrigated hay and pasture.

The Xerarents soil is mapped within the central portion of the northeast field. “This soil formed in fill material mixed by leveling activities. The fill material is derived from nearby soils of mixed but dominantly granitic origin. Prior to leveling, areas of these soils consisted of depressions and narrow canals along drainageways.” The surface layer consists of “about 16 inches of pale brown, yellowish brown, light gray, white, and brown sandy loam and sandy clay loam fill that has remnant subsoil fragments of clay loam or clay. The subsurface layer is about 14 inches of pale brown and brown loamy sand and sandy loam fill that has remnant subsoil fragments of clay loam or clay. Below this is a buried surface layer of grayish brown loam about 5 inches thick. The underlying material to a depth of 60 inches is brown loam and light yellowish brown, weakly cemented hardpan.” This soil is used for irrigated crops or irrigated hay and pasture.

4.1.3 Regional and Local Groundwater

The site is located within the Sacramento River Hydrologic Region, Sacramento Valley Groundwater Basin, South American Subbasin (groundwater basin number 5-21.65), as defined by the California Department of Water Resources (DWR, 2004). The closest DWR-monitored well is located more than one-quarter of a mile west of the site; therefore, it would be of little beneficial use in estimating depth of groundwater beneath the site.

Review of the spring 2003 *Ground Water Elevations* map prepared by the Sacramento County Department of Public Works, Water Resources Division reveals that groundwater in the vicinity is approximately 100 feet bgs and regional ground water flow is southwesterly.



4.2 Historical Use Information

Historical information was reviewed to develop a history of the previous uses of the site and surrounding area, in order to evaluate the site and adjoining properties for evidence of RECs. Standard historical sources reviewed during the preparation of this report included the following, as available:

- Sanborn® Maps
- Topographic Maps
- California Oil/Gas Well Maps
- Aerial Photographs
- Ownership Records
- Building Department Records
- Local Street Directories
- Zoning and Land Use Records
- Other Historical Sources
- Prior Assessments

Discussion of these historical sources is provided in the following sections.

4.2.1 Sanborn® Maps

Sanborn® Maps with coverage of the site were requested through Environmental Data Resources, Inc. (EDR®). EDR® is a national commercial provider of environmental database information. Sanborn® Maps are detailed drawings of site development, and were typically used by fire insurance companies to determine site fire insurability. According to EDR®, Sanborn® maps were not available for review (EDR®, 2007a).

4.2.2 Topographic Maps

Historical USGS topographic maps with coverage of the site and outlying land areas were reviewed. Topographic maps of the *Elk Grove* and *Galt, California Quadrangle* for years 1909, 1947, 1968, 1975, and 1979 were available for review (EDR®, 2007b). The maps are discussed individually below by year. The 1979 topographic map has been adapted to serve as Figure 2 of



this report. Copies of the topographic maps compiled by EDR® with coverage of the site are included on the CD attached to the back cover of this report.

1909
Scale: 1:31,680

The site is located in a rural area. An improved road currently identified as Sheldon Road, bounds the site to the south. An unimproved access road extends north from the improved road to a dwelling located northwest of the site. A stream canal crosses the west side of the site.

1947
Scale: 1:50,000

The access road is no longer mapped on the site. An improved road, currently identified as Waterman Road, is mapped west of the site. No other changes are apparent.

1968
Scale: 1:24,000

The site supports the dwelling, barn and shed. An unimproved access road extends north on to the site and loops around the shed. Three high power electrical transmission lines cross the west side of the site. Sheldon Road and Waterman Road are identified as such. Residential Development is mapped just east of the site.

1975
Scale: 1:24,000

The shop building is now mapped north of the house. A north/south-trending water canal is mapped on the site along the northeast boundary. The canal trends west and crosses the north portion of the site and discharges to Laguna Creek. Increased residential development is mapped west of the site.



1979
Scale: 1:24,000

No significant changes to the site are shown on the 1975 topographic map.

4.2.3 California Oil/Gas Well Maps

Review of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) Map W6-1, dated August 8, 2001, showed that the site is not located in a designated natural gas field. No DOGGR wells are located on or within at least one-mile of the site (DOGGR, 2001).

4.2.4 Aerial Photographs

Historical aerial photographs of the site and general vicinity were compiled by EDR[®]. Photographs covering the years 1937, 1952, 1961, 1971, 1981, 1993, and 1998 were available for review (EDR[®], 2007c). Additionally, an undated aerial photograph of the farm building area on the site was obtained from Microsoft. The results of the review are discussed below by year. Copies of the aerial photographs provided through EDR[®] are included on the CD attached to the back cover of this report.

1937
Scale: 1 inch = 555 feet

The site appears to be dry-farmed land. The southeast corner of the site appears to have supported an orchard. A north/south-trending row of trees exists on the southeast side of the site. Intermittent stream canals cross the northeast portion of the site. The surrounding area consists of dry-farmed land, orchards, and rural residential sites.

1952
Scale: 1 inch = 555 feet

The site supports dry-farmed land. The house is now visible on the southwest side of the site. Electrical transmission lines are now apparent on the west side of the site. Orchards are no longer apparent in the vicinity of the site. The surrounding area now supports dry-farmed land.



1961

Scale: 1 inch = 555 feet

The south side of the site continues to support dry-farmed land. The stream canal on the northeast side of the site has been canalized. The water canal appears as it does today. The northeast side of the site supports an irrigated crop, possibly corn or hay. The rural residential area has expanded and supports the barn, shed and shop buildings. The surrounding area supports dry-farmed land and irrigated hay, grain or corn crops.

1971

Scale: 1 inch = 333 feet

The site supports dry-farmed land; the west fields have been harvested. Two more electrical transmission lines have been installed and cross the west side of the site. The farm buildings area on the site now has a large volume of stored items on the site. No significant changes have occurred on the surrounding land areas.

1981

Scale: 1 inch = 333 feet

The south side of the site appears to support dry-farmed land. No significant changes are apparent on the farm buildings area. The northeast field appears fallow. Several rural residences are apparent west of the site.

1993

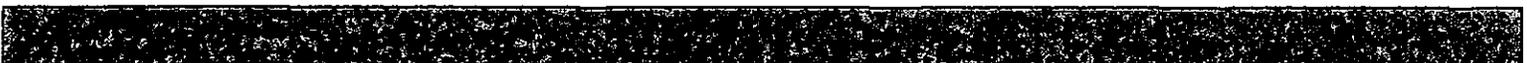
Scale: 1 inch = 666 feet

No significant changes have occurred on or adjacent to the site relative to the 1981 photograph.

1998

Scale: 1 inch = 666 feet

No significant changes have occurred on or adjacent to the site relative to the 1993 photograph.



Microsoft Aerial Photograph
No Scale or Year Provided

A low-angle aerial photograph of the residential site reveals the debris and parked vehicles around the barn, shop building and house. The two debris piles observed northeast of the barn and southeast of the house are apparent. The communications tower enclosure and concrete pad-mounted electrical transformer are also apparent. An AST is visible west of the barn, beyond an access road. The AST is situated on a grassy area. The fields north, east and west of the buildings are covered with green grasses.

4.2.5 Ownership Records

Available ownership information was reviewed through ParcelQuest®. ParcelQuest® is an on-line distributor of "Assessor-Direct property information throughout the State of California." According to ParcelQuest®, the owner of Parcel 12 is Sheldon Business Park Limited and the owners of Parcel 17 are Sheldon Business Park Limited and Gyan Kalwani.

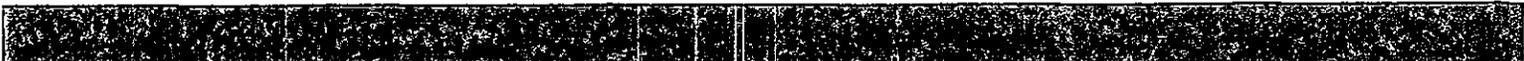
4.2.6 Building Department Records

WKA reviewed archived permit records pertaining to the site at the *City of Elk Grove Building Department*. According to the available records, three permits were issued between 2001 and 2006 for Parcel 12. An electrical permit for the installation of a stove and water heater was issued in 2001; the permit indicates that the house was constructed in 1955. Another permit was issued in 2001 for a cellular concrete pad; no work was completed and the permit expired. The third permit was for a communication tower upgrade in 2006.

4.2.7 Local Street Directories

Local street directories with coverage of Sacramento were obtained from EDR® (EDR®, 2007d). These documents contain business and residential listings based on street number identifiers. The site address was listed as a residence on all the reviewed business directories dated between 1971 and 2002.

A copy of the EDR® City Directory (EDR®, 2007d) is provided on the CD attached to the back cover of this report.



4.2.8 Zoning and Land Use Records

Zoning information for the site was retrieved from ParcelQuest®. According to ParcelQuest®, the site is zoned as AR 5 T. Due to the historical land use as shown through review of the previously discussed historical sources, no additional land use records were reviewed.

4.2.9 Other Historical Sources

Review of additional historical sources was not warranted in order for the Environmental Professional to make a determination as to evidence of potential RECs on the site.

4.2.10 Prior Assessments

No prior assessments were available for review.

4.3 Environmental Record Sources

EDR® was contacted to provide a summary of facilities listed on regulatory agency databases (EDR®, 2007e). The Executive Summary of the EDR® report is included in Appendix C. A copy of the entire EDR® report is included on the CD attached to the back cover of this report.

4.3.1 Site-Related Database Search Results

Review of the EDR® report indicates the site is not listed on any of the databases reviewed.

4.3.2 Federal Database Search Results

Review of the federal databases revealed no facilities within the ASTM search radii.

4.3.3 State and County Database Search Results

Review of the state and county databases revealed no contaminated facilities within one-half mile of the site. Two farm-exempt USTs were identified within one-quarter mile on outdated, historical UST state and county databases. The two sites are not listed in current databases for USTs or for hazardous materials releases.



4.3.4 Environmental Lien Search

Senior Village Living LLC did not authorize WKA to perform a search for recorded environmental liens and activity or AULs for the site. Senior Village Living LLC did provide a Preliminary Report for the site by Stewart Title of Sacramento. The Preliminary Report did not reveal any recorded environmental liens and activity or AULs for the site.

The Preliminary Report revealed that the four easements for electrical transmission lines were originally granted to Sacramento County, Pacific Gas and Electric Company, SMUD, and the United States of America. The lessee of the communications tower is identified as Pacific Bell Wireless LLC. The drainage canal easement that affects Parcel 17 was granted to Sacramento County.



5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Data Gaps

The historical research presented in this report was able to document the site use back to 1909. The ASTM standard calls for researching site use back to 1940 or first developed, whichever is earlier. The residence was first developed in 1955, although the site supported agriculture before 1937.

The time intervals between the Standard Historical Sources exceeded the minimum five-year period between 1914 and 1937, 1942 and 1947, 1957 and 1961, 1966 and 1971, and therefore represent data gaps. However, the data gaps are not considered significant in terms of identifying RECs related to the site since the overall use of the site during the years where the data gaps were identified had not changed.

No other significant data gaps were identified during the preparation of this report that affect the ability of the Environmental Professional to identify RECs on the site.

5.2 Conclusions

In summary, the historical land use research dating back to 1909, which included reviews of topographic maps, aerial photography, and other ASTM standard historical sources revealed that the site supported dry-farmed crops since at least 1937. At one time, the southeast side of the site supported an orchard. The house was constructed on the site by 1955, and the other buildings were constructed by 1961. An AST existed on the west side of the site for an undisclosed number of years. Three water supply wells were observed on the site.

A moderate amount of debris exists on the northeast portion of the site and within the farm buildings area. Three parked trucks also exist on the northeast portion of the site.

Given the age of development on the site, it is possible that asbestos containing building materials (ACMs) and lead-based paints were used in construction of existing and pre-existing development.



WKA has performed this ESA in conformance with the scope and limitations of ASTM Standard Practice E 1527-05 for Elk Grove Senior Village Living located in Elk Grove, California. This assessment has revealed no evidence of historical or existing RECs in connection with the site. No further investigation is recommended at this time.

Any exceptions to, or deletions from, this practice are described in Section 5.4 of this report. A full copy of this ESA report, in a .pdf format, is included on the attached CD.

5.3 Recommendations

Fallow land and dry-farmed land typically require little to no applications of environmentally persistent pesticides. WKA anticipates that the potential for residual agricultural chemical concentrations to exist in surficial soils is low. Therefore, in WKA's professional opinion, sampling and testing surficial site soils for potential persistent pesticide residuals is not necessary.

Although the portion of the site east of Laguna Creek is planned as senior living attached houses with landscaped front yards and patios and landscaped walkways between the houses, WKA suggests that a surface soil sampling and testing survey for persistent pesticides be completed on the former orchard to forestall potential permitting issues.

Regarding the former AST location, soils beneath the AST may have become contaminated from overfilling or dripping. WKA recommends that the soil in the vicinity of the former location of the AST be sampled and tested for petroleum hydrocarbons.

Regarding the described debris and stored items observed on the site, since the items do not appear to be of an obvious hazardous materials nature, WKA simply recommend that they be removed and appropriately disposed or recycled off site. WKA recommends that the surface soils on these areas of the site, including the interiors of the barn and shed, be visually inspected following the removal of the items. The concrete in the shop building and in the shed should also be visually inspected following the removal of items. If visual or olfactory evidence of potential soils contamination or the degradation of the concrete floors is observed beneath the abandoned and/or stored items, soils sampling and testing may be warranted.



Three water supply wells were observed on the site. If the use of the wells will cease in the future, each water supply well must be properly destroyed; this procedure requires a well abandonment permit from the Sacramento County Environmental Management Department.

When the residential portion of the site is redeveloped, WKA recommends that prior to demolition, a qualified contractor survey the structures for ACMs, lead-based paint, and persistent pesticides. Additionally, the septic system(s) and associated dry-well(s) or leachfield(s) must be abandoned in accordance with the recommendations of a qualified geotechnical engineer.

5.4 Exceptions and/or Deletions

No exceptions or deletions from the ASTM E 1527-05 standard were made during the performance of this ESA.

5.5 Additional Services

Non-scope considerations, such as assessment for naturally occurring asbestos (NOA), wetlands evaluation, indoor air quality, laboratory testing of the soils and groundwater beneath the site for environmental contaminants (such as agricultural-related pesticides, termiticides, polychlorinated biphenyls [PCBs], or arsenic and lead), and assessments for asbestos containing materials and lead-based paint were not included or requested as part of this ESA. These additional components can be provided as part of a Phase II assessment, if requested.



6.0 LIMITATIONS

The statements and conclusions in this report are based upon the scope of work described above and on observations made only on the date of the field reconnaissance, February 19, 2008. Work was performed using a degree of skill consistent with that of competent environmental consulting firms performing similar work in the area. Information regarding the site that is *publicly available* and *practically reviewable*, as described in the ASTM standard, was obtained. Additional research or receipt of information regarding the site that was not disclosed or available to WKA during this assessment may result in revision of the conclusions. The conclusions in this report should be reevaluated if site conditions change. No recommendation is made as to the suitability of the site for any purpose. The results of the assessment do not preclude the possibility that materials, currently or in the future, defined as hazardous are present on the site. This report is applicable only to the investigated site and should not be used for any other property. No warranty is expressed or implied.

This report is viable for one year from the publication date of the report provided the following components are updated within 180 days of the date of purchase or (for transactions not involving an acquisition) the date of the intended transaction:

- Interviews with current owners/occupants and/or in order to identify changes in site conditions or uses since the publication date of this report
- Searches for recorded environmental cleanup liens
- Visual inspection of the site and of adjoining properties with emphasis on changes in conditions or uses since the publication date of this report
- A current review of federal, state, tribal and county databases
- The declaration by the environmental professional responsible for the assessment.

Environmental Site Assessments completed more than one year prior to the date of purchase must be reviewed and updated in order for the *Environmental Site Assessment* to be considered valid per Section 4.6 (*Continued Viability of Environmental Site Assessment*), and Sections 4.7 and 8.4 (*Prior Assessment Usage*) of the ASTM E 1527-05 Standard.



7.0 REFERENCES

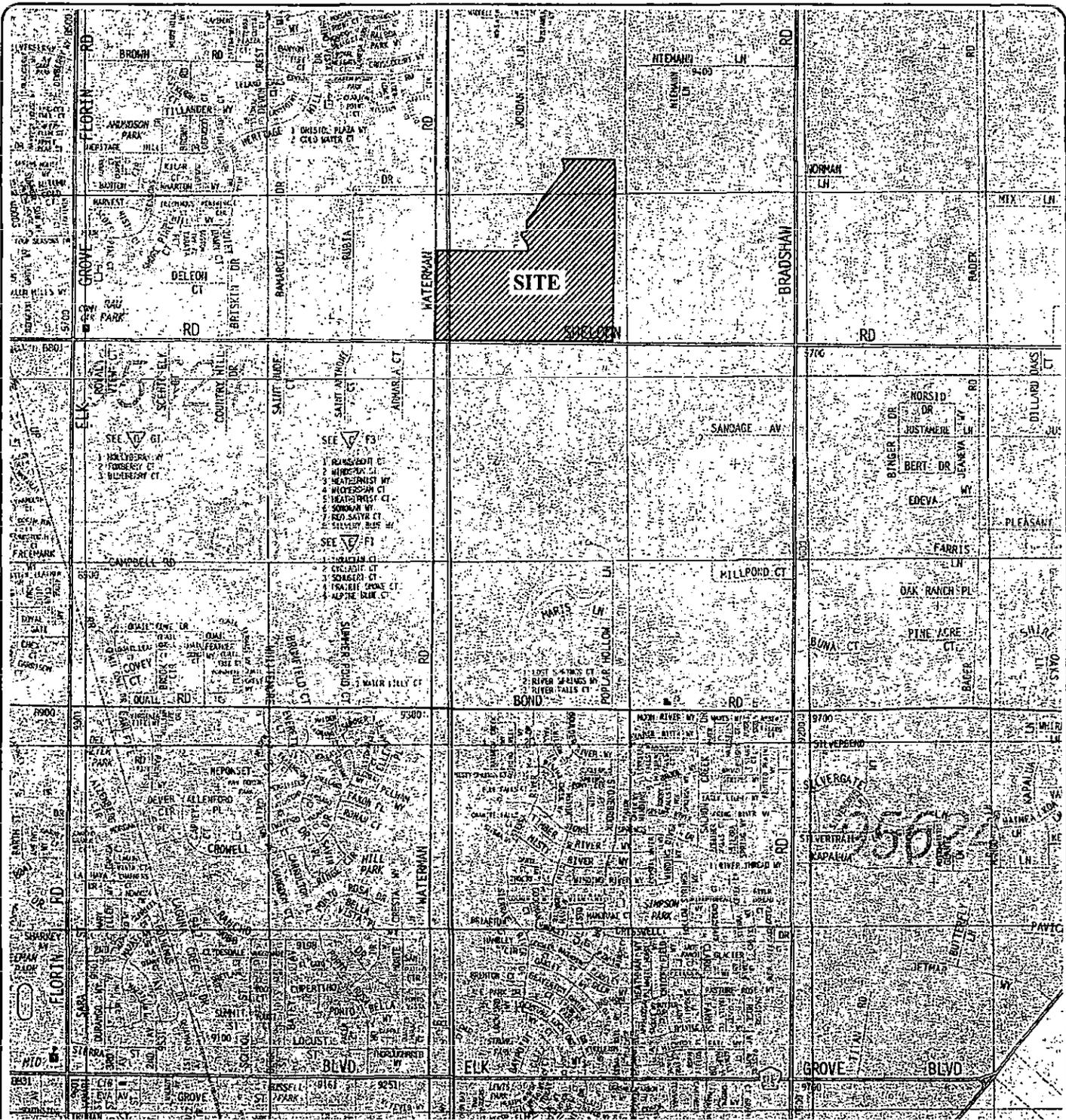
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Wagner, D.L., et al, State of California Department of Mines and Geology, *Geologic Map of the Sacramento Quadrangle, California* [map]. 1:250,000, Regional Geologic Map Series, Map No. 1A (Geology) Sheet 1 of 4. Capitol Heights, MD: William Heintz Map Corporation, 1981.



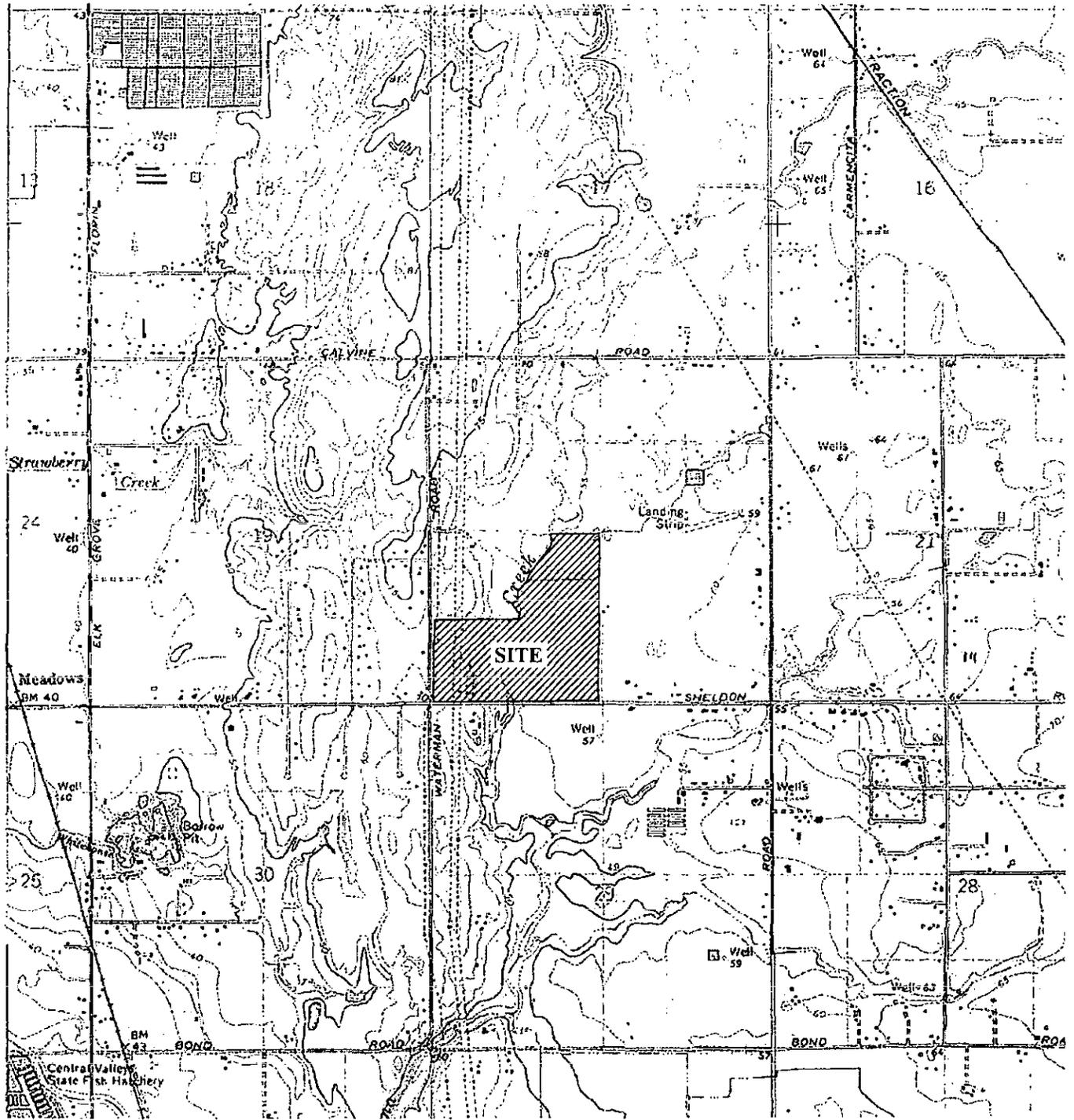


Adapted from the Thomas Guide
Sacramento and Solano Counties
Street Guide and Directory, 2006 edition.

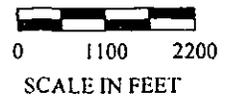


VICINITY MAP
ELK GROVE SENIOR VILLAGE LIVING
Elk Grove, California

FIGURE 1	
DRAWN BY	DJP
CHECKED BY	JMB
PROJECT MGR	JMB
DATE	03/08
WKA NO. 7986.01	



Adapted from the U.S. Geological Survey
7.5 minute topographic map of the
1979 Elk Grove quadrangle, California.



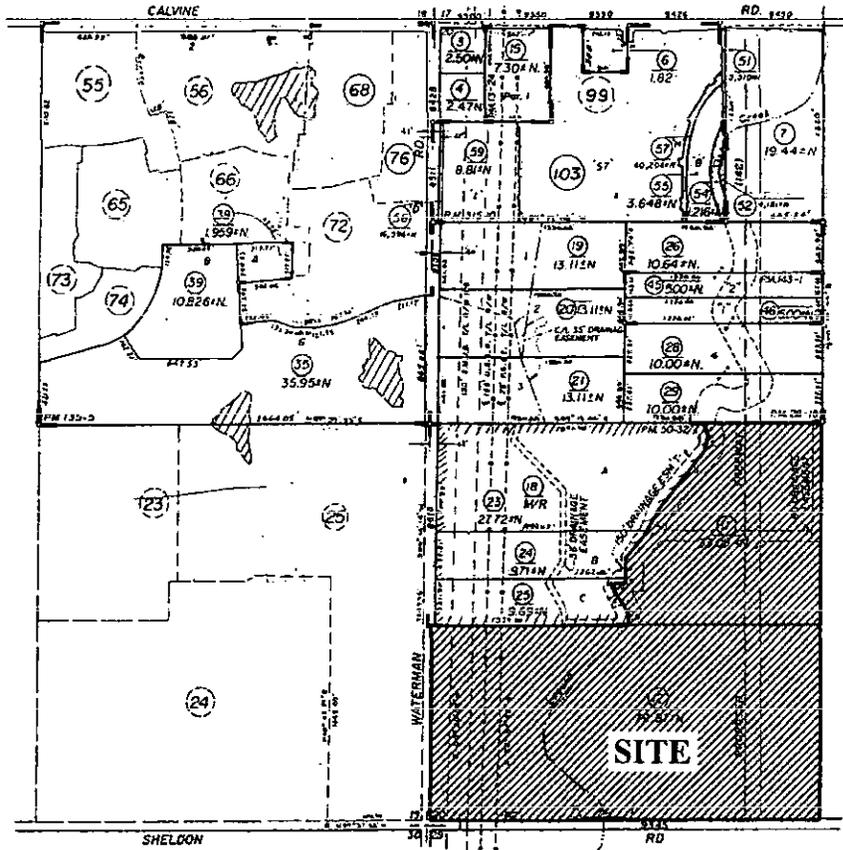
WallaceKuhl
ASSOCIATED INC

TOPOGRAPHIC MAP
ELK GROVE SENIOR VILLAGE LIVING
Elk Grove, California

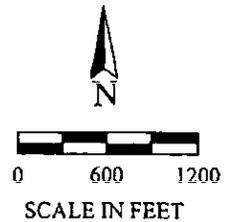
FIGURE 2

DRAWN BY	DJP
CHECKED BY	JMB
PROJECT MGR	JMB
DATE	3/08

WKA NO. 7986.01



Adapted from the Sacramento County Assessor's Map Book 121, Page 18.



PARCEL MAP
ELK GROVE SENIOR VILLAGE LIVING
 Elk Grove, California

FIGURE 3	
DRAWN BY	DJP
CHECKED BY	JMR
PROJECT MGR	JMB
DATE	3/08
WKA NO. 7986.01	



Photo 1: Westerly view of the drainage canal located on the northeast side of the site.



Photo 2: View of the parked trucks and cable spools located on the northeast portion of the site.



Photo 3: Southeasterly view of the soil piles located on the northeast portion of the site.



Photo 4: Northwesterly view of the fields, Laguna Creek, and the farm buildings located on the south side of the site.



COLOR PHOTOGRAPHS
ELK GROVE SENIOR VILLAGE LIVING
 Elk Grove, California

FIGURE 4

DRAWN BY	JMB
CHECKED BY	JMB
PROJECT MGR	JMB
DATE	3/08

WKA NO. 7986.01



Photo 1: Westerly view of the drainage canal located on the northeast side of the site.



Photo 2: View of the parked trucks and cable spools located on the northeast portion of the site.



Photo 3: Southeasterly view of the soil piles located on the northeast portion of the site.



Photo 4: Northwesterly view of the fields, Laguna Creek, and the farm buildings located on the south side of the site.



COLOR PHOTOGRAPHS
ELK GROVE SENIOR VILLAGE LIVING
 Elk Grove, California

FIGURE 4

DRAWN BY	JMB
CHECKED BY	JMB
PRODUCT MGR	JMB
DATE	3/08
WKA NO. 7986.01	

APPENDIX A

Resumes



MARK E. NICHOLS

SENIOR GEOLOGIST

Mr. Nichols has 20+ years of experience in environmental consulting including primary responsibilities for Phase I Preliminary Environmental Assessments through CERCLA RI/FSs and preparation of records-of-decisions. He has worked within a wide variety of locations under varying regulatory environments including projects for the U.S. Navy on Adak Island in Alaska, Kurita Industries in Takefu, Japan, and Texaco, Inc. in Brussels, Belgium. His experience also includes work for governmental agencies, public utilities, and public corporations in Northern California, Oregon, Washington, Idaho, and Alaska.



Mr. Nichols' client experience includes work with the United States Environmental Protection Agency, U.S. Navy, U.S. Air Force, Army Corp of Engineers, PG&E, Texaco, Inc., Chevron USA Inc., Shell Oil, BP, Elk Grove Unified School District, Folsom-Cordova Unified School District, and the City of West Sacramento.

Mr. Nichols' primary area of expertise is with remedial systems and technologies. He has been involved in the design and implementation of numerous remedial technologies including use of innovative *in situ* treatment of chromium using sodium dithionite at a CERCLA site and steam-enhanced extraction of bunker fuel for the U.S. Navy in Washington. Mr. Nichols' experience also includes remedial designs for petroleum hydrocarbon, DNAPL, and heavy metal cleanup.

HIGHER EDUCATION:

San Jose State University, San Jose
Bachelor of Science, Geology (1985)
(Physics Minor, Graduated Distinction)

EXPERIENCE:

6/04 - Present	Wallace-Kuhl & Associates, Inc. Senior Geologist
1996 - 2004	URS Corporation, Inc. Seattle, WA Senior Hydrogeologist/Environmental Engineer
1985 - 1996	Groundwater Technology, Inc., Kent, WA Senior Hydrogeologist/Project Manager

REGISTRATIONS:

Professional Geologist No. 7946, California
Professional Engineer No. C68744 California
Washington State Licensed Geologist – No. 1924
Washington State Licensed Hydrogeologist – No. 1924
Washington State Registered Environmental Engineer – No. 40064
UST Site Assessor

PROFESSIONAL AFFILIATIONS:

Association of Environmental and Engineering Geologists
Groundwater Resource Association of California
American Society of Civil Engineers



MARK E. NICHOLS

MAJOR PROJECTS:

Rominger Property, groundwater investigation and feasibility stud, Winters
John Bigler Middle School, geologic hazards study, Sacramento County
Proposed High School No. 10, geologic hazards study, Sacramento County
Steel Canyon Former Retail Petroleum Distributor, soil and groundwater investigation and hydrogeologic
characterization, Muscowite Corners, Napa County
Northwest Pipe & Casing, CERCLA RI/FS, Clackamas, Oregon
Frontier Hard Chrome, CERCLA RI/FS, Vancouver, Washington
U.S. Navy Former Naval Air Station, CERCLA RI/FS – Operable Unit 1, Petroleum hydrocarbon sites,
Adak, Alaska





JANINE M. BRINKMAN
SENIOR STAFF GEOLOGIST

Mrs. Brinkman has prepared Phase I environmental site assessments since 1990. Mrs. Brinkman has been responsible for overseeing a wide range of environmental site assessments including projects with noteworthy prehistoric and historic findings, historical buildings, industrial sites, high tech facilities, golf courses and agricultural sites. Additionally, Mrs. Brinkman has completed numerous environmental site assessments and hazardous pipeline surveys for proposed school sites in accordance with the California Department of Education, School Facilities Planning Division and California Department of Toxic Substances Control requirements. One of her unique projects was an environmental assessment along the entire 600-mile length of a proposed fiber optic cable route, requiring extensive research of numerous agency databases in Northern California and Oregon. She has also completed numerous environmental assessments for large land areas including six Sacramento and Roseville area specific plan projects ranging in size from 2000 acres to 6000 acres. Mrs. Brinkman performed an aerial reconnaissance of two of the specific plan areas in order to complete our work at parcels whose owners were not cooperating in the specific planning process. This was an important strategy, as the county staff required the entire plan area to be studied for potential hazardous materials concerns. She has also performed subsurface investigations to determine the nature and extent of chemical contamination and observed the drilling and installation of groundwater monitoring wells. Additionally, Mrs. Brinkman has performed a community-wide groundwater study correlating domestic well contamination with septic system failures as part of a municipal grant application for infrastructure improvements.



HIGHER EDUCATION:

California State University, Sacramento
Bachelor of Arts, Geology (1992)

EXPERIENCE:

10/06 - Present	Wallace-Kuhl & Associates Senior Staff Geologist
10/05 - 9/06	Wallace-Kuhl & Associates Staff Geologist
8/94 - 10/05	Wallace-Kuhl & Associates Site Assessment Geologist
12/92 - 8/94	LRA Environmental, Inc. Staff Geologist
2/90 - 12/92	LRA Environmental, Inc. Environmental Specialist
7/89 - 2/90	Laver Roper & Associates Laboratory & Field Tech.

PROFESSIONAL REGISTRATION:

Registered Environmental Assessor I (No. 07881), California

MAJOR PROJECTS:

Regional University Specific Plan and Offsite Areas, Placer County
Whitney Ranch, Rocklin
Rocklin 105, Rocklin
Serrano, El Dorado Hills



Placer Ranch, Roseville
Wildhawk North Project, Sacramento County
Napa AP Tech Building, Napa
Sunrise Douglas Specific Plan and Community Plan, Rancho Cordova
East Franklin Specific Plan, Elk Grove
Kyser-Lui-Williams Buildings, Napa
AT&T Fiberoptic Cable Project, Oregon and California
Groundwater Quality Study - Community of Rio Oso and South Yuba City Unincorporated Area



APPENDIX B

ASTM E 1527-05 User Questionnaire



ASTM E 1527-05

USER QUESTIONNAIRE – LAKEMONT SENIOR LIVING ELK GROVE

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"), the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that "*all appropriate inquiry*" is not complete.

(1.) Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law?

No.

(2.) Are you aware of any Activity and Use Limitations (AULs), such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

No.

(3.) As the *user* of the report, do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

(4.) Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present on the *property*?

YES, THIS PROPERTY IS BEING PURCHASED AT FAIR MARKET VALUE.

(5.) Are you aware of commonly known or reasonably ascertainable information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as user,

Do you know the past uses of the *property*? No.

Do you know of specific chemicals that are present or once were present at the *property*? No.

Do you know of spills or other chemical releases that have taken place at the *property*? No.

Do you know of any environmental cleanups that have taken place at the *property*? No.

(6.) As the *user* of this ESA, based on your knowledge and experience related to the *property* are there any obvious indicators that point to the presence or likely presence of contamination at the *property*?

No.

COMPLETION:

I have completed this User Questionnaire to the best of my knowledge and provided all information to the environmental professional as of the following date:

Completed by: DARREN SUEN

Date: 2/4/08

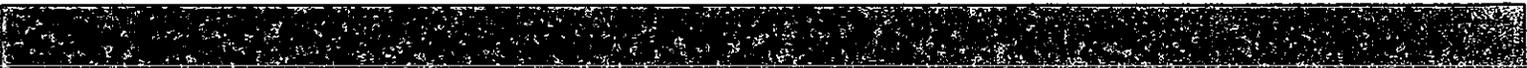
Signature: [Handwritten Signature]

Phone: (916) 960-2100



APPENDIX C

EDR® Radius Map Report Executive Summary



EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

9345 SHELDON ROAD
ELK GROVE, CA 95624

COORDINATES

Latitude (North):	38.441710 - 38° 26' 30.2"
Longitude (West):	121.348650 - 121° 20' 55.1"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	644118.4
UTM Y (Meters):	4255910.0
Elevation:	58 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	38121-D3 ELK GROVE, CA
Most Recent Revision:	1979

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL.....	National Priority List
Proposed NPL.....	Proposed National Priority List Sites
Delisted NPL.....	National Priority List Deletions
NPL LIENS.....	Federal Superfund Liens
CERCLIS.....	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP.....	CERCLIS No Further Remedial Action Planned
LIENS 2.....	CERCLA Lien Information
CORRACTS.....	Corrective Action Report
RCRA-TSDF.....	RCRA - Transporters, Storage and Disposal
RCRA-LQG.....	RCRA - Large Quantity Generators

EXECUTIVE SUMMARY

RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

HIST Cal-Sites	Historical Calsites Database
CA BOND EXP. PLAN	Bond Expenditure Plan
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
SWF/LF	Solid Waste Information System
CA WDS	Waste Discharge System
WMUDS/SWAT	Waste Management Unit Database
Cortese	"Cortese" Hazardous Waste & Substances Sites List
SWRCY	Recycler Database
LUST	Geotracker's Leaking Underground Fuel Tank Report
SLIC	Statewide SLIC Cases
Sacramento Co. CS	CS - Contaminated Sites
UST	Active UST Facilities
AST	Aboveground Petroleum Storage Tank Facilities
LIENS	Environmental Liens Listing
CHMIRS	California Hazardous Material Incident Report System
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
CLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List

EXECUTIVE SUMMARY

CDL Clandestine Drug Labs
RESPONSE State Response Sites
HAZNET Facility and Manifest Data
EMI Emissions Inventory Data
HAULERS Registered Waste Tire Haulers Listing
ENVIROSTOR EnviroStor Database

TRIBAL RECORDS

INDIAN RESERV Indian Reservations
INDIAN LUST Leaking Underground Storage Tanks on Indian Land
INDIAN UST Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants ... EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations EDR Proprietary Historic Gas Stations
EDR Historical Cleaners EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in *bold italics* are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STATE AND LOCAL RECORDS

CA FID: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
LAWRENCE E. GRISWOLD OR GERDA	8615 WATERMAN RD	1/4 - 1/2NW	A1	6
LEO A. FASSLER	9529 SHELDON RD	1/4 - 1/2SE	B4	8

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 2 HIST UST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
LAWRENCE E. GRISWOLD OR GERDA	8615 WATERMAN RD	1/4 - 1/2NW	A2	7

EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
LEO A. FASSLER	9529 SHELDON RD	1/4 - 1/2 SE	B3	7

SWEEPS: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
LAWRENCE E. GRISWOLD OR GERDA	8615 WATERMAN RD	1/4 - 1/2 NW	A1	6
LEO A. FASSLER	9529 SHELDON RD	1/4 - 1/2 SE	B4	8

CA ML: Sacramento County Master List. Any business that has hazardous materials on site - hazardous materials storage sites, underground storage tanks, waste generators.

A review of the Sacramento Co. ML list, as provided by EDR, and dated 10/29/2007 has revealed that there are 2 Sacramento Co. ML sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
LAWRENCE E. GRISWOLD OR GERDA	8615 WATERMAN RD	1/4 - 1/2 NW	A1	6
LEO A. FASSLER	9529 SHELDON RD	1/4 - 1/2 SE	B3	7

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

<u>Site Name</u>	<u>Database(s)</u>
ELK GROVE RADIO RELAY	CA FID UST, SWEEPS UST
1X SAMPAT, KEN	HAZNET, CHMIRS
TWITCHELL ISLAND ROAD .5 MI WEST OF RIO VISTA	CHMIRS, SLIC
ELK GROVE UNIFIED SCHOOL	Cortese
ELK GROVE RADIO RELAY	HIST UST
ELK GROVE MOWER & SAW	HAZNET
FOSS ENVIRONMENTAL SERVICES	HAZNET
ELK GROVE COMMUNITY SERVICE DIST	HAZNET
ELK GROVE COMMUNITY DAY	FINDS
PLEASANT GROVE ELEMENTARY	FINDS
ELK GROVE FIRE	Sacramento Co. ML
ELK GROVE AUTO CARE	Sacramento Co. ML
ELK GROVE POWER EQUIPMENT	Sacramento Co. ML
AT&T MOBILITY - DT ELK GROVE	Sacramento Co. ML
PREMIER AUTO BODY OF ELK GROVE	Sacramento Co. ML
ELK GROVE BUILDERS INC	Sacramento Co. ML
ELK GROVE WATER SERVICE WELL #04	Sacramento Co. ML
ELK GROVE	Sacramento Co. ML
MSA: ARCADIAN VILLAGE UNIT #2 S127	Sacramento Co. ML
DAN'S AUTO REPAIR OF ELK GROVE	Sacramento Co. ML
AUTO START	Sacramento Co. ML
PERFECTION AUTO PARTS AND REPAIR	Sacramento Co. ML
VINEYARD AUTOMOTIVE	Sacramento Co. ML
KINGSFORD CHARCOAL COMPANY	Sacramento Co. CS
KINGSFORD CHARCOAL PLANT	Sacramento Co. CS

APPENDIX E

Preliminary Geotechnical Report

Preliminary Geotechnical Engineering Evaluation

ELK GROVE

SENIOR VILLAGE LIVING

Elk Grove, California

WKA No. 7986.02

March 21, 2008

Prepared For:

Senior Village Living, LLC

140 Diamond Creek Place

Roseville, California 95747



CORPORATE OFFICE
3251 Beacon Boulevard, Suite 300
West Sacramento, CA 95691
916.372.1434 phone
916.372.2565 fax

ROCKLIN OFFICE
500 Menlo Drive, Suite 100
Rocklin, CA 95765
916.435.9722 phone
916.435.9822 fax

STOCKTON OFFICE
3410 West Hammer Lane, Suite F
Stockton, CA 95219
209.234.7722 phone
209.234.7727 fax

March 21, 2008

Mr. Darren Suen
Senior Village Living, LLC
140 Diamond Creek Place
Roseville, California 95747

Preliminary Geotechnical Engineering Evaluation
ELK GROVE SENIOR VILLAGE LIVING
Sheldon Road
Elk Grove, California
WKA No. 7986.02

As verbally authorized, we have completed a preliminary geotechnical engineering evaluation of the Elk Grove Senior Village Living property, located northeasterly of Sheldon and Waterman Roads in Elk Grove, California. The purposes of our work have been to utilize our limited field investigation and experience in the vicinity of the site to provide an overview of the probable subsurface soil and groundwater conditions across the property, and to discuss their impact upon single-family residential development of the property.

Proposed Development

We understand the majority of the proposed site will be developed with a single-family residential development. The remainder of the site will be developed with a condominium development. The condominium site is beyond the scope of this letter.

We anticipate single-family residential construction will include one- to two-story, wood-framed structures with interior concrete slab-on-grade lower floors. Structural loads for the buildings are anticipated to be relatively light and consistent with this type of construction. Associated development will include construction of underground utilities, landscaping, exterior flatwork and interior residential streets.

Site Description

The irregular-shaped site encompasses a total area of approximately 80 acres. The property is bounded to the north by undeveloped land; to the east by existing single-family residences; to the south by Sheldon Road; and, to the west by Laguna Creek. Topography across the major portion of the site is essentially flat with a surface elevation of about +60 feet relative to mean sea level (msl), based on review of the *United States Geological Survey (USGS) 7.5-Minute Topographic Map of the Elk Grove Quadrangle (1979)*.

On March 6, 2008, an engineer from our firm visited the subject site and observed a majority of the site supporting an active hay crop. Standing water was observed in several areas of the site and the surface soils appeared to be saturated. A gravel driveway was observed along the eastern boundary of the site. Several small trees were located in the southeastern portion of the site, inside the hay field.

An unpaved road, traversing the property in a west-east direction, bisects the site. Power poles were observed along the south side of the unpaved road. North of the unpaved road, along the western half of the site, a large area approximately two to three feet higher than the remainder of the site was observed. A domestic water well and several dumped piles of concrete rubble, rubbish and refuse were present in this raised portion of the site. Several abandoned vehicles at the northeastern corner of this raised area also were observed.

A drainage ditch traversed in a west to east direction through the center of the northern half of the property. At the eastern boundary of the site, the drainage ditch turned north and traversed along the eastern boundary of the site to the northeastern corner of the site.

Subsurface Conditions

On March 6, 2008, four test borings were drilled and sampled at the approximate locations indicated on Figure 2 utilizing a CME-850 track-mounted drill rig equipped with six-inch diameter, solid-stem, helical augers. The borings were drilled to a maximum depth of approximately 15 feet below existing site grades. Due to saturated conditions, the southern half of the site was not accessible with the drill rig at the time of our field investigation. To supplement the four test borings, we performed six hand-augered borings in the southern half of the site to a maximum depth of approximately 3 feet below existing site grades.



Our office has prepared several geotechnical engineering reports for projects in the area of the subject site including the 8590 Bradshaw Road Property, located approximately ¼-mile east of the project site. Results of our recent investigation at the proposed school site and previous investigations in the area have revealed surface and near-surface soils consisting primarily of silty and sandy clays and clayey silts to the maximum depth explored of 15 feet below existing site grades. Previous investigations in the area also have revealed variably cemented soils (locally known as “hardpan”) at various depths in the area.

Groundwater

Groundwater was not encountered within the borings drilled on March 6, 2008, to the maximum depth explored of approximately 15 feet below existing site grades. The Sacramento County, Department of Public Works, Water Resources Map, “Groundwater Elevations – Spring 2003,” indicates that groundwater beneath the subject property is located at an elevation of about –35 feet msl, or about 95 feet below existing site grades. Perched water should be anticipated at the site above the cemented geologic materials and in cleaner sand layers exposed at various depths across the site.

Soil Expansion Potential

Laboratory test results of near-surface soils indicate these soils possess low expansion potential when tested in accordance with ASTM D4829 test method (see Figures 9 and 10). However, previous experience in the vicinity of the site indicates that moderately to highly expansive clays may be present within the site. These clays, if encountered, may experience significant volume changes with increasing or decreasing soil moisture content. Additional Expansion Index testing to further define the expansion potential across the project site will be required to prepare the design-level report.

Site Clearing

The site should be cleared of all surface trash, rubble, and deleterious debris. Trees and shrubs designated to be removed should include the entire rootball and all roots larger than ½-inch in diameter. Adequate removal of debris and tree roots may require laborers and handpicking to clear the subgrade soils to the satisfaction of our on-site representative, prior to further site



preparation. Existing water wells should be abandoned in accordance with Sacramento County Environmental Health standards.

The existing undocumented fill soils and dumped piles of concrete rubble and refuse must be completely removed to expose firm undisturbed soil, as determined by our representative. The fill soils may be used as engineered fill, *provided they are free of significant organics, clays, rubble, rubbish, or other unsuitable materials.*

Remaining surface organics should be stripped from the site. Strippings should not be disposed of off-site and not used in general fill construction. Discing of the organics into the surface soils may be a suitable alternate to stripping, depending on the condition and quantity of the organics at the time of grading. *The decision to utilize discing in lieu of stripping should be made by our representative at the time of earthwork construction.* Discing operations, if approved, should be observed by our representative and be continuous until the organics are adequately mixed into the surface soils to provide a compactable mixture of soil containing minor amounts of organic matter. Pockets or concentrations of organics will not be allowed.

Site Preparation

Following site clearing and stripping (or discing) operations, areas designated to receive fill, at-grade areas, or those achieved by excavation should be scarified to a depth of at least 12 inches, moisture conditioned to at least the optimum moisture content and compacted to not less than 90 percent of the maximum dry density as determined by ASTM D1557.

The upper 12 inches of soil subgrades within areas of former structures and trees should be ripped and cross-ripped. All exposed structural remnants as well as debris and roots should be removed from the site.

Building Foundations

Based on our preliminary work, we anticipate the one- and two-story residential structures could be supported upon continuous and isolated spread foundations extending roughly 12 to 18 inches below grade. Bearing capacities on the order of 1500 to 2000 psf likely may be suitable for sizing foundations. Conventional foundations typically would contain reinforcement, such as No. 4 reinforcing bars placed near the top and bottom of the foundations.



Interior Floor Slab Support

Interior slab-on-grade concrete floors would be suitable for this project provided the slabs are properly designed and constructed with regard to moisture penetration resistance and slabs are adequately reinforced. Typical slab reinforcement for residential slabs constructed on non-expansive soils would consist of chaired, reinforcing steel bars. Placement of the reinforcement near the mid-depth of the slab would be crucial to its performance.

In areas where expansive soils are present at subgrade, proper reinforcement of slab-on-grade and moisture conditioning (i.e. pre-saturation) of upper 12 inches of subgrade soils prior to concrete placement will be particularly crucial to mitigate the effects of the expansive soils.

A typical capillary break (crushed rock) and moisture vapor retarder with optional sand layer may underlie interior slab-on-grade floors.

Pavement Sections

Laboratory testing of the anticipated pavement subgrade soils indicates these materials exhibit moderate subgrade qualities for support of asphalt concrete pavements. Laboratory testing of the soils indicate these materials possess Resistance ("R") values of 15 and 27 (see Figure 11). However, our previous experience in the vicinity of the site indicates that poorer subgrade quality clays may be present within the subject site.

Based on Resistance ("R") value testing, our experience in the area, and the design traffic indices contained in the "Design Practice Guide" prepared by the Sacramento County Transportation Division, dated June 1, 1999, we have calculated the following public street pavement section alternatives. The procedures used for designing the pavement sections are in general conformance with the "Flexible Pavement Structural Design Guide for California Cities and Counties" and applicable portions of the Caltrans Highway Design Manual.



Preliminary Pavement Design Alternatives R-value = 15			
Street Right-of-Way	Traffic Index (TI)	Type B Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
40' and 50' Residential	5.0	2½	11
		3*	10
56' to 74' without Bus Routes	6.0	2½	14
		3½*	12
56' to 74' with Bus Routes and Cul-de-Sacs	6.5	3	16
		4*	14
84' Streets	9.0	4	22
		5½*	20
108' and 130' Streets	10.0	5	24
		6*	22

* includes Caltrans safety factor

Efficient drainage of all surface water to avoid infiltration and saturation of the supporting aggregate base and subgrade soils is important to the performance of pavements. Where drop inlets or other surface drainage features are to be constructed, we strongly recommend that weep holes be provided at the base/subgrade level to allow free drainage of collected water.

Site Drainage

Performance of building foundations, slab-on-grade floors and pavement areas is dependent upon proper control of surface water on the site. Adequate drainage is crucial to site development.



Conclusions

Based on our field reconnaissance, review of previous reports prepared by our firm, and our extensive experience in this area of Elk Grove, it is our opinion that the site is suitable for the planned residential developments.

We are presently preparing a design-level *Geotechnical Engineering Report* for the subject property that will include specific recommendations for site preparation, foundation design, floor slab support, sound wall design, site drainage, and pavement design. Our office also is presently preparing an *Environmental Site Assessment* (WKA No. 7986.01) of the property. Those reports will be provided under separate covers.

Limitations

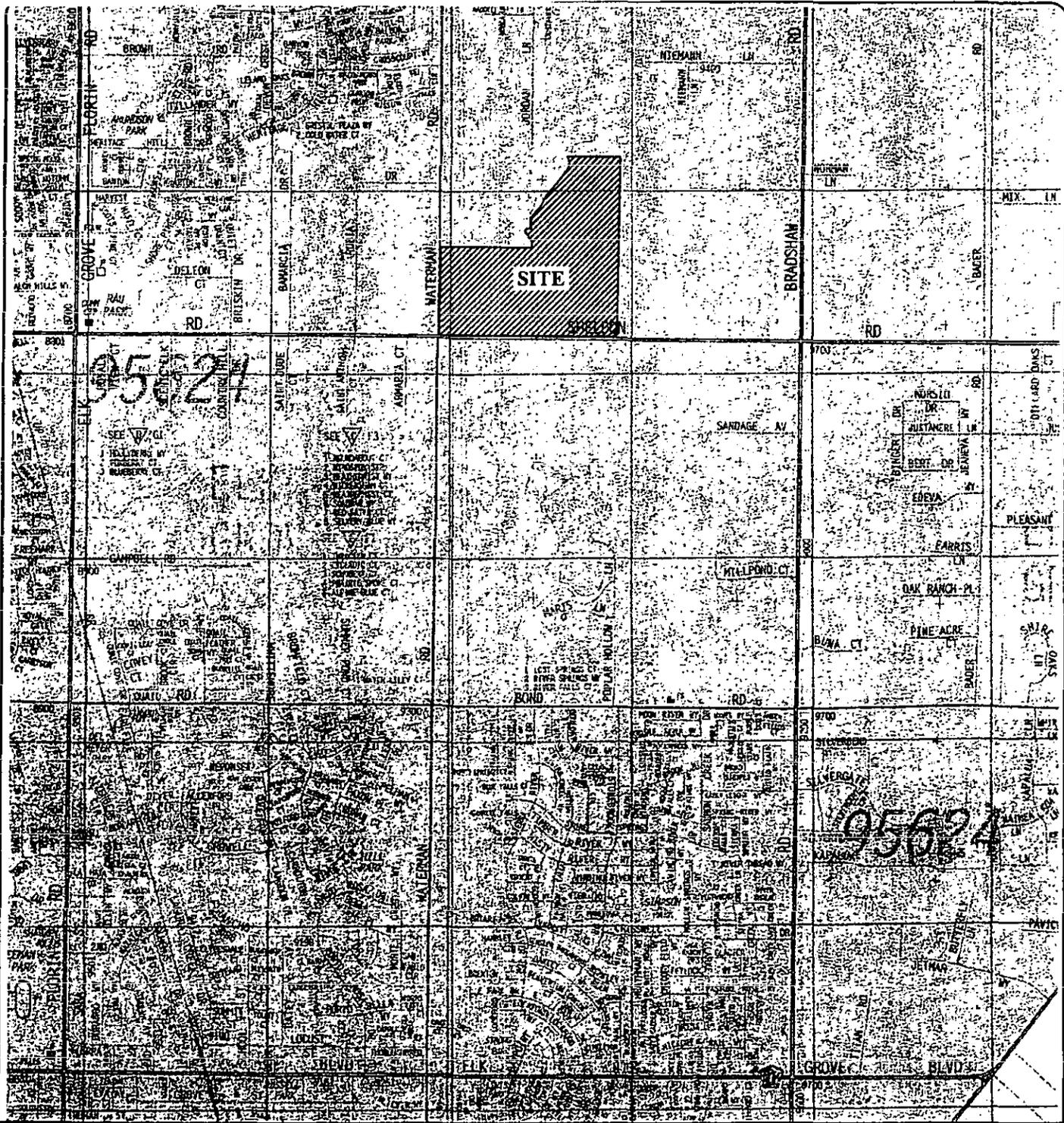
The findings and conclusions contained in this preliminary letter are intended as a general overview of geotechnical information available from previous investigations and studies performed in the site vicinity, combined with our limited field investigation. We have used prudent engineering judgment based upon the information provided and the data generated from previous investigations. We emphasize that this letter is general in nature and intended for use in planning for the project. This letter is applicable only to the investigated area.

Wallace – Kuhl & Associates, Inc.



Dominic J. Potestio
Senior Staff Engineer





Adapted from the Thomas Guide
 Sacramento and Solano Counties
 Street Guide and Directory, 2006 edition.



0 1000 2000
 SCALE IN FEET

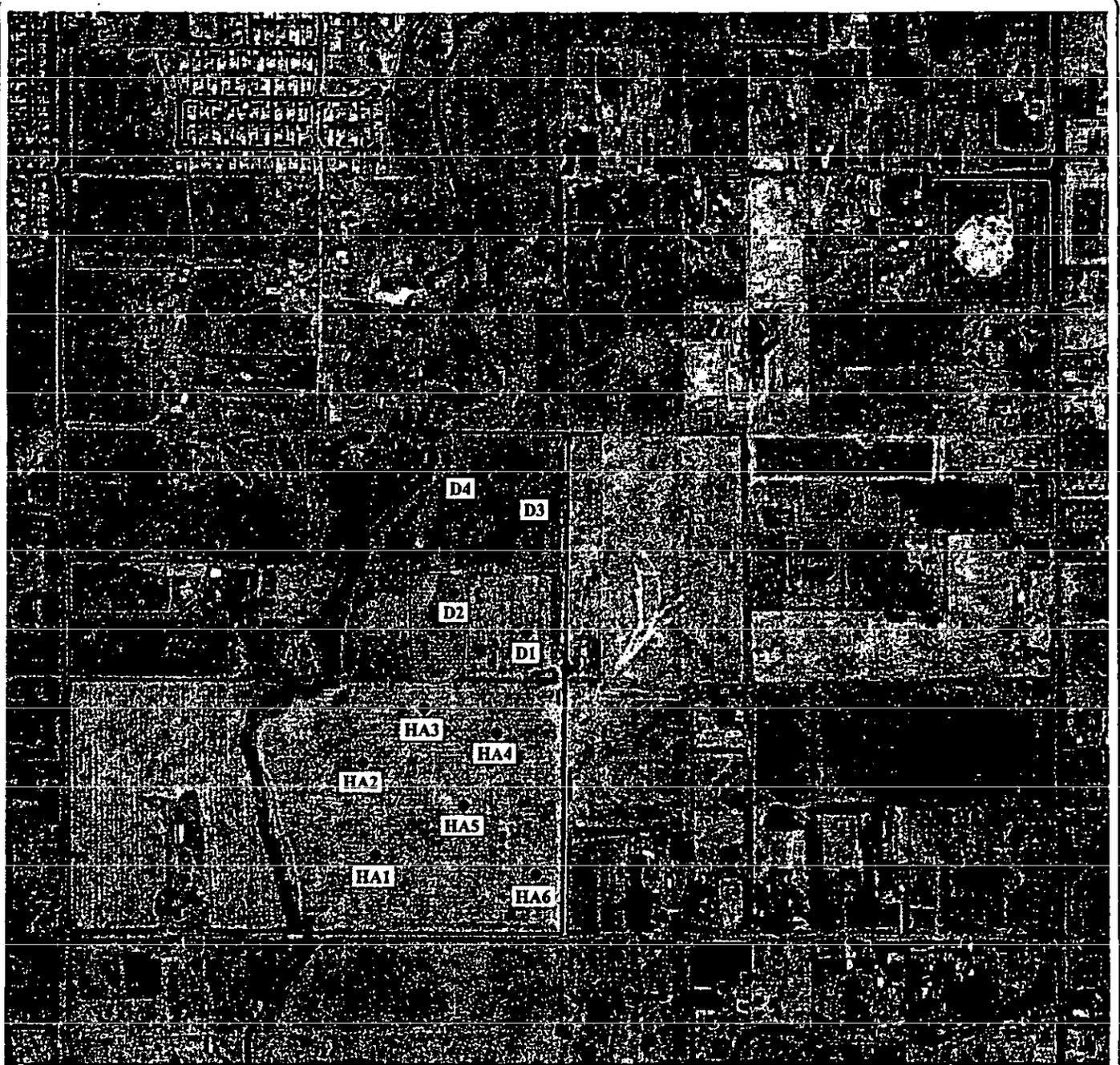


VICINITY MAP
 ELK GROVE SENIOR VILLAGE LIVING
 Elk Grove, California

FIGURE 1

DRAWN BY	DJP
CHECKED BY	DJP
PROJECT MGR	JDK
DATE	3/08

WKA NO. 7986.02



Legend:

- ◆ Approximate Soil Boring Location
- Concrete Rubble and Refuse Stockpiles



Adapted from a Google Earth aerial photograph



SITE PLAN
ELK GROVE SENIOR VILLAGE LIVING
Elk Grove, California

FIGURE 2	
DRAWN BY	DJP
CHECKED BY	DJP
PROJECT MGR	JDK
DATE	3/08
WKA NO. 7986.02	

Project: Elk Grove Senior Village Living
 Project Location: Elk Grove, California
 WKA Number: 7986.02

LOG OF SOIL BORING D1

Sheet 1 of 1

Date(s) Drilled	3/6/08	Logged By	DJP	Checked By	JDK
Drilling Method	6" Solid Flight Augers	Drilling Contractor	V&W Drilling, Inc.	Total Depth of Drill Hole	9.5 feet
Drill Rig Type	CME-850	Diameter(s) of Hole, inches	6	Approx. Surface Elevation, ft MSL	Not Determined
Groundwater Depth (Elevation), feet	Not encountered ☐	Sampling Method(s)	Open drive sampler with 6-inch sleeve	Drill Hole Backfill	soil cuttings
Remarks				Driving Method and Drop	140 lb hammer, 30-inch drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA	
				SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf
			Dark reddish brown, silty clay (CL)					
			Brown, variably cemented, silty fine sand (SM)		D1-11	50/6"		
			Brown, variably cemented, silty fine sand (SM)		D1-21	54	16	113
	5		Dark brown, clayey silt (ML)					
			Brown, variably cemented, silty fine sand (SM)		D1-31	50/3"		

BORING LOG: 7986.02 - ELK GROVE SENIOR VILLAGE LIVING.GPJ, WKA.GDT, 3/18/08, 10:20 AM

Project: Elk Grove Senior Village Living
 Project Location: Elk Grove, California
 WKA Number: 7986.02

LOG OF SOIL BORING D2

Sheet 1 of 1

Date(s) Drilled	3/6/08	Logged By	DJP	Checked By	JDK
Drilling Method	6" Solid Flight Augers	Drilling Contractor	V&W Drilling, Inc.	Total Depth of Drill Hole	14.5 feet
Drill Rig Type	CME-850	Diameter(s) of Hole, inches	6	Approx. Surface Elevation, ft MSL	Not Determined
Groundwater Depth [Elevation], feet	Not encountered <input type="checkbox"/>	Sampling Method(s)	Open drive sampler with 6-inch sleeve	Drill Hole Backfill	soil cuttings
Remarks				Driving Method and Drop	140 lb hammer, 30-inch drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
				SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			Dark brown, sandy, silty clay (CL-FILL)						
			Brown, variably cemented, silty fine sand (SM)		D2-11	29	19	111	UCC 1.6 (TSF)
5					D2-21	50/4"			
			grayish brown; very silty		D2-31	89			
10					D2-41	50/5"			

BORING LOG 7986.02-ELK GROVE SENIOR VILLAGE LIVING.GPJ_MKA.GDT_3/21/08 8:32 AM

Project: Elk Grove Senior Village Living
 Project Location: Elk Grove, California
 WKA Number: 7986.02

LOG OF SOIL BORING D3

Sheet 1 of 1

Date(s) Drilled	3/6/08	Logged By	DJP	Checked By	JDK
Drilling Method	6" Solid Flight Augers	Drilling Contractor	V&W Drilling, Inc.	Total Depth of Drill Hole	15.0 feet
Drill Rig Type	CME-850	Diameter(s) of Hole, inches	6	Approx. Surface Elevation, ft MSL	Not Determined
Groundwater Depth [Elevation], feet	Not encountered ☐	Sampling Method(s)	Open drive sampler with 6-inch sleeve	Drill Hole Backfill	soil cuttings
Remarks				Driving Method and Drop	140 lb hammer, 30-inch drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA		TEST DATA			
				SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			Dark brown, sandy, silty clay (CL)						
			Grayish brown, fine sandy silt (ML)		D3-11	50/6"	25	96	
5					D3-21	61	26	87	
10					D3-31	41			
15					D3-41	50/5"			

BORING LOG 7986.02 - ELK GROVE SENIOR VILLAGE LIVING.GPJ WKA.GDT 3/2/08 8:32 AM

Project: Elk Grove Senior Village Living
 Project Location: Elk Grove, California
 WKA Number: 7986.02

LOG OF SOIL BORING D4

Sheet 1 of 1

Date(s) Drilled	3/6/08	Logged By	DJP	Checked By	JDK
Drilling Method	6" Solid Flight Augers	Drilling Contractor	V&W Drilling, Inc.	Total Depth of Drill Hole	10.0 feet
Drill Rig Type	CME-850	Diameter(s) of Hole, inches	6	Approx. Surface Elevation, ft MSL	Not Determined
Groundwater Depth (Elevation), feet	Not encountered <input type="checkbox"/>	Sampling Method(s)	Open drive sampler with 6-inch sleeve	Drill Hole Backfill	soil cuttings
Remarks				Driving Method and Drop	140 lb hammer, 30-inch drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
				SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			Dark brown, sandy, silty clay (CL)						
			Brown, silty fine sand (SM)						
			Grayish brown, fine sandy silt (ML)		D4-11	51	26	88	UCC 1.5 (TSF)
	5				D4-21	50/6"			
			Grayish/Reddish brown, slightly silty, fine sand (SP)						
	10				D4-31	44	5	89	

BORING LOG 7986.02 - ELK GROVE SENIOR VILLAGE LIVING.GPJ_MKA.GDT 3/18/08 10:20 AM

LOGS OF HAND AUGERED BORINGS

HA1:

0 to 1' Dark brown, sandy, silty clay (CL)
 1' to 1½' Yellowish brown, well cemented, silty fine sand (SM) (hardpan)
 Practical refusal to hand excavation at approximately 1½ feet.

HA2:

0 to 2' Dark brown, clayey, silty fine sand (SM)
 0 to 2' Bulk Sample HA2 collected.
 2 to 2½' Grayish/Yellowish brown, silty clay (CL)
 2½' to 3' Yellowish brown, well cemented, silty fine sand (SM) (hardpan)
 Practical refusal to hand excavation at approximately 3 feet.

HA3:

0 to 1½' Dark brown, clayey, silty fine sand (SM)
 1½' to 2' Grayish/Yellowish brown, silty clay (CL)
 2' to 2½' Yellowish brown, well cemented, silty fine sand (SM) (hardpan)
 Practical refusal to hand excavation at approximately 2½ feet.

HA4:

0 to 2' Dark brown, clayey, silty fine sand (SM)
 2 to 2½' Grayish/Yellowish brown, silty clay (CL)
 2 to 2½' Bulk Sample HA4 collected.
 2½' to 3' Yellowish brown, well cemented, silty fine sand (SM) (hardpan)
 Practical refusal to hand excavation at approximately 3 feet.

HA5:

0 to 2' Dark brown, clayey, silty fine sand (SM)
 2 to 2½' Grayish/Yellowish brown, silty clay (CL)
 2½' to 3' Yellowish brown, well cemented, silty fine sand (SM) (hardpan)
 Practical refusal to hand excavation at approximately 3 feet.

HA6:

0 to 1½' Grayish brown, fine sandy silt (ML)
 1½' to 2' Yellowish brown, well cemented, silty fine sand (SM) (hardpan)
 Practical refusal to hand excavation at approximately 2 feet.



LOGS OF HAND AUGERED BORINGS

ELK GROVE SENIOR VILLAGE LIVING

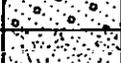
Elk Grove, California

FIGURE 7

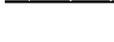
DRAWN BY	DJP
CHECKED BY	DJP
PROJECT MGR	JDK
DATE	3/08

WKA NO. 7986.02

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS	SYMBOL	CODE	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of soil > no. 200 sieve size)	GRAVELS		
	GW		Well graded gravels or gravel - sand mixtures, little or no fines
	GP		Poorly graded gravels or gravel - sand mixtures, little or no fines
	GM		Silty gravels, gravel - sand - silt mixtures
	GC		Clayey gravels, gravel - sand - clay mixtures
	SANDS		
	SW		Well graded sands or gravelly sands, little or no fines
	SP		Poorly graded sands or gravelly sands, little or no fines
FINE GRAINED SOILS (50% or more of soil < no. 200 sieve size)	SILTS & CLAYS		
	<u>LL < 50</u>		
	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
	<u>LL ≥ 50</u>		
MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
CH		Inorganic clays of high plasticity, fat clays	
OH		Organic clays of medium to high plasticity, organic silty clays, organic silts	
HIGHLY ORGANIC SOILS	Pt		Peat and other highly organic soils
ROCK	RX		Rocks, weathered to fresh

OTHER SYMBOLS

	= Drive Sample: 2-1/2" O.D. Modified California sampler
	= Drive Sample: no recovery
	= SPT Sample
	= Initial Water Level
	= Final Water Level
	= Estimated or gradational material change line
	= Observed material change line
<u>Laboratory Tests</u>	
PI	= Plasticity Index
EI	= Expansion Index
UCC	= Unconfined Compression Test
TR	= Triaxial Compression Test
GR	= Gradational Analysis (Sieve)
K	= Permeability Test

GRAIN SIZE CLASSIFICATION

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL coarse (c) fine (f)	3" to No. 4	76.2 to 4.76
	3" to 3/4" 3/4" to No. 4	76.2 to 19.1 19.1 to 4.76
SAND coarse (c) medium (m) fine (f)	No. 4 to No. 200	4.76 to 0.074
	No. 4 to No. 10	4.76 to 2.00
	No. 10 to No. 40 No. 40 to No. 200	2.00 to 0.420 0.420 to 0.074
SILT & CLAY	Below No. 200	Below 0.074



UNIFIED SOIL CLASSIFICATION SYSTEM

ELK GROVE SENIOR VILLAGE LIVING

Elk Grove, California

FIGURE 8

DRAWN BY	DJP
CHECKED BY	DJP
PROJECT MGR	JDK
DATE	3/08

WKA NO. 7986.02

EXPANSION INDEX TEST RESULTS

UBC Standard No. 18-2

ASTM D4829-03

MATERIAL DESCRIPTION: Dark brown, sandy, silty clay

LOCATION: D3

Sample Depth	Pre-Test Moisture (%)	Post-Test Moisture (%)	Dry Density (pcf)	Expansion Index *
0'-2'	10.2	23.0	102	42

CLASSIFICATION OF EXPANSIVE SOIL **

EXPANSION INDEX	POTENTIAL EXPANSION
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
Above 130	Very High

* Corrected to 50% Saturation

** From UBC Table 18-I-B



Wallace Kuhl
& ASSOCIATES INC

EXPANSION INDEX TEST RESULTS
ELK GROVE SENIOR VILLAGE LIVING
 Elk Grove, California

FIGURE 9

DRAWN BY	DJP
CHECKED BY	DJP
PROJECT MGR	JDK
DATE	3/08

WKA NO. 7986.02

EXPANSION INDEX TEST RESULTS

UBC Standard No. 18-2

ASTM D4829-03

MATERIAL DESCRIPTION: Grayish/Yellowish brown, silty clay

LOCATION: HA4

Sample Depth	Pre-Test Moisture (%)	Post-Test Moisture (%)	Dry Density (pcf)	Expansion Index *
2' - 2½'	10.0	25.7	101	47

CLASSIFICATION OF EXPANSIVE SOIL **

EXPANSION INDEX	POTENTIAL EXPANSION
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
Above 130	Very High

* Corrected to 50% Saturation

** From UBC Table 18-I-B



Wallace Kuhi
& ASSOCIATES INC

EXPANSION INDEX TEST RESULTS
ELK GROVE SENIOR VILLAGE LIVING
Elk Grove, California

FIGURE 10

DRAWN BY	DJP
CHECKED BY	DJP
PROJECT MGR	JDK
DATE	3/08

WKA NO. 7986.02

RESISTANCE VALUE TEST RESULTS (California Test 301)

MATERIAL DESCRIPTION: Brown, silty fine sand

LOCATION: D1 (3'-5')

Specimen No.	Dry Unit Weight (pcf)	Moisture @ Compaction (%)	Exudation Pressure (psi)	Expansion Pressure		R Value
				(dial)	(psf)	
1	100	27.3	170	23	100	10
2	104	25.2	275	31	134	24
3	110	22.5	523	80	346	48

Equilibrium R-Value due to expansion at Traffic Index of 5.0 = 15

MATERIAL DESCRIPTION: Brown, clayey, silty fine sand

LOCATION: HA2 (0' - 2')

Specimen No.	Dry Unit Weight (pcf)	Moisture @ Compaction (%)	Exudation Pressure (psi)	Expansion Pressure		R Value
				(dial)	(psf)	
1	114	18.1	149	0	0	9
2	116	16.7	229	3	13	24
3	121	15.3	415	7	30	29

R-Value at 300 psi exudation pressure = 27



Wallace Kuhl
& ASSOCIATES, INC.

RESISTANCE VALUE TEST RESULTS

ELK GROVE SENIOR VILLAGE LIVING

Elk Grove, California

FIGURE 11

DRAWN BY	DJP
CHECKED BY	DJP
PROJECT MGR	JDK
DATE	3/08

WKA NO. 7986.02

APPENDIX F

PG&E - No Objection Letter



**Pacific Gas and
Electric Company**

Rebecca Marsh
Land Agent
Land Rights Services

343 Sacramento St
Auburn, CA 95603
(Office) 530-889-3160
(Fax) 530-889-3392
R9M1@PGE.COM

August 1, 2013

Karise Sigworth
TASK Engineering
Land Development Services

Re: Tentative Map Review- Sheldon Park Estates

Dear Karise:

Thank you for giving us the opportunity to review your plans. The proposed plans do not appear to interfere with PG&E's tower line or easement rights; therefore, we have no objection to your proposed use of our easement.

It appears that you will need to excavate beneath our overhead electric conductors. For your safety and to comply with the law, there are a couple of things of which you should be aware. When operating any equipment or tools in proximity to our pole line, you must not erect, handle, or operate any such equipment or tools, closer to any of PG&E's overhead high-voltage electric conductors than the minimum clearances set forth in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety, but in no event closer than ten feet.

Secondly, General Order No. 95 of the California Public Utilities Commission sets forth certain clearance requirements for the construction and operation of electric lines. Therefore, you must control your excavations and digging, including spoils, in such a manner as not to decrease the ground-to-conductor clearance below thirty feet.

If you have any questions regarding the foregoing, please contact Mr. Tim Hudgins, PG&E's electric transmission Supervisor at (916) 386-5431.

Sincerely,

Rebecca Marsh
Land Agent

APPENDIX G

Culvert Design and Drainage Study

**Tentative Subdivision Map
Culvert design &
Drainage Study**

For

Sheldon Park Estates

City of Elk Grove

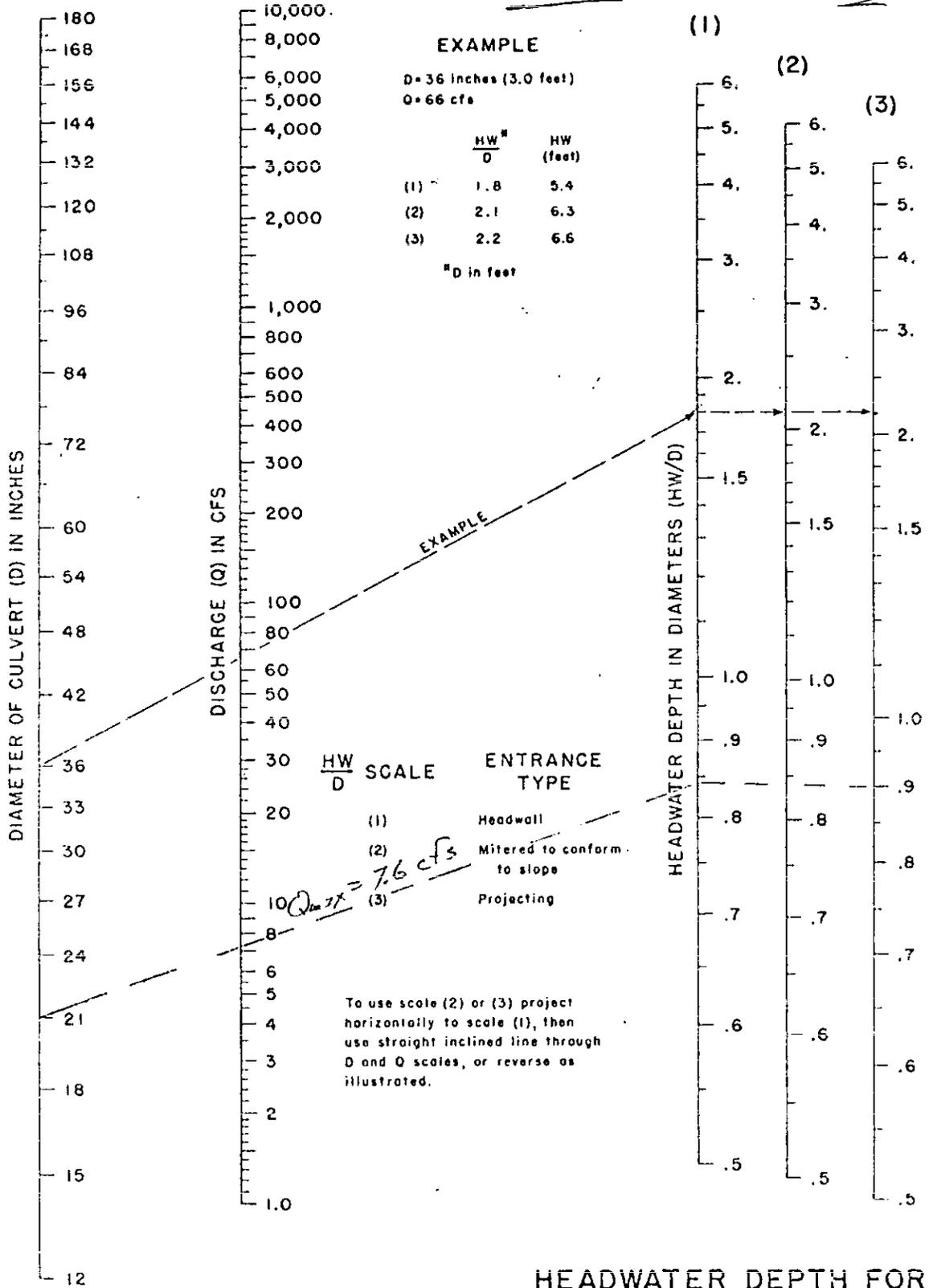
Terry E. Rose

7/31/13
8/09/13 TCR

Prepared By:

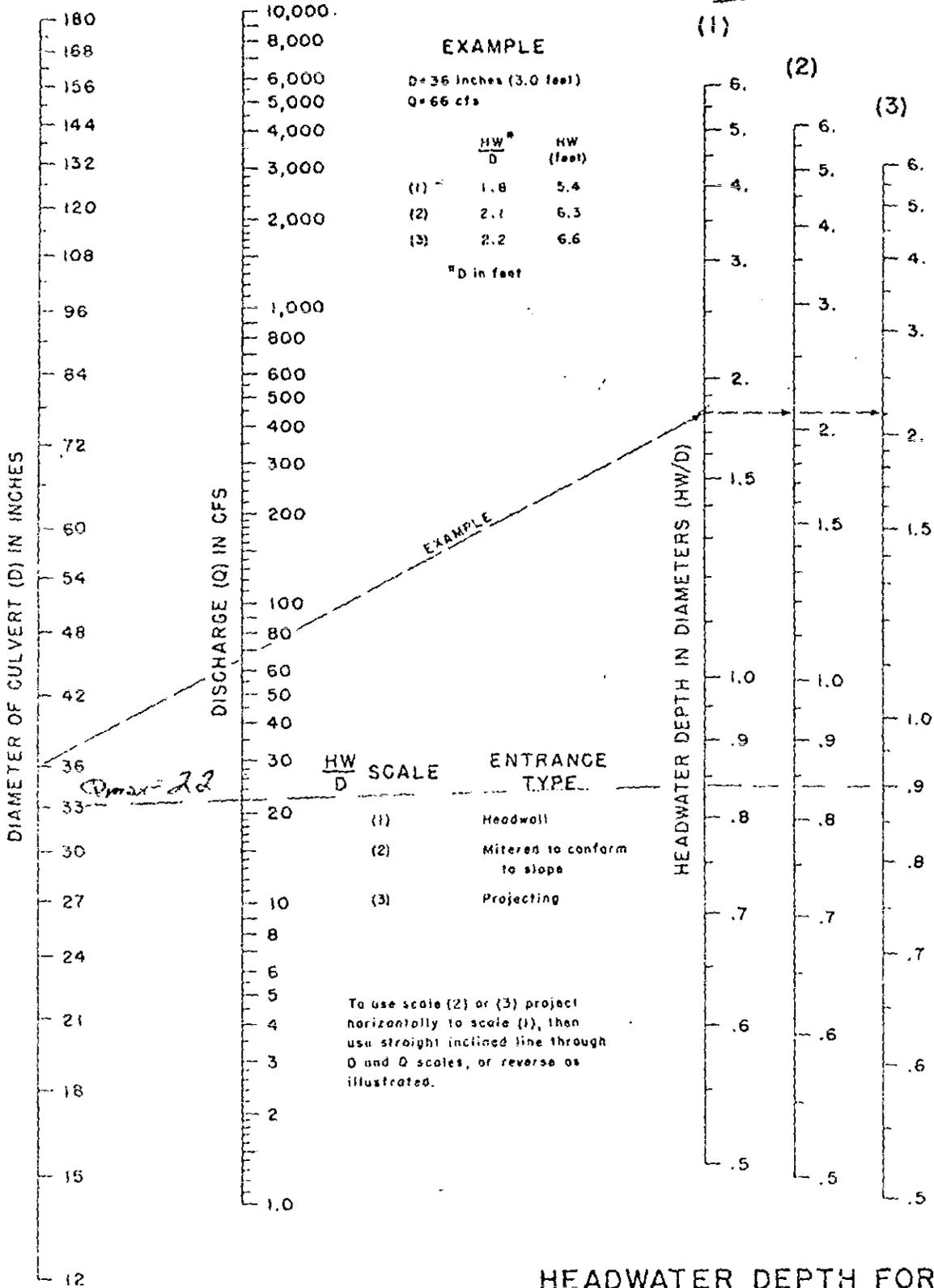
TASK ENGINEERING, INC.
LAND DEVELOPMENT SERVICES
4940 TOMMAR DRIVE
FAIR OAKS, CA 95628-5151
PHONE: (916)878-8004
trosetasl@sbcglobal.net

21" CMP $Q_{max} = \underline{7.6}$ cfs



HEADWATER DEPTH FOR
C. M. PIPE CULVERTS
WITH INLET CONTROL

33" CMP $Q_{max} = 22.0 \text{ cfs}$

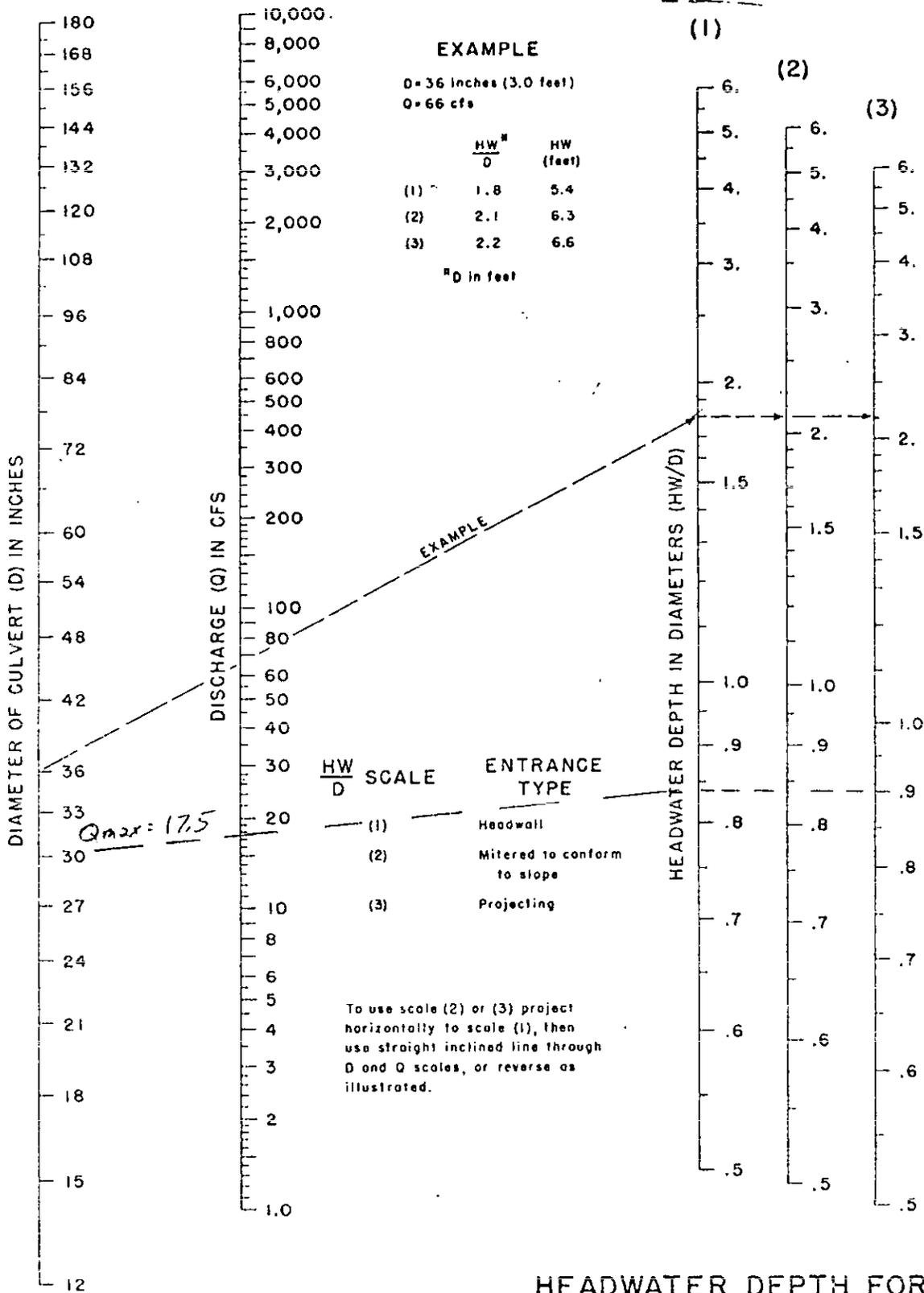


HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS
OCTOBER 1960

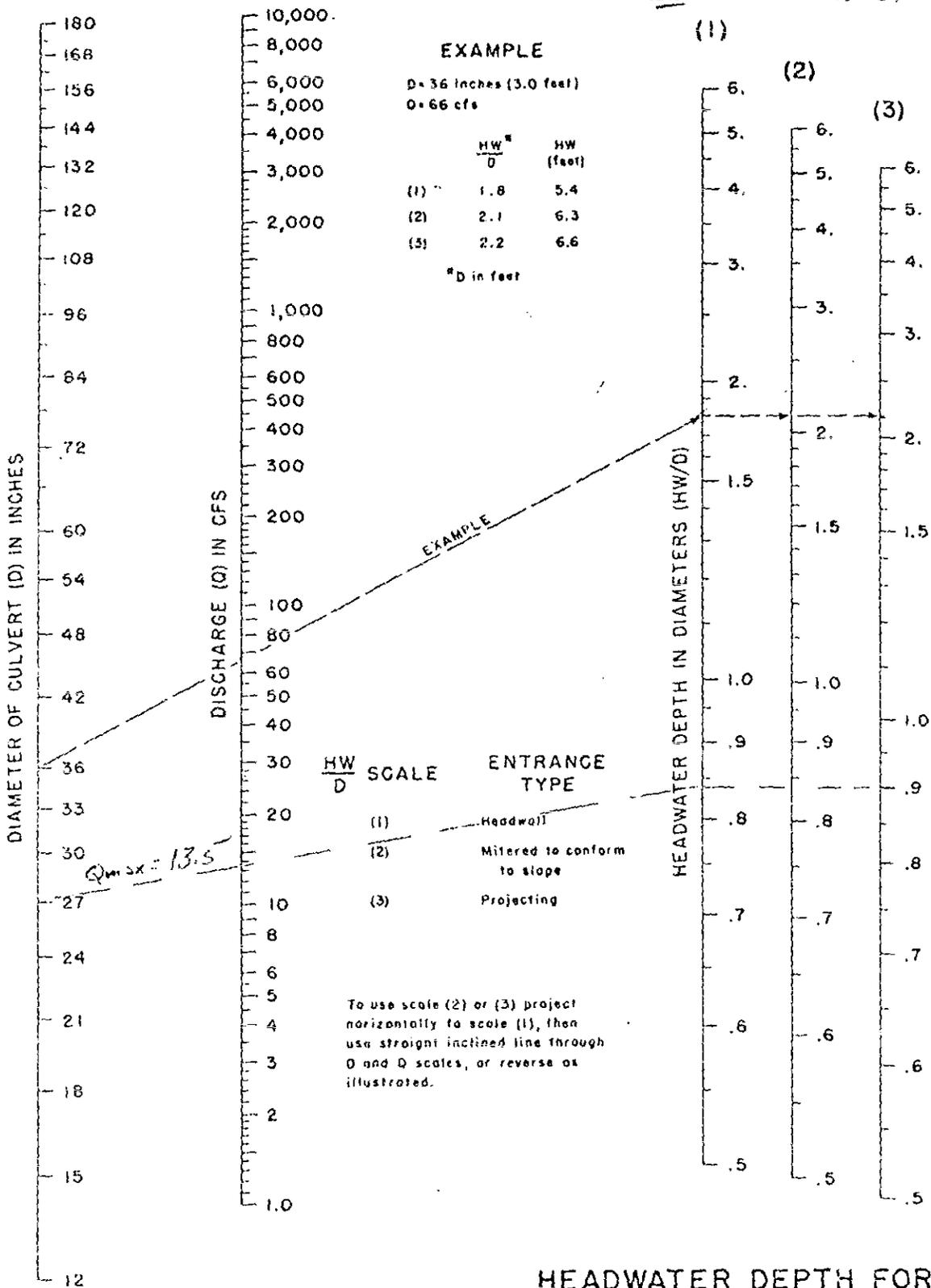
C.M.P. - 7

30" CMP $Q_{max} = 175 \text{ cfs}$



HEADWATER DEPTH FOR
C. M. PIPE CULVERTS
WITH INLET CONTROL

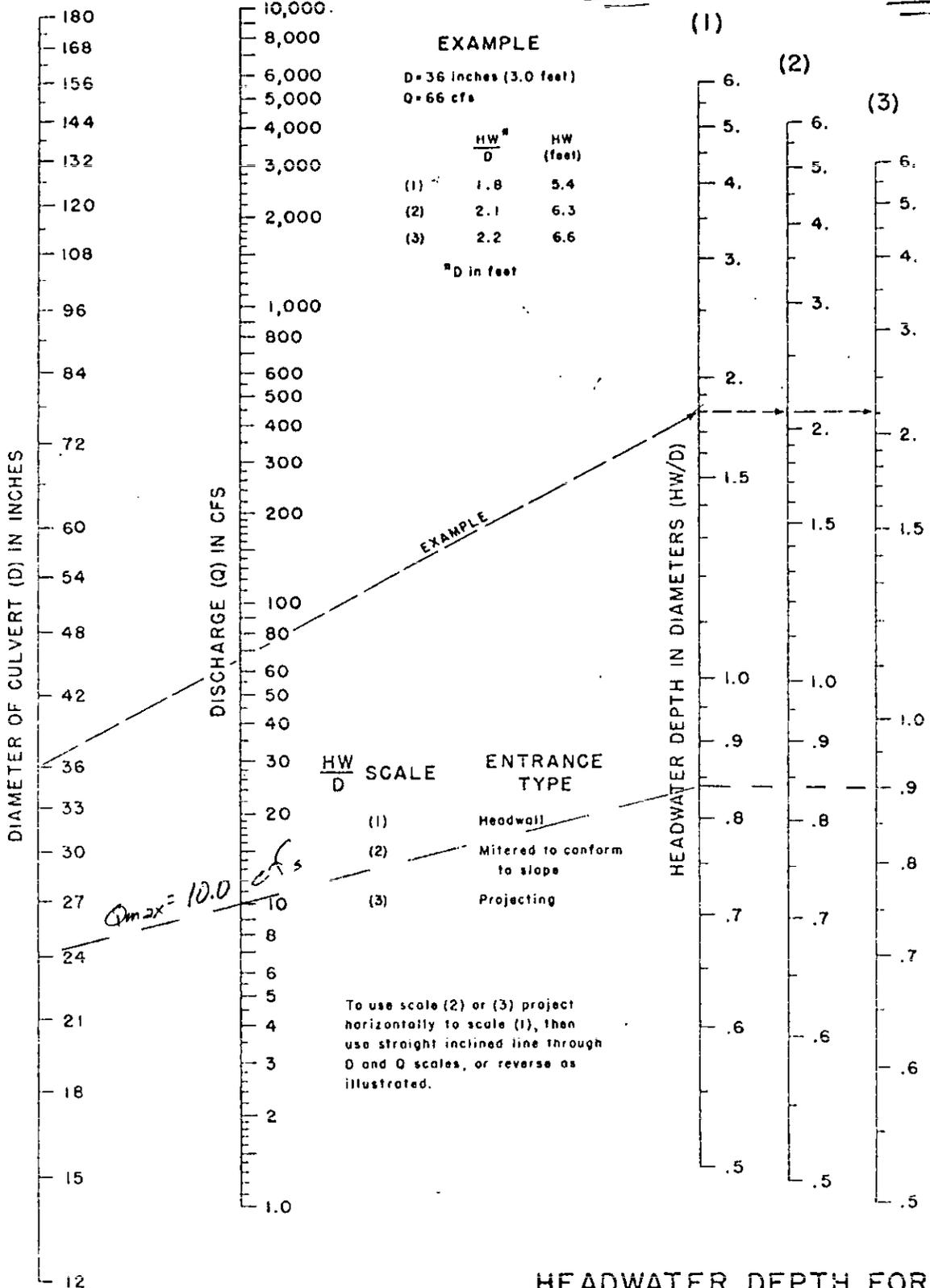
27" CMP $Q_{max} = 13.5$ cfs



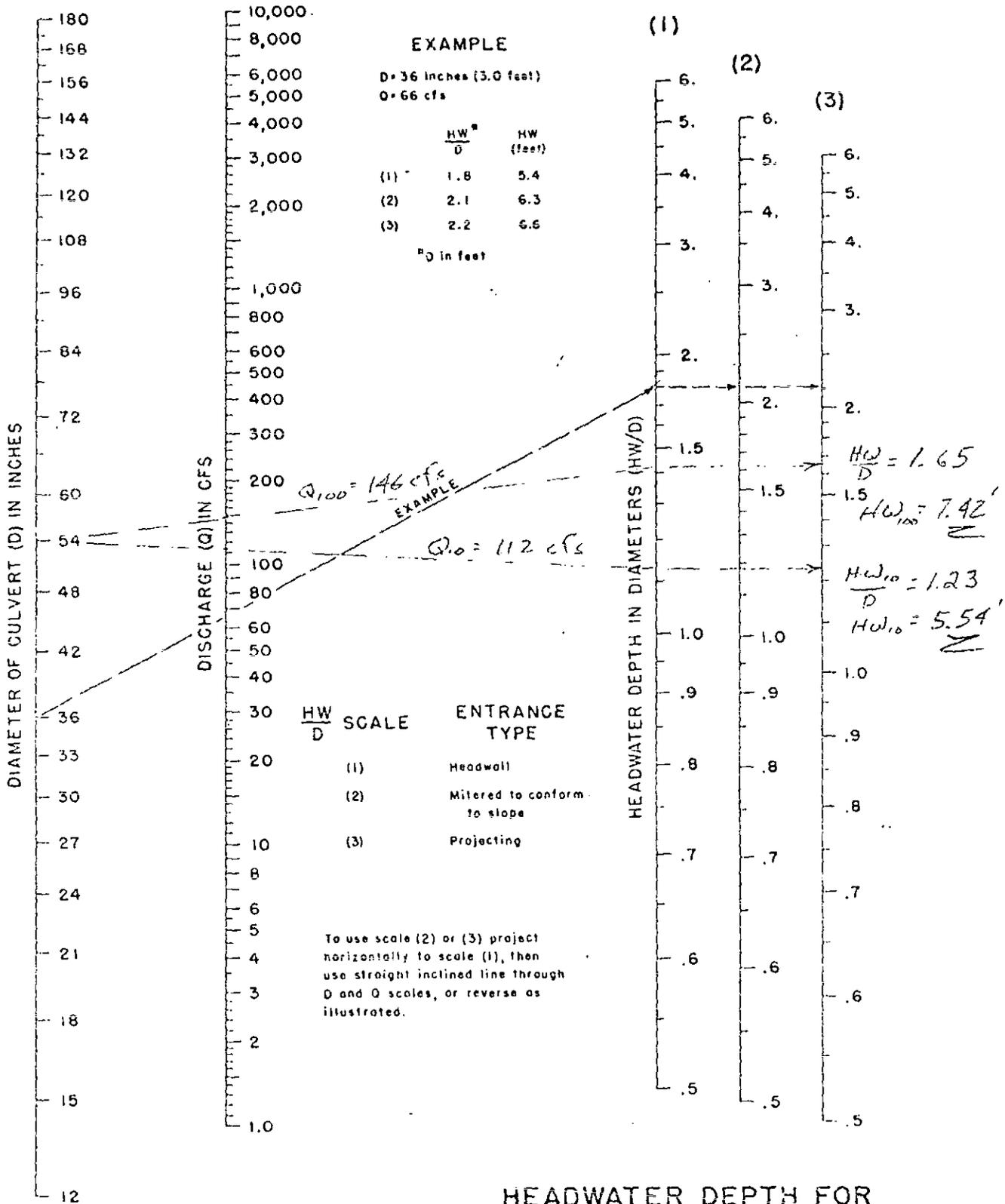
HEADWATER DEPTH FOR
C. M. PIPE CULVERTS
WITH INLET CONTROL

BUREAU OF PUBLIC ROADS
OCTOBER 1960

24" CMP $Q_{max} = 10.0$ cfs



HEADWATER DEPTH FOR
C. M. PIPE CULVERTS
WITH INLET CONTROL



HEADWATER DEPTH FOR
 C. M. PIPE CULVERTS
 WITH INLET CONTROL

BUREAU OF PUBLIC ROADS
 OCTOBER 1960

18" CULVERT

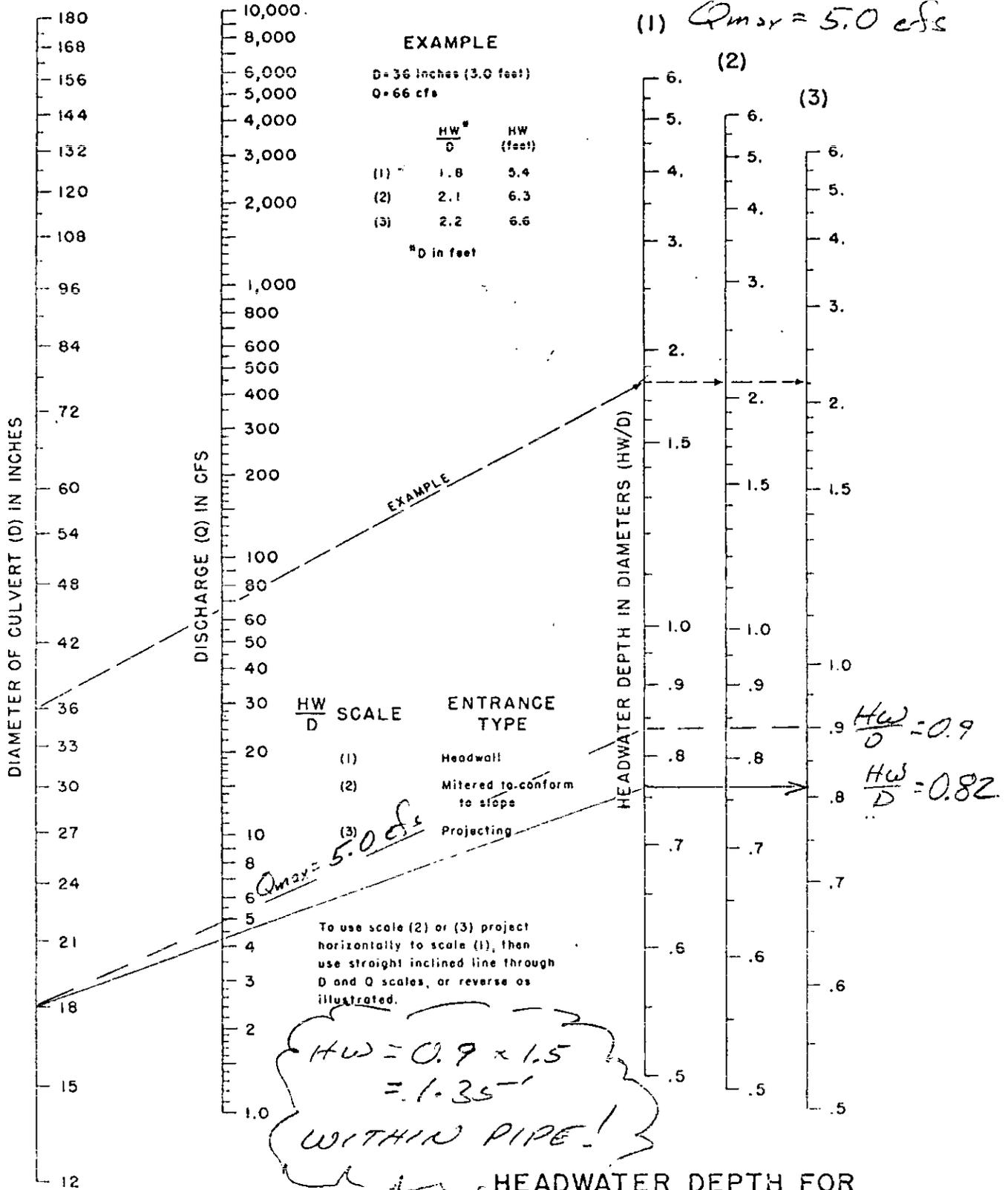
(1) $Q_{max} = 5.0 \text{ cfs}$

EXAMPLE

D = 36 inches (3.0 feet)
O = 66 cfs

	$\frac{HW}{D}$	HW (feet)
(1)	1.8	5.4
(2)	2.1	6.3
(3)	2.2	6.6

^aD in feet

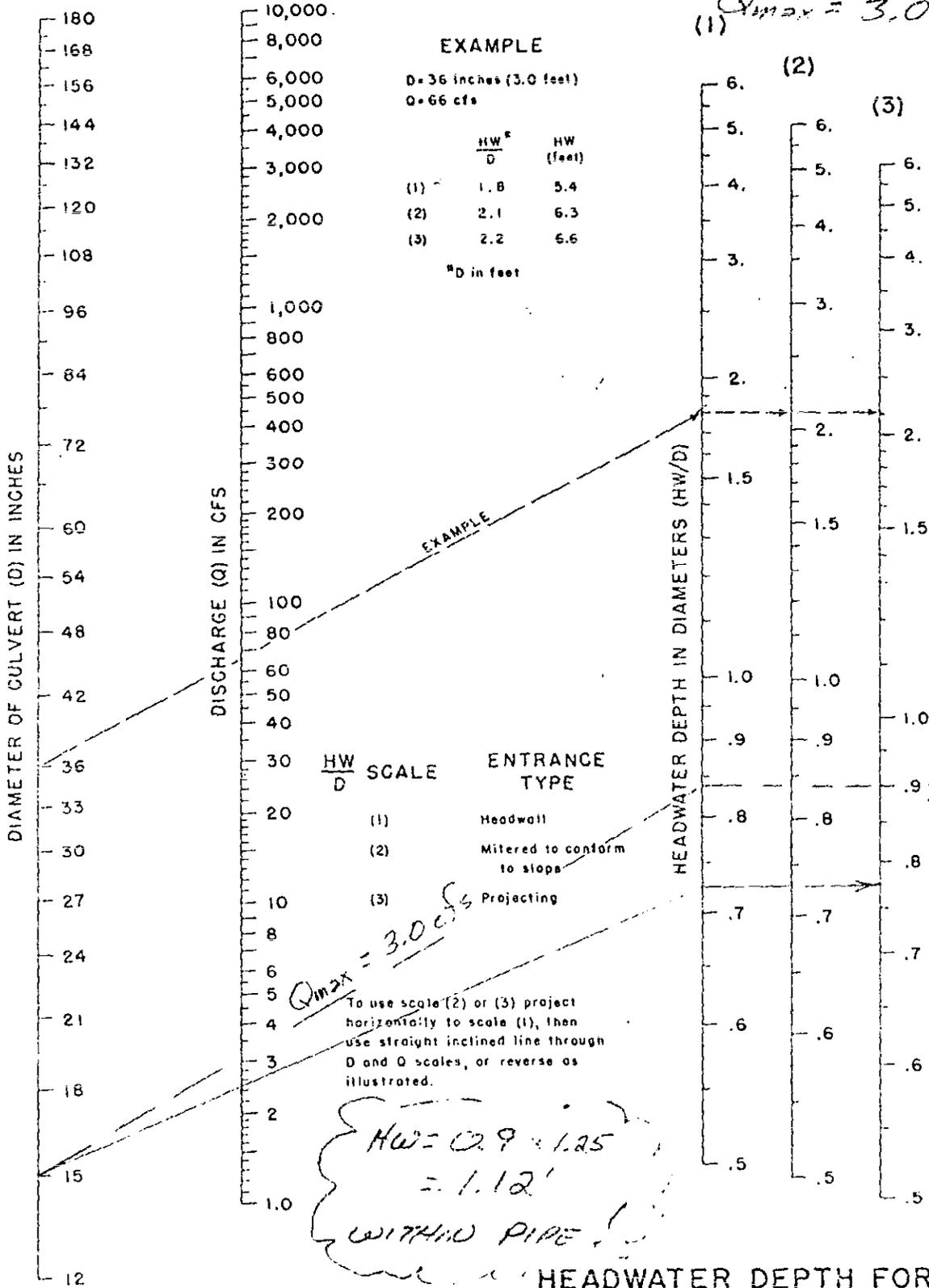


To use scale (2) or (3) project horizontally to scale (1), then use straight inclined line through D and Q scales, or reverse as illustrated.

HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

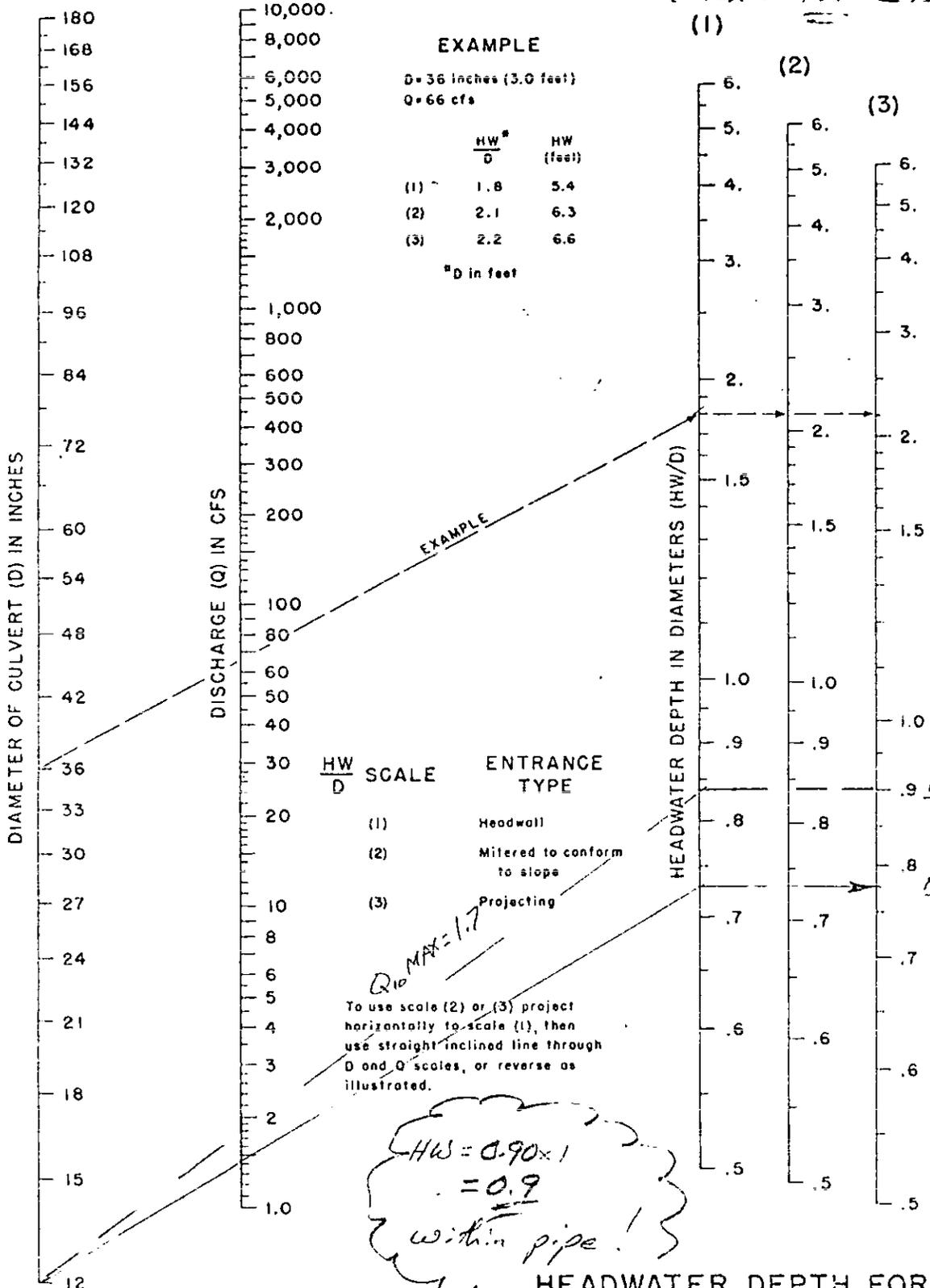
15" CULVERT

(1) $Q_{max} = 3.0 \text{ cfs}$



HEADWATER DEPTH FOR
C. M. PIPE CULVERTS
WITH INLET CONTROL

12" CULVERT
 $Q_{max} = 1.7$ cfs
 (1)



D/W $\frac{1}{4}$ MISC.
CULVER DESIGN

SIZE 12" CMP
thru
33" CMP

For flow w. this pipe

12" CMP = 1.7 cfs max

15" CMP = 3.0 cfs "

18" CMP = 5.0 cfs "

21" CMP = 7.6 cfs "

24" CMP = 10.0 cfs "

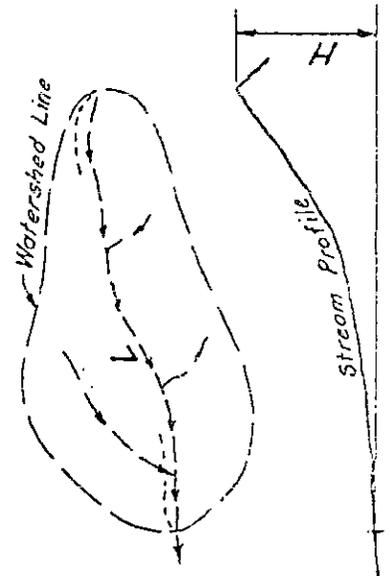
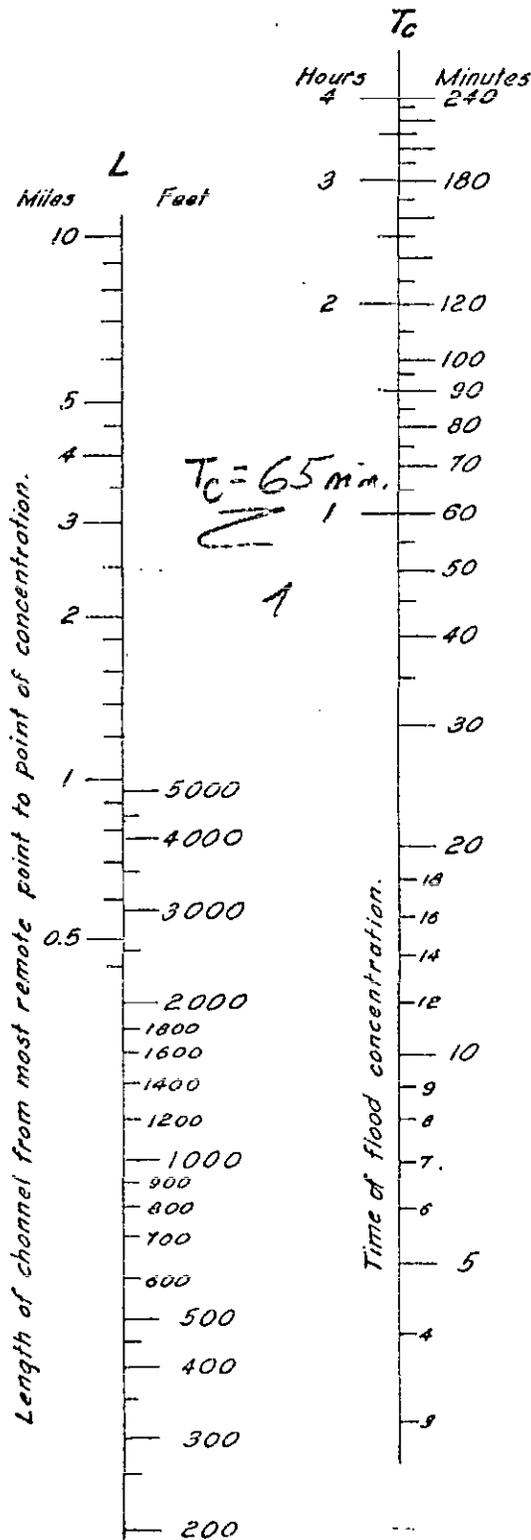
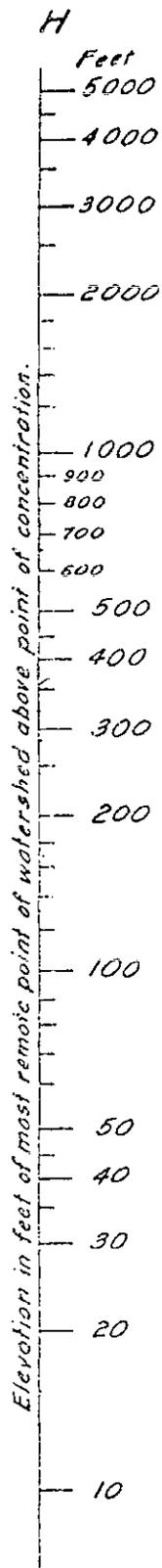
27" CMP = 13.5 cfs "

30" CMP = 17.5 cfs "

33" CMP = 22.0 cfs max.

NOMOGRAPH

for determining the
"Time of Concentration"
of small drainage basins.



Equations for estimated
"Time of Concentration:"

$$T_c = \left(\frac{11.9 L^2}{H} \right)^{0.385}$$

T_c = Time of concentration
in hours.

L = Length of channel in
miles.

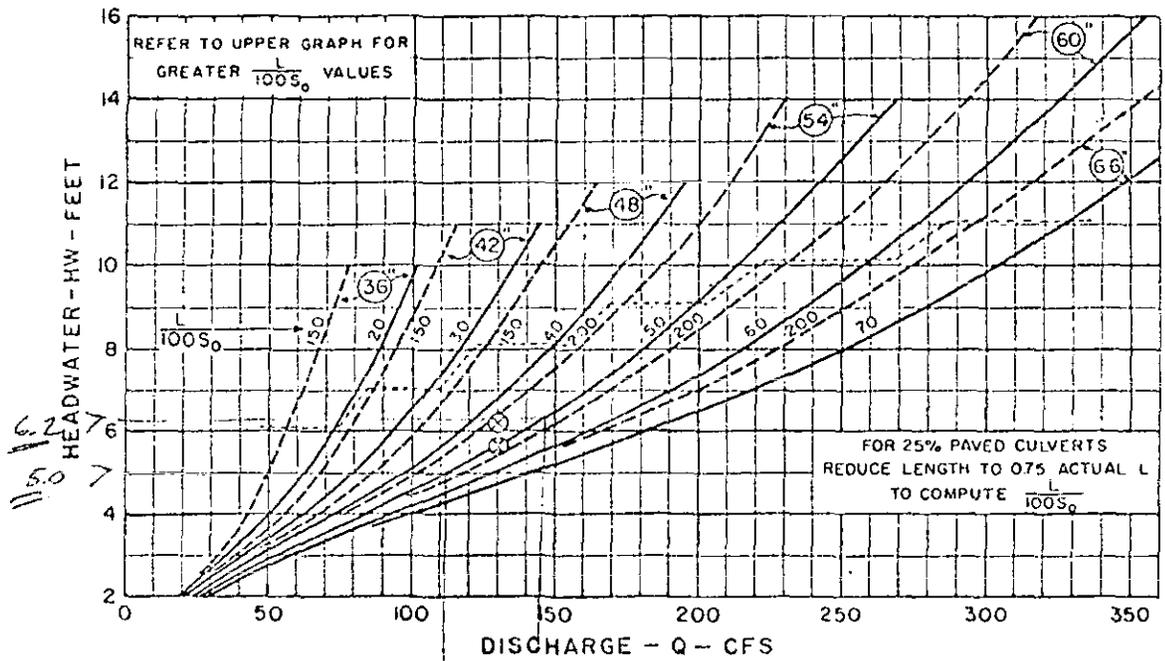
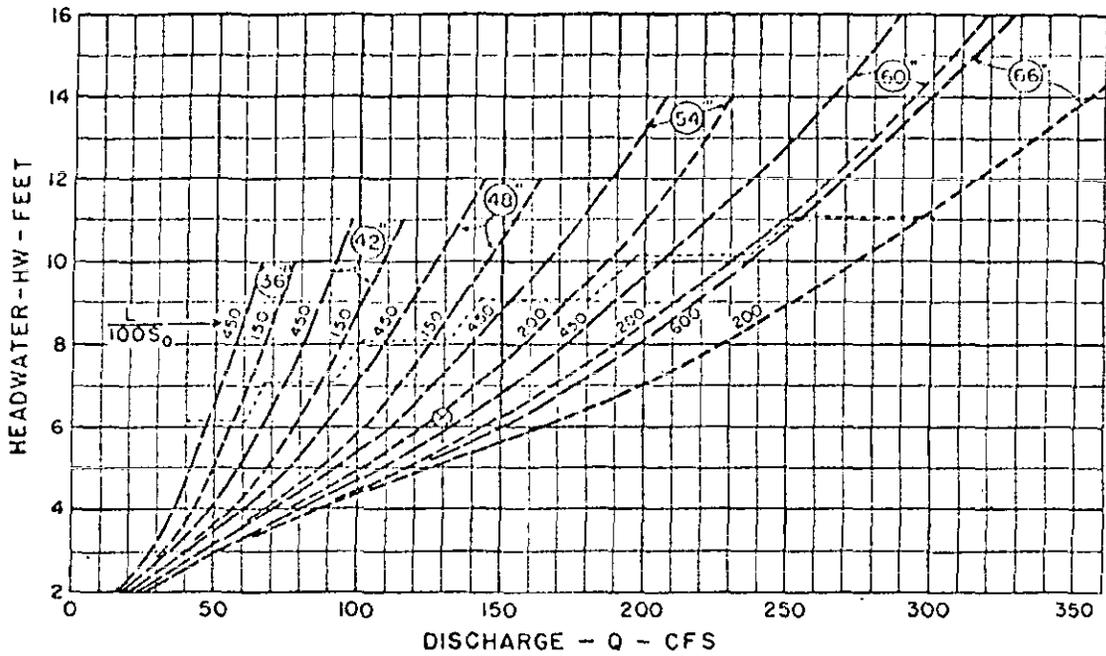
H = Difference in elevation
between most remote
point and the point of
concentration.

$$T_c = 7.25 \left(\frac{L^2}{S} \right)^{1/3}$$

T_c = Time of concentration
in minutes.

L = Length of channel in
miles

S = Average slope of
channel in feet/foot



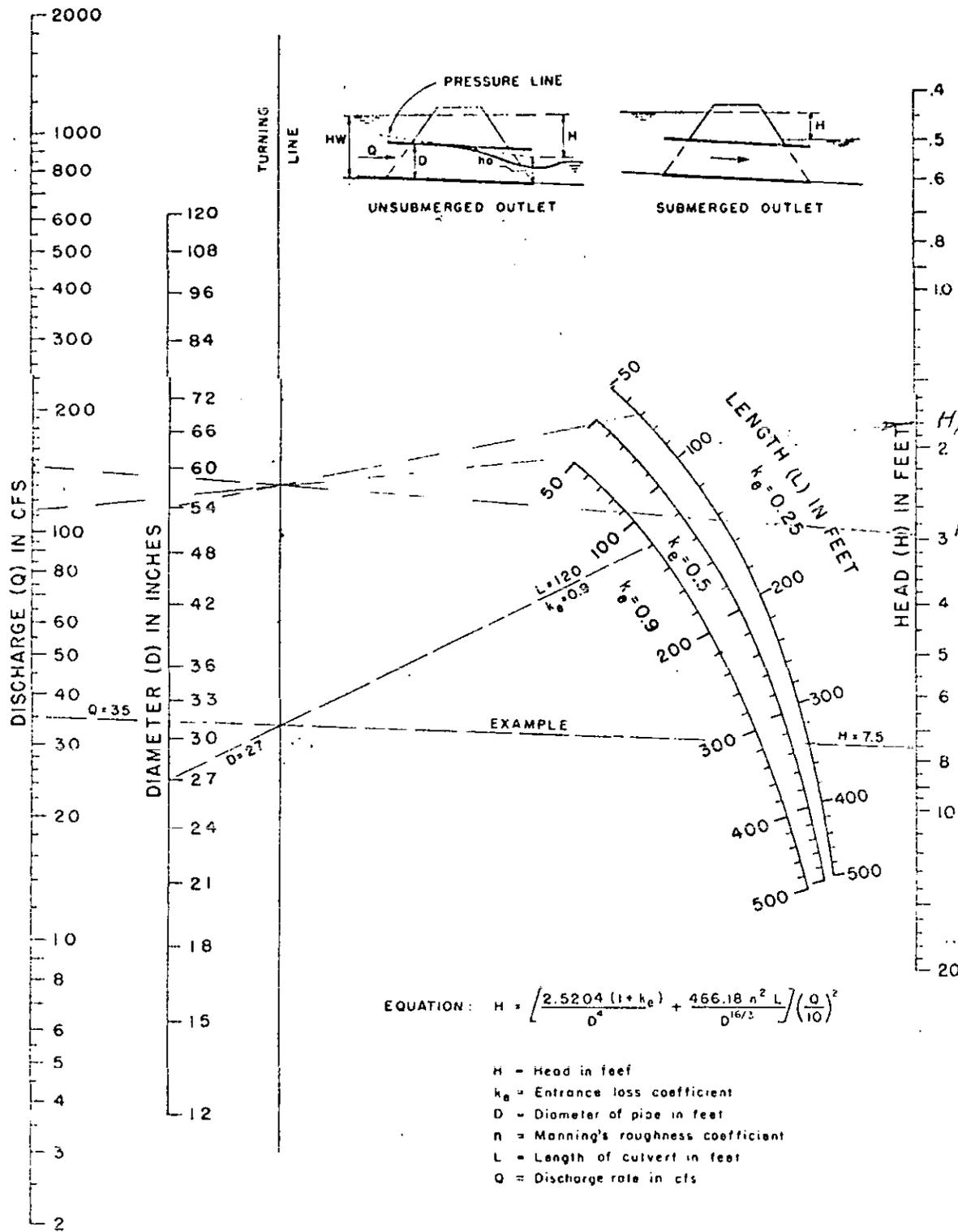
EXAMPLE

- ⊗ GIVEN:
130 CFS; AHW = 6.2 FT.
L = 120 FT; $S_0 = 0.025$
- ⊙ SELECT 54" UNPAVED
HW = 5.6 FT.

**CULVERT CAPACITY
STANDARD
CIRCULAR CORR. METAL PIPE
HEADWALL ENTRANCE
36" TO 66" ○**

BUREAU OF PUBLIC ROADS JAN. 1963

$$\begin{aligned}
 L &= 70' \quad S_0 = 0.002 \\
 \therefore S_0 L &= 0.14(100) \\
 &= 14
 \end{aligned}$$



EQUATION: $H = \left[\frac{2.5204 (1 + k_e)}{D^4} + \frac{466.18 n^2 L}{D^{16/3}} \right] \left(\frac{Q}{10} \right)^2$

- H = Head in feet
- k_e = Entrance loss coefficient
- D = Diameter of pipe in feet
- n = Manning's roughness coefficient
- L = Length of culvert in feet
- Q = Discharge rate in cfs

k_e	Entrance Type
0.9	Projecting from fill.
0.5	Headwall or headwall and Wingwalls.

HEAD FOR
 C. M. PIPE CULVERTS
 FLOWING FULL
 n = 0.024

Check Ditch Flow

where $Q_{10} = 112 \text{ cfs}$ $V = 3 \text{ ft/sec}$.

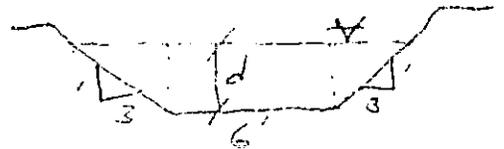
I : Find A_{10} where $A = Q/V$

$$A_{10} = 112/3 \approx 37 \text{ ft}^2$$

II : Find depth of flow d

$$A_{10} = 6d + \left(\frac{1}{2}(3d)\right)^2$$
$$= 9d$$

$$\therefore d = A/9 = 37/9 \approx 4.2 \text{ ft}$$



III : For 5% CMPD Find **HW

from Charts (see culvert Design)

$$**HW = H + h_0 - S_0L \quad \text{where } h_0 = d = 4.2'$$

$$**HW_{10} = 1.8 + 4.2 - 0.14$$

$$= \underline{\underline{5.86'}} \approx \underline{\underline{5.9'}}$$

IV Find A_{100} where $Q_{100} = 146 \text{ cfs}$ $V = 3 \text{ ft/sec}$.

$$A = 146/3 = 49 \text{ ft}^2$$

V Find d_{100} $d_{100} = 49/9 = \underline{\underline{5.4 \text{ ft}}}$

VI $**HW_{100} = 2.9 + 5.4 - 0.14$

$$= \underline{\underline{8.2 \text{ ft}}}$$

Checked By: _____ Date: _____
 Chd By: _____ Date: _____
 Approved By: _____ Date: _____

Department of Roads - Surveyor Road Name: _____
CULVERT DESIGN

Co. Rd. No. _____
 W.O. No. _____

Location: _____
 Tributary Area "A" _____ acres.
 Source of Area _____

COEFFICIENT OF RUNOFF: "C" (Consider probable development of entire watershed.)

Surface usage or type.	Soil Type	Flat, Ave. Steep		
		<2% S _h	2% to 10%	>10%
URBAN AREAS	20,000 sq. ft. lots _____ % of S	C .35	.40	.45
	10,000 sq. ft. lots _____ % of S	C .40	.45	.55
	6,000 sq. ft. lots _____ % of S	C .45	.55	.65
	Apartments _____ % of S	C .50	.60	.70
	Commercial _____ % of S	C .75	.80	.85
RURAL AREAS	Dense Vegetation _____ % of S	C .10	.20	.30
	Moderate Veg. _____ % of S	C .40	.50	.70
	Impervious _____ % of S	C .85	.90	.95

TIME OF CONCENTRATION: T_c

High Pt. _____
 Low Pt. _____
 H = _____
 L = _____
 T_c = _____

STORM INTENSITY (_____ year),
 I = _____ in./hr. (From Rainfall Intensity Chs)

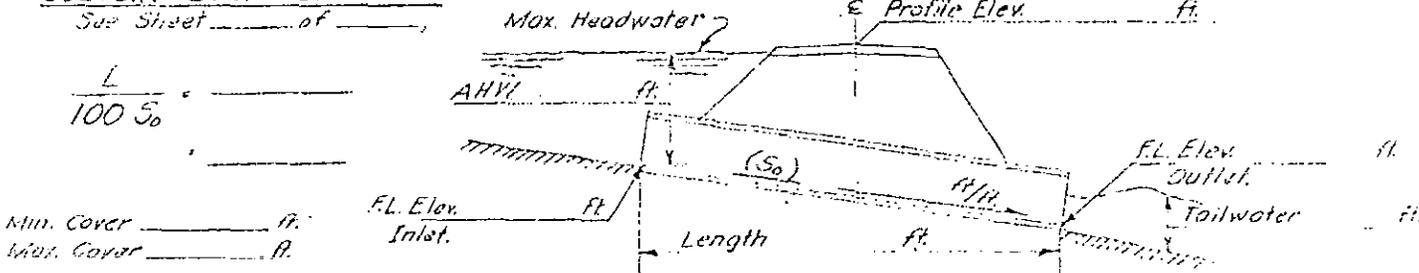
RUNOFF: Q = CIA
 Q = (_____)(_____)(_____)
 = _____ c.f.s.

Use Q₁₀ = 112 c.f.s.

Q₁₀₀ = 146 cfs

Note: Soil Type
 C - Clay, Adobe, Rock or impervious material.
 S - Sand, Gravel, Loam or pervious material.

CULVERT LOCATION DATA:

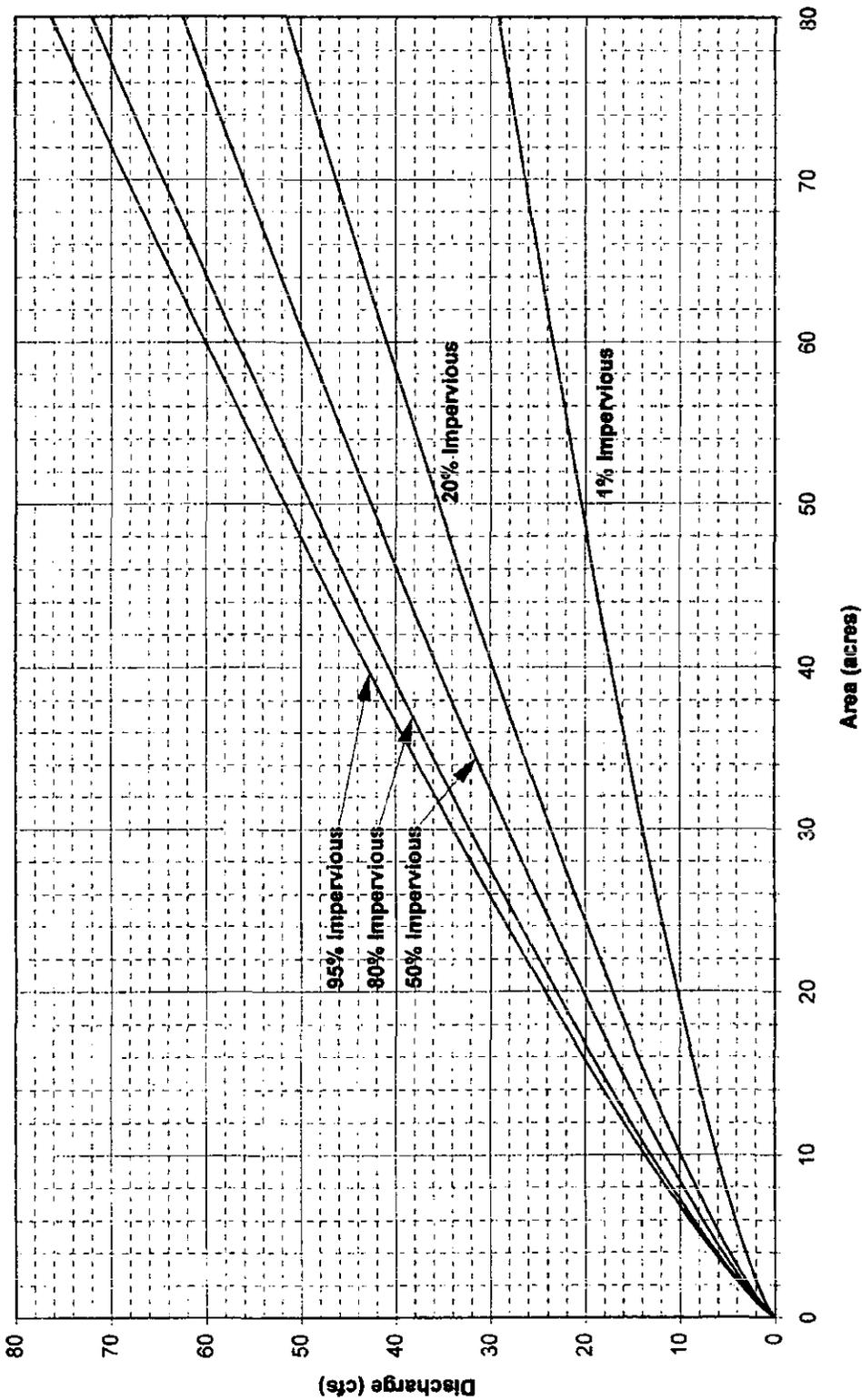


Alternate Types	Material	Size	Capacity Charts		Inlet Control Nomograph				Outlet Control Nomograph				Remarks (i.e. cost per ft. in place, etc.)	
			MW (feet)	D	H	h _o	S _o L	**HW	H	h _o	S _o L	**HW		
10yr. Projecting	CMP	54"	5.0	1.23	5.54	1.8	4.2	14	5.9					
100yr. "	CMP	54"	6.2	1.65	7.42	2.9	5.4	14	8.2					

$h_o = \frac{d_c + D}{2}$
 $**HW = H + h_o - S_o L$

Design Selection: _____

Est'd. Cost: _____



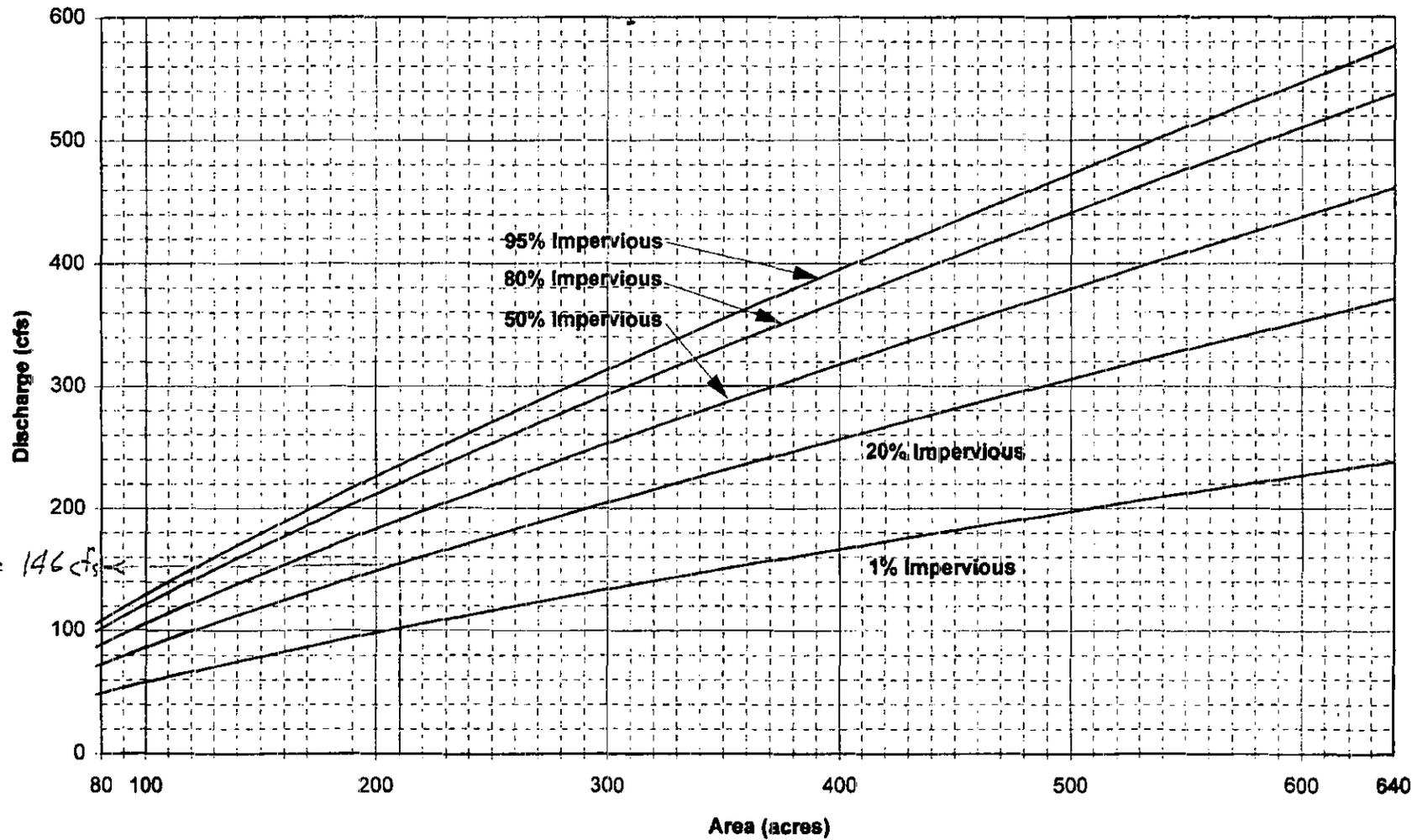
Note: Refer to accompanying disk for assumptions made in deriving this figure.

10-Year Peak Flow Sacramento Method Rainfall Zone 2, <80 Acres

Date: December 1996

Figure 2-14

2-22

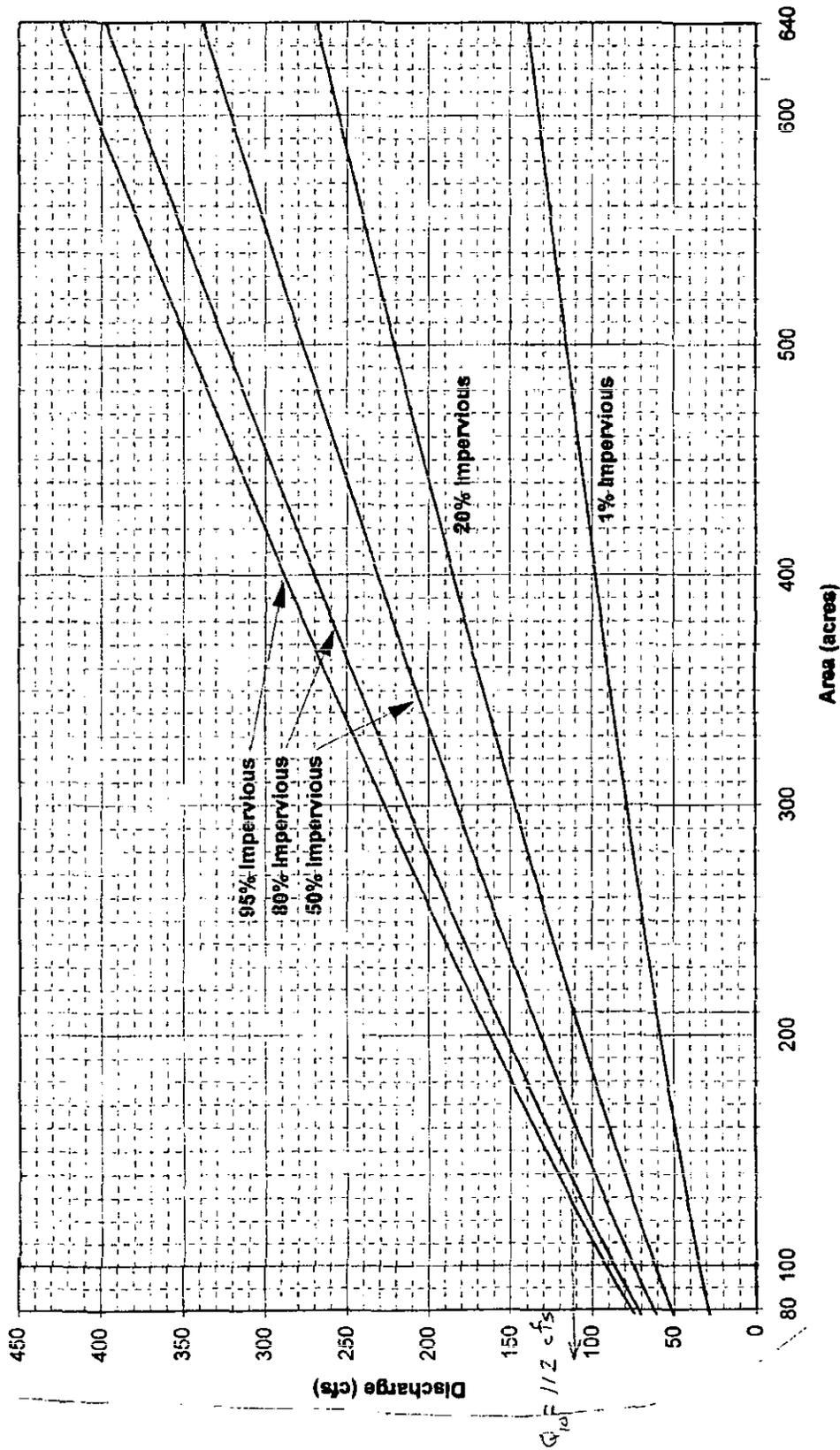


Note: Refer to accompanying disk for assumptions made in deriving this figure.

**100-Year Peak Flow
Sacramento Method
Rainfall Zone 2, 80-640 Acres**

Date **December 1996**

Figure **2-21**

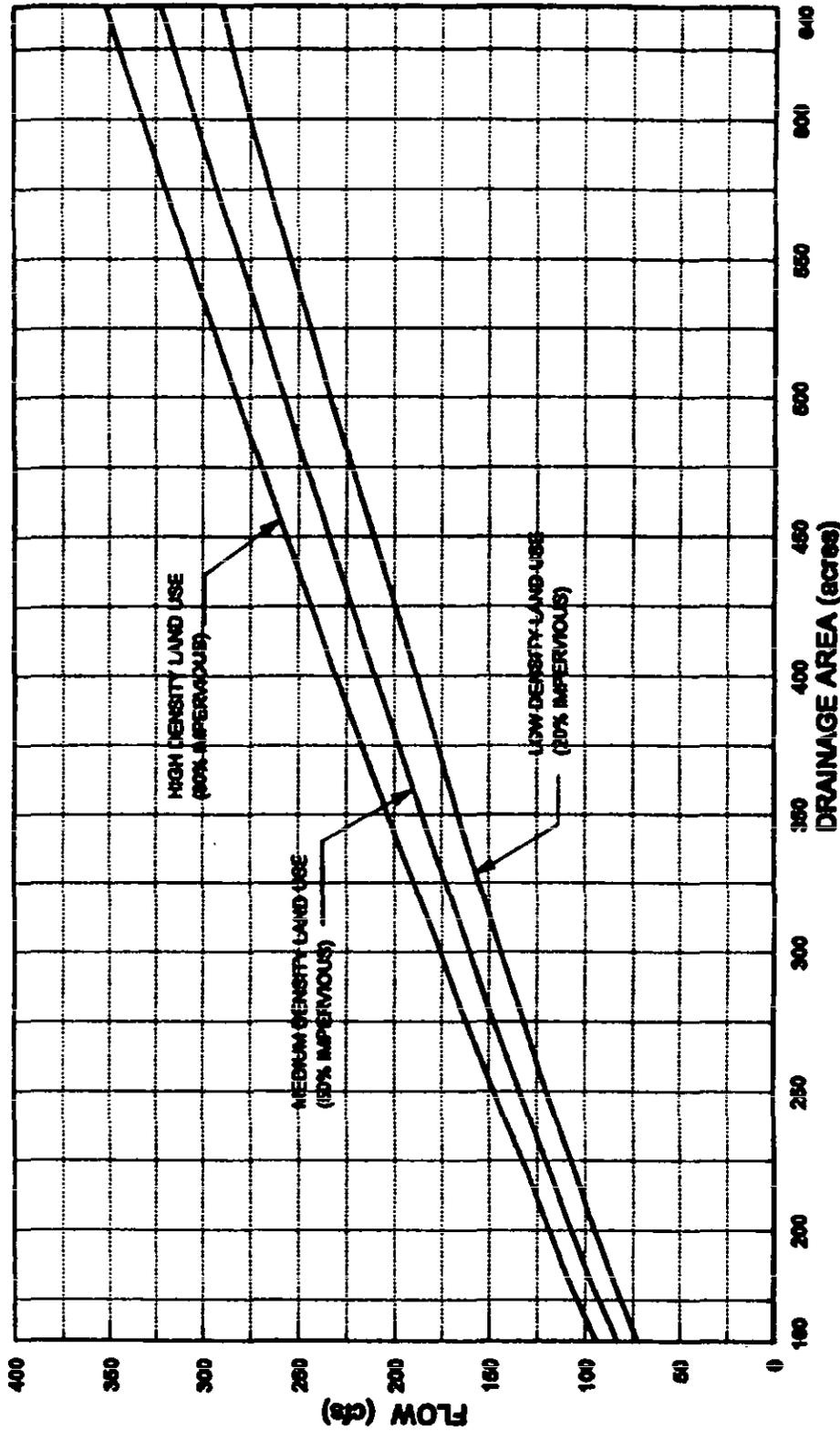


Note: Refer to accompanying disk for assumptions made in deriving this figure.

10-Year Peak Flow Sacramento Method Rainfall Zone 2, 80--640 Acres

Date December 1996

Figure 2-15

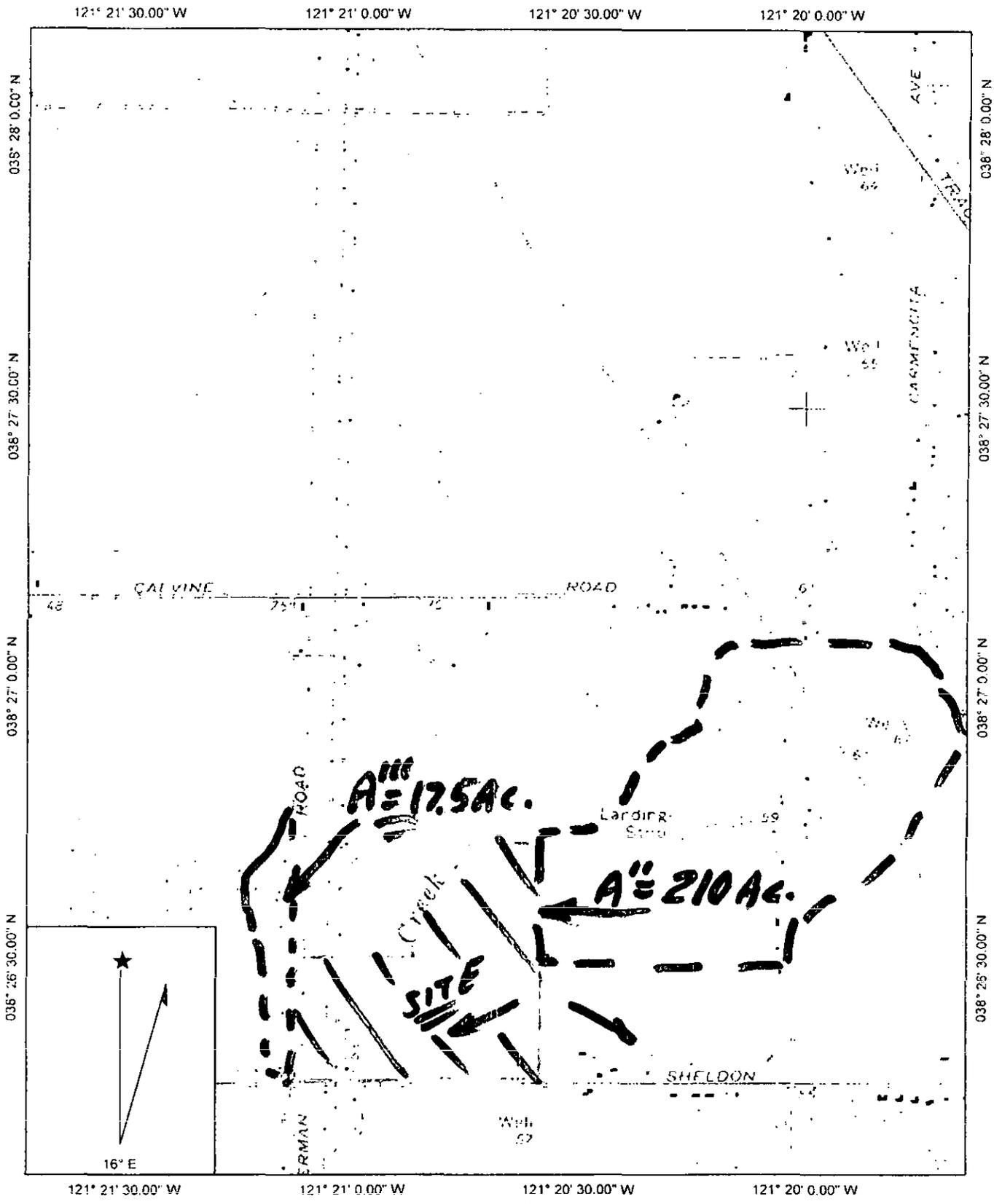


Source: County of Sacramento Master Drainage Plan,
Part 1, County-wide Hydrology, Nolte and Assoc.

Date December 1996

Figure 2-9

Design Runoff Nolte Method
Hydrologic Zone 2
160-640 Acres



Name: ELK GROVE
 Date: 3/21/113
 Scale: 1 inch equals 1333 feet

Location: 038° 27' 09.2" N 121° 20' 40.9" W
 Caption: SHELDON PARK ESTATES
 DRAINAGE BASIN EXHIBIT

Culvert Design For:

Crossing Volvic Ct.

Located within existing Ditch

Proposed Culvert: 54" CMP
or Equal

Drainage Area:

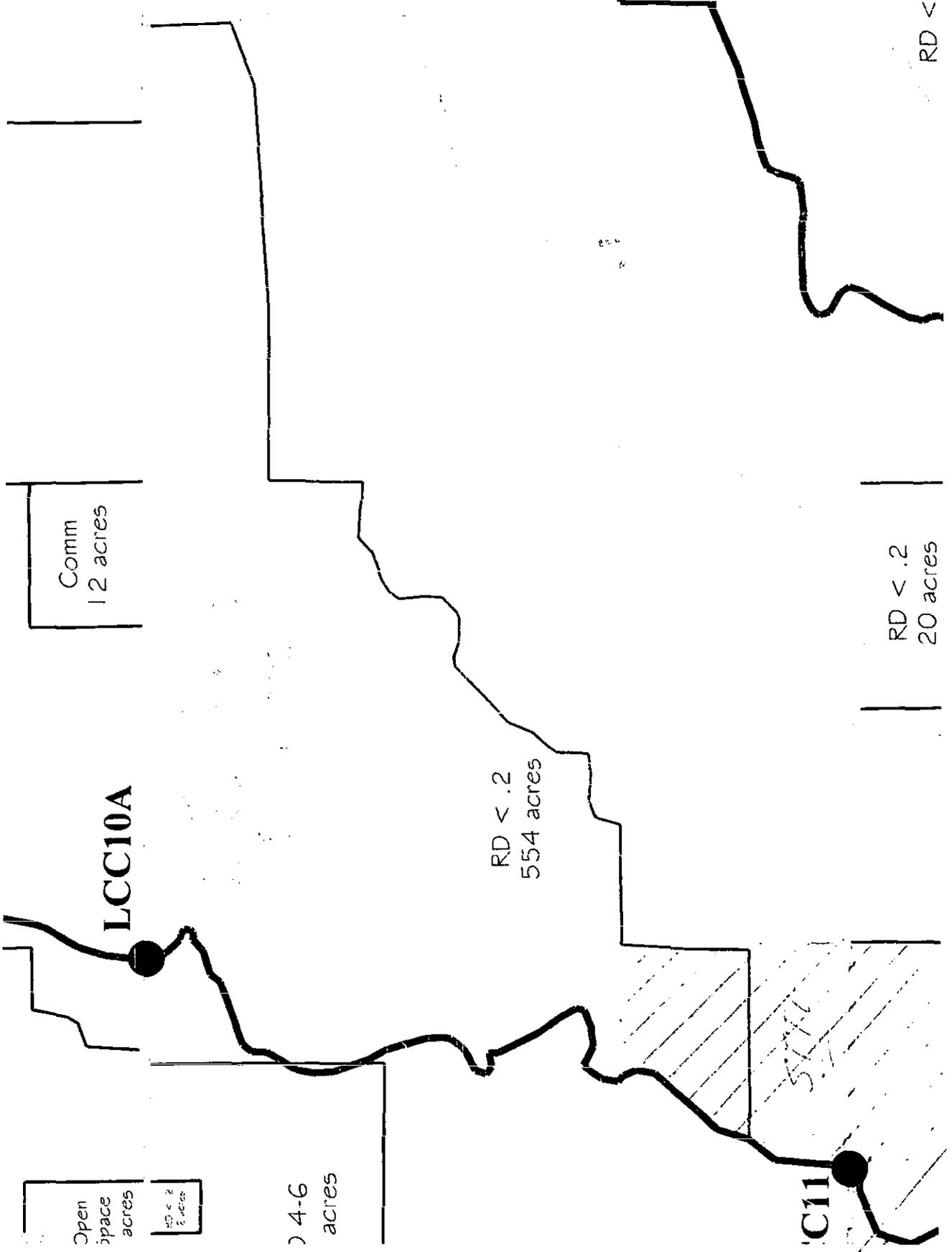
Design 210 Ac

LOMR USED 238 Ac. which
includes on site Area.

Flow: From charts Zone 2

$$Q_{10} = 112 \text{ cfs}$$

$$Q_{100} = 146 \text{ cfs}$$



Open
space
acres

Comm
12 acres

RD < .2
554 acres

RD < .2
20 acres

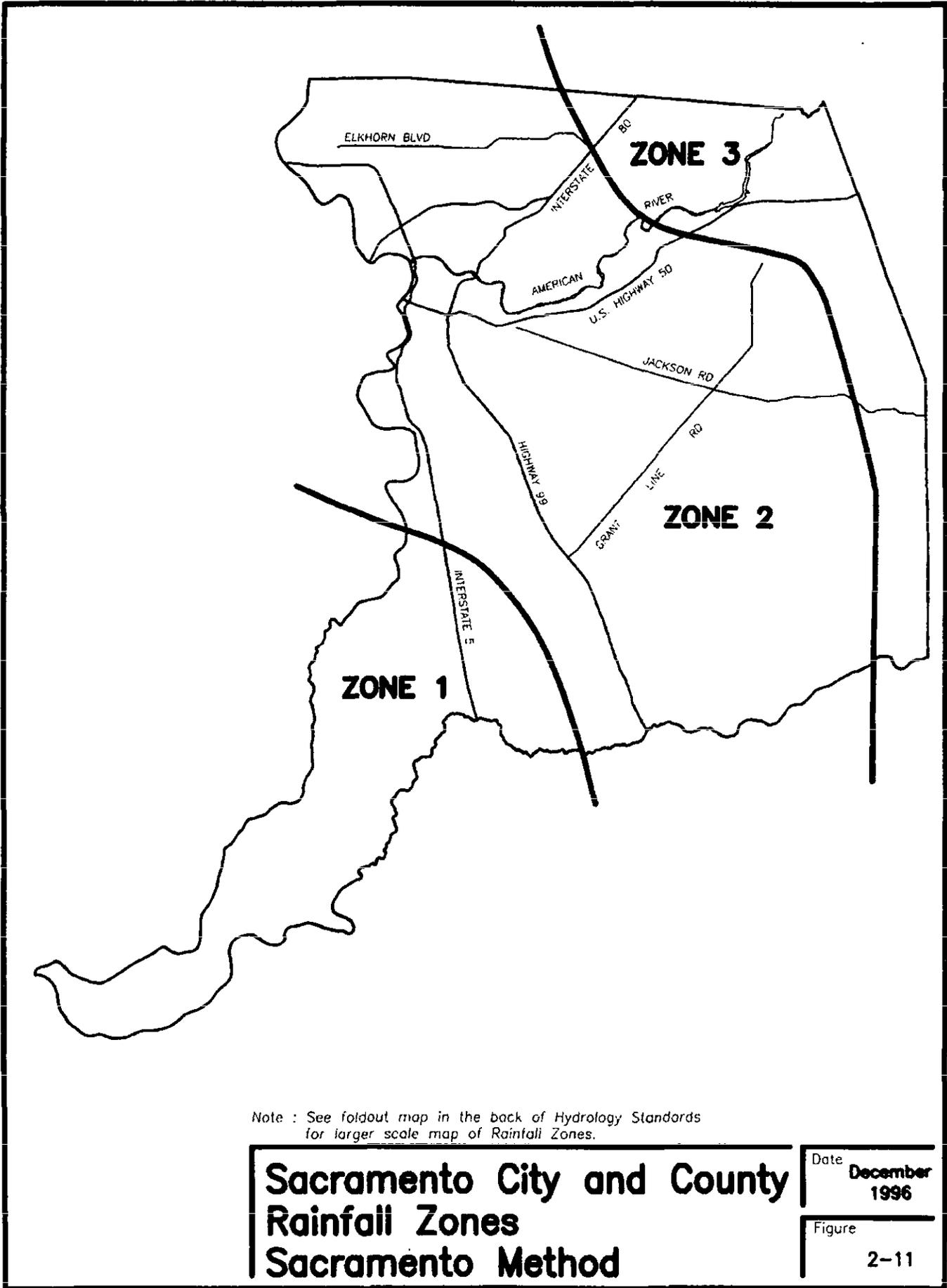
RD <

LCC10A

CH1

4-6
acres

5000



Note : See foldout map in the back of Hydrology Standards for larger scale map of Rainfall Zones.

**Sacramento City and County
Rainfall Zones
Sacramento Method**

Date **December 1996**

Figure **2-11**

EXHIBIT B

Mitigation Monitoring and Reporting Program Sheldon Park Estates Project EG-13-016

Introduction

The California Environmental Quality Act (CEQA) requires review of any project that could have significant adverse effects on the environment. In 1988, CEQA was amended to require reporting on and monitoring of mitigation measures adopted as part of the environmental review process. This Mitigation Monitoring and Reporting Plan (MMRP) is designed to aid the City of Elk Grove in its implementation and monitoring of measures adopted from the Sheldon Park Estates Mitigated Negative Declaration (MND).

Mitigation Measures

The mitigation measures are taken from the Sheldon Park Estates Project MND (as amended in the Final MND, as appropriate). The mitigation measures are assigned the same number they had in the Draft MND. The MMRP describes the actions that must take place to implement each mitigation measure, the timing of those actions, and the entities responsible for implementing and monitoring the actions.

MMRP Components

The components of each monitoring form are addressed briefly, below.

Mitigation Number: This is the number given the mitigation measure in the Draft EIR.

Mitigation Measure: All mitigation measures that were identified in the Draft MND, as amended in the Final MND, as appropriate, are presented.

Timing: Each action must take place prior to the time at which a threshold could be exceeded. Implementation of the action must occur prior to or during some part of approval, project design or construction, or on an ongoing basis. The timing for each measure is identified.

Enforcement/Monitoring: This item identifies the entity that will undertake the required action. The City of Elk Grove is responsible for ensuring that most mitigation measures are successfully implemented. Within the City, a number of departments and divisions could have responsibility for monitoring some aspect of the overall project.

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
Vis-1	<p>Outdoor lighting shall be designed consistent with the EGMC Chapter 23.56 requirements for shielding, levels of illumination, maximum height of freestanding outdoor light fixtures, type of illumination, and architectural/landscape lighting. The intent of these requirements is to ensure that light intensity is minimized, the light is not directed off the site, and the light source is shielded downward from overhead viewing and from direct off-site viewing. These requirements shall be shown on the development plan for each single family unit.</p> <p>Note: EGMC Chapter 23.28 defines zoning standards, including lighting standards, for the Agricultural Zoning Districts. Table 23.28-2 refers to EGMC Chapter 23.56 for lighting standards.)</p>	Prior to issuance of building permits	City of Elk Grove Development Services Department, Planning.	
Vis-2	Street light fixtures shall use low-pressure sodium lamps or other similar lighting fixture and shall be installed and shielded in such a manner that no light rays are emitted from the fixture at angles above the horizontal plane. High-intensity discharge lamps shall be prohibited. Offsite illumination shall not exceed two-foot candles. Street lighting plans shall be submitted with project improvement plans for City review and approval.	Prior to approval of facility improvement plans for project roadways.	City of Elk Grove Development Services Department, Planning.	
Air-1	<p>To reduce Area Source Emissions, the Project Applicant shall implement the following:</p> <ul style="list-style-type: none"> • Only natural gas burning fireplaces/hearths (i.e. no wood burning fireplaces/hearths shall be allowed). Wording relating to this restriction shall be recorded as a restrictive covenant on title. • Only low VOC paint (interior and exterior) and cleaning products shall be used on the Project site. Wording relating to this restriction shall be recorded as a restrictive covenant on title. 	Prior to issuance of building permits.	City of Elk Grove Development Services Department, Planning.	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
Air-2	<p>To reduce Energy Source Emissions, the Project Applicant shall implement the following:</p> <ul style="list-style-type: none"> Residential dwellings shall be designed to exceed applicable Title 24 energy standards by 20%. Install high efficiency appliances (refrigerator, fans, washers) 	Prior to issuance of building permits.	City of Elk Grove Development Services Department, Planning.	
Air-3	<p>To reduce construction related emissions, the Project Applicant shall implement the following SMAQMD Basic Construction Emissions Control Measures:</p> <ul style="list-style-type: none"> The following practices are considered feasible for controlling fugitive dust from a construction site. Control of fugitive dust is required by SMAQMD Rule 403 and enforced by SMAQMD staff. Water all exposed surfaces twice a day. 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 shall 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 shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. <p>The following practices describe exhaust emission control</p>	Prior to issuance of a grading permit.	City of Elk Grove Development Services Department, Planning.	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and off-road diesel powered equipment. The California Air Resources Board enforces the idling limitations.</p> <ul style="list-style-type: none"> • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. 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. 			
Bio-1	<p>The Project Applicant shall implement the following measures to protect the western pond turtle:</p> <ul style="list-style-type: none"> • A qualified biologist shall monitor construction activities within and immediately adjacent to Laguna Creek. If a western pond turtle is found within the construction area, the qualified biologist shall halt construction and immediately report the occurrence to the City. The qualified biologist shall relocate the western pond turtle to the nearest safe location as determined by City staff and the qualified biologist. • Construction personnel performing activities within and immediately adjacent to Laguna Creek shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize western pond turtle, their habitats, and measures being implemented for its protection. • Construction personnel shall observe a 15 mph speed limit on unpaved roads within and 	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first, and throughout construction.</p>	<p>City of Elk Grove Development Services Department, Planning.</p>	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>immediately adjacent to Laguna Creek.</p> <ul style="list-style-type: none"> Before operating equipment immediately adjacent to Laguna Creek, workers shall check for western pond turtle underneath equipment that has remained in one location for 15 minutes. If a western pond turtle is found, the worker shall halt construction activities, and immediately report the occurrence to the qualified biologist and City staff. The qualified biologist shall relocate the western pond turtle to the nearest safe location as determined by City staff and the qualified biologist. 			
Bio-2	<p>The Project Applicant shall consult with the USFWS and CDFW for a biological opinion regarding the potential for the project to impact giant garter snake habitat based on the presence of Laguna Creek adjacent to Project construction areas. If the USFWS and CDFW determine that giant garter snake may be potentially affected by Project construction even though the Laguna Creek would not be directly impacted, the Project Applicant shall obtain an incidental take permit from the USFWS and CDFW. If a take permit from these regulatory agencies is required, the Project shall be subject to the avoidance, minimization, and compensatory mitigation measures prescribed by the regulatory agencies under the take permit. Regardless of the requirements of a permit, the Project is subject to the following avoidance and minimization measures for giant garter snake:</p> <ul style="list-style-type: none"> Construction activity, including grading, earth movement, trenching, installation of underground utilities, pouring concrete, and paving, adjacent to the Laguna Creek shall be conducted between May 1 and October 1, the active period for giant garter snake. Movement of heavy equipment within and immediately adjacent to the Laguna Creek shall be 	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.</p>	<p>City of Elk Grove Development Services Department, Planning.</p>	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>confined to the area requiring the improvements to the maximum extent possible. Laguna Creek shall have orange construction barrier fencing at the limits of the area needed for construction improvements and the contractor shall take measures to ensure that the Contractor's forces do not enter or disturb the areas that do not require improvements.</p> <ul style="list-style-type: none"> • Construction personnel shall receive USFWS and CDFW-approved worker environmental awareness training to instruct workers to recognize giant garter snake and their habitats. • Within 24 hours prior to construction activities, the Project area shall be surveyed for the giant garter snake. The survey will be repeated if a lapse in construction activity of two weeks or greater has occurred. If a giant garter snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it is determined by the qualified biologist and City staff, in coordination with the USFWS and CDFW, that the giant garter snake will not be harmed. Any sightings or incidental take will be reported to the USFWS and CDFW immediately. 			
Bio-3	<p>Within 30 days, and not less than 14 days, prior to the start of any construction activity, a qualified biologist shall conduct a burrowing owl survey in accordance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) to determine if burrowing owls are present within the Project site, and/or to the extent practicable, within 250 feet of the project boundary. If the burrowing owl is absent from the survey area then no mitigation or avoidance measures are required. If burrowing owls are observed on or adjacent to the Project site, no project-related disturbance shall occur</p>	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.</p>	<p>City of Elk Grove Development Services Department, Planning.</p>	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>within 200 meters of occupied burrows from August 15-October 15 or 50 meters of occupied burrows from October 16 through March 31. If burrowing owls are observed on or adjacent to the project site during the breeding season (February 1 through August 31), a no-construction or projectrelated disturbance buffer will be established around the active burrow until the young have fledged, as determined by a qualified biologist in coordination with the CDFW. A minimum 200 meter no-disturbance buffer of occupied burrows is recommended from April 1 through October 15 (CDFW 2012); however, an appropriately sized buffer will be established in writing with concurrence from the CDFW based on specific conditions present.</p> <p>During construction, any pipe or similar construction material that is stored on site for one or more nights shall be inspected for burrowing owls by a qualified biologist before the material is moved, buried, or capped. If burrowing owls are present within the Project site and/or work areas, and those occupied burrows cannot be avoided during the non-breeding season (September 1 to January 31), temporary or permanent burrow exclusion and or burrow closure can be implemented if the following conditions are satisfied: 1) a Burrowing Owl Exclusion Plan is developed and approved by the local CDFW office; 2) permanent or temporary loss of occupied burrows and habitat is mitigated in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) recommendations; 3) site monitoring is conducted to ensure that take is avoided; and 4) excluded burrowing owls are documented using artificial or natural burrows on an adjacent site, consistent with requirements as established in the Burrowing Owl Exclusion Plan (CDFG 2012). Passive relocation of owls shall be implemented prior to construction only at the direction of CDFW and only if the previously described occupied burrow disturbance</p>			

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	absolutely cannot be avoided (e.g., due to physical or safety constraints).			
Bio-4	<p>If Project construction activities, including vegetation clearing, are to occur during the nesting season for birds protected under the California Fish and Game Code and Migratory Bird Treaty Act (approximately March 1-August 31) the Project Applicant shall retain a qualified biologist to perform preconstruction surveys for protected birds, including nesting raptors, on the Project site and in the immediate vicinity. At least two surveys shall be conducted no more than 15 days prior to the initiation of construction activities, including vegetation clearing. In the event that protected birds, including nesting raptors, are found on the Project site, offsite improvement corridors, or the immediate vicinity, the Project Applicant shall:</p> <ul style="list-style-type: none"> • Locate and map the location of the nest site. Within 2 working days of the surveys • prepare a report and submit to the City and CDFW; • A no-disturbance buffer of 250 feet shall be established; • On-going weekly surveys shall be conducted to ensure that the no disturbance buffer is maintained. Construction can resume when a qualified biologist has confirmed that the birds have fledged. <p>In the event of destruction of a nest with eggs, or if a juvenile or adult raptor should become stranded from the nest, injured or killed, the qualified biologist shall immediately notify the CDFW. The qualified biologist shall coordinate with the CDFW to have the injured raptor either transferred to a raptor recovery center or, in the case of mortality, transfer it to the CDFW within 48 hours of notification. If directed/authorized by the CDFW during the</p>	Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.	City of Elk Grove Development Services Department, Planning.	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	notification, the qualified biologist may transfer the injured raptors to a raptor recovery center.			
Bio-5	Prior to the commencement of construction activities, the Project Applicant shall provide the City of Elk Grove with evidence that the Project is in compliance with the requirements of the City of Elk Grove Swainson's Hawk, Chapter 16.130 of the Elk Grove Municipal Code. Compliance will require the Project Applicant to preserve 71.9 net acres of suitable habitat. The suitability of the habitat for preservation purposes shall be determined by the CDFW in coordination with the City of Elk Grove. The proposed open space and nature preservation area located within the Project site may be utilized for a portion of the 78.8 net acres if approved by the CDFW.	Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.	City of Elk Grove Development Services Department, Planning.	
Bio-6	<p>If construction activities are planned to begin during the Swainson's hawk nesting period (March 1 to September 15), a preconstruction survey and nesting season surveys for nesting Swainson's hawks shall be conducted throughout areas of suitable nesting habitat on the parcel and adjacent areas within 500 feet of the Project site.</p> <p>The pre-construction surveys shall be completed prior to the start of construction activities. The nesting season surveys shall be conducted once in April and once in May. If an active Swainson's hawk nest is observed, the biologist shall notify the City of Elk Grove and consult with the CDFW to determine whether project-related activities are likely to impact the nesting pair and to determine the appropriate protection measures to implement, which may include halting or postponing land clearing and construction activities until all young have fledged and additional nesting attempts no longer occur. If a nest tree is found on the Project site prior to construction and is proposed for removal, then appropriate permits from CDFW shall be obtained and mitigation implemented pursuant to CDFW</p>	Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.	City of Elk Grove Development Services Department, Planning.	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>guidelines.</p> <ul style="list-style-type: none"> • Prior to issuance of building or grading permits, the Project Applicant shall provide Development Services, Planning Department written verification that a qualified biologist has been retained by the Project Applicant to perform the preconstruction survey. This action may be waived if the biologist will be contracted by the City at the Project Applicant's expense. • No earlier than 30 days before commencement of construction activities, including land clearing, the qualified biologist shall submit and certify to the Planning Director the results of the pre-construction survey. Failure to submit the required survey results will delay the approval to initiate construction activities, including land clearing. • No later than April 30, the qualified biologist shall submit and certify to the Planning Director the results of the 500-foot site perimeter survey. Failure to submit the required survey results will cause any construction activity to be halted until such results are submitted and approved by the Planning Director. If no construction activities have taken place, failure to submit the required survey results will delay the approval to initiate construction activities, including land clearing. • No later than May 31, the qualified biologist shall submit and certify to the Planning Director the results of the 500-foot site perimeter survey. Failure to submit the required survey results will cause any construction activity to be halted until such results are submitted and approved by the Planning Director. If no construction activities have taken place, failure to submit the required survey results will delay the approval to initiate construction activities, including land clearing. 			

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
Bio-7	<p>Up to thirty days prior to the any disturbance activities, including but not limited to the commencement of construction and/or removal of trees on or adjacent to the Project site, the Project Applicant shall retain a qualified biologist to conduct pre-construction bat survey(s) of potential diurnal roosting trees (e.g. trees 24" DBH and greater, snags, hollow trees). During the survey(s) the <i>qualified biologist will inspect all potential diurnal roosting trees within the entire area(s) where construction will and within a surrounding 100 foot-buffer area using the appropriate and most effective methodology (e.g. camera inspection, exit survey with night optics, acoustic survey) in determining presence or absence of bat species.</i></p> <p>If active roosts are found, no construction activities shall take place within 250 feet of the nest until the young have fledged. On-going weekly surveys shall be conducted to ensure that the no disturbance buffer is maintained. Construction can resume when a qualified biologist has <i>confirmed that the young bats have fledged.</i></p>	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.</p>	<p>City of Elk Grove Development Services Department, Planning.</p>	
Bio-8	<p>Up to thirty days prior to the any ground disturbance activities, the Project Applicant shall retain a qualified botanist to conduct confirmation plant survey(s) for special status plants. None have been observed on the project site and the conditions at the time of surveys precluded the presence of these species; however, appropriate habitat for these species is present. If the confirmation survey(s) reveal the presence of these plants, then the qualified botanist shall notify the City of Elk Grove and the appropriate regulatory agency with jurisdiction over the plant. If the confirmation survey(s) do not reveal the presence of these plants, then the Project Applicant is free to move forward with ground disturbance activities, subject to all permits and other Project mitigation requirements.</p>	<p>Prior to issuance of grading permits and/or approval of improvement plans.</p>	<p>City of Elk Grove Development Services Department, Planning.</p>	

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Bio-9	<p>Prior to construction, the Project Applicant shall install chain-link fencing with orange netting around the areas with conservation easements (i.e. Laguna Creek, wetlands) to identify environmentally sensitive areas. Before construction, the contractor shall work with the Resident Engineer and qualified biologist to identify the locations for the barrier fencing, and shall place stakes around the sensitive resource sites to indicate these locations. The fencing shall be installed before construction activities are initiated and shall be maintained throughout the construction period. The following paragraph will be included in the construction specifications:</p> <p><i>"Temporary fences around the environmentally sensitive areas shall be installed as the first order of work. Temporary fences shall be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the Resident Engineer. The fencing shall be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing shall be tightly strung on posts with a maximum 10-foot spacing."</i></p>	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.</p>	<p>City of Elk Grove Development Services Department, Planning.</p>	
Bio-10	<p>During construction, the Project Applicant shall take steps to protect environmentally sensitive areas on the Project site. Construction specifications shall include the following wording:</p> <p><i>"The Contractor's attention is directed to the areas designated as "environmental sensitive areas." These areas are protected, and no entry by the Contractor for any purpose will be allowed unless specifically authorized in writing by the United States Army Corps of Engineers. The Contractor shall take measures to ensure that Contractor's forces do not enter or disturb these areas, including giving</i></p>	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.</p>	<p>City of Elk Grove Development Services Department, Planning.</p>	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<i>written notice to employees and subcontractors."</i>			
Cul-1	<p>If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, or human remains are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery.</p> <ul style="list-style-type: none"> • If cultural resources are identified, an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be consulted to evaluate the find(s). Work cannot continue within 50 meters of the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR. • If a potentially eligible resource is encountered, then the archaeologist shall identify mitigation recommendations. The City and Project Applicant shall consider the recommendations and the Project Applicant shall implement all measures deemed feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, and other appropriate measures. The implementation of mitigation shall be formally documented in writing and submitted to the City Planning Department as verification that the provisions in CEQA for managing unanticipated discoveries have been met. • If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by 	As a condition of Project approval and implemented during all ground-disturbing activities	City of Elk Grove Development Services Department, Planning.	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>the Native American Heritage Commission, may also be required and, if required, shall be retained at the Applicant's expense.</p> <ul style="list-style-type: none"> If human remains are discovered, all work shall be halted immediately within 200 feet of the discovery, the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed. 			
Geo-1	<p>The Project Applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Elk Grove and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.</p>	Prior to issuance of grading permits.	City of Elk Grove Public Works Department.	
Geo-2	<p>The Project Applicant shall prepare and submit a Post-Construction Stormwater Quality Control Plan in accordance with the most recent version of the Stormwater Quality Design Manual for the Sacramento Region. Post-</p>	Prior to issuance of grading permits or approval of improvement plans, whichever occurs	City of Elk Grove Public Works Department.	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>construction source and treatment controls shall be designed in accordance with the City of Elk Grove Improvement Standards and the Stormwater Quality Design Manual. The design of post-construction source and treatment controls shall be submitted for approval with the improvement plans regardless of whether they constitute private or public improvements.</p> <p>Drainage from all paved surfaces, including streets, parking lots, driveways, and roofs shall be routed either through swales, buffer strips, or sand filters or treated with a filtering system prior to discharge to the storm drain system. Landscaping shall be designed to effect some treatment, along with the use of a Stormwater Management filter to permanently sequester hydrocarbons, if necessary. Permeable pavers and pavement shall be utilized to construct the facilities, where appropriate. A separate maintenance manual describing proper maintenance practices for the specific treatment controls to be constructed shall also be submitted. If the maintenance manual needs revisions, Applicant shall make the requested revisions in a timely manner.</p>	<p>first.</p>		
<p>Geo-3</p>	<p>Prior to earthmoving activities, a certified geotechnical engineer shall be retained to perform a geotechnical evaluation of the soils at a design-level as required by the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or</p>	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.</p>	<p>City of Elk Grove Public Works Department.</p>	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	structures. The grading and building plans shall be designed in accordance with the recommendations provided in the geotechnical evaluation.			
Geo-4	For each individual septic system planned for installation, the ability of the soils to accommodate a septic system shall be evaluated by a licensed engineer in coordination with the Sacramento County Environmental Management Department. If the soils do not have the capacity to adequately percolate and absorb septic tank waste, any residence shall either be connected to the public sewer system or residential uses shall be prohibited.	Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.	City of Elk Grove Public Works Department.	
GHG-1	Prior to the issuance of building permits, the Project Applicant shall demonstrate compliance with the Climate Action Plan, including, but not limited to, measures BE-6, BE-7, BE-9, BE-10, RC-1, RC-2, TACM-5, and TACM-9. The Project Applicant shall consider incorporating additional recommended GHG Reduction Measures. The Project Applicant shall provide reasons/justification, in the form of a written letter, for any recommended GHG Reduction Measures that are not incorporated into the Project. This does not apply to the mandatory measure, which must be incorporated.	Prior to issuance of building permits	City of Elk Grove Planning Department	
Haz-1	All abandoned wells on the Project site shall be destroyed in accordance with the requirements of the Sacramento County Environmental Health Division.	Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.	City of Elk Grove Public Works Department.	
Haz-2	If at any time during construction an existing septic system is encountered, the system shall be removed and destroyed in accordance with the requirements of the Sacramento County Environmental Health Division.	During all ground-disturbing activities	City of Elk Grove Public Works Department.	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
Haz-3	<p>If at any time during construction, soil staining, soil odors, or potentially hazardous non-soil artifacts are encountered, the Project Applicant shall cease construction in the vicinity of the discovery. The Project Applicant shall have a licensed geotechnical engineer evaluate the soil conditions and, if potentially hazardous conditions exist, submit recommendations to the City of Elk Grove Public Works Department to address potentially hazardous conditions. Upon acceptance of recommendations by the City, the Project Applicant shall implement recommendations.</p>	<p>During all ground-disturbing activities</p>	<p>City of Elk Grove Public Works Department.</p>	
Hyd-1	<p>The Project Applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Elk Grove and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.</p>	<p>Prior to issuance of grading permits</p>	<p>City of Elk Grove Public Works Department</p>	
Hyd-2	<p>The Project Applicant shall prepare and submit a Post-Construction Stormwater Quality Control Plan in accordance with the most recent version of the Stormwater Quality Design Manual for the Sacramento Region. Post-construction source and treatment controls shall be designed in accordance with the City of Elk Grove Improvement Standards and the Stormwater Quality</p>	<p>Prior to issuance of grading permits or approval of improvement plans, whichever occurs first.</p>	<p>City of Elk Grove Public Works Department</p>	

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
	<p>Design Manual. The design of post-construction source and treatment controls shall be submitted for approval with the improvement plans regardless of whether they constitute private or public improvements.</p> <p>Drainage from all paved surfaces, including streets, parking lots, driveways, and roofs shall be routed either through swales, buffer strips, or sand filters or treated with a filtering system prior to discharge to the storm drain system. Landscaping shall be designed to effect some treatment, along with the use of a Stormwater Management filter to permanently sequester hydrocarbons, if necessary. Permeable pavers and pavement shall be utilized to construct the facilities, where appropriate. A separate maintenance manual describing proper maintenance practices for the specific treatment controls to be constructed shall also be submitted. If the maintenance manual needs revisions, Applicant shall make the requested revisions in a timely manner.</p>			
Noise-1	<p>Prior to the issuance of building permits for lots that back or side onto Sheldon Road, the Project Applicant shall perform a noise evaluation to determine noise levels at the house location. If the plotting plan includes any residence that is located within the outdoor or indoor noise thresholds as established by the Elk Grove Noise Element, the Project Applicant shall either modify the plot plan such that the residence is shifted farther away from the noise contour to an area of the lot that is within the acceptable noise levels, or construct appropriate noise attenuation to reduce the noise levels impacting the residence.</p>	Prior to issuance of building permits	City of Elk Grove Planning and Building Departments	

**CERTIFICATION
ELK GROVE CITY COUNCIL RESOLUTION NO. 2014-125**

STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO) ss
CITY OF ELK GROVE)

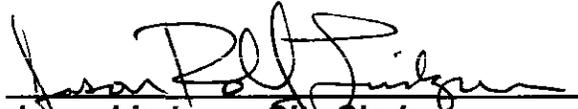
I, Jason Lindgren, City Clerk of the City of Elk Grove, California, do hereby certify that the foregoing resolution was duly introduced, approved, and adopted by the City Council of the City of Elk Grove at a regular meeting of said Council held on May 28, 2014 by the following vote:

AYES : COUNCILMEMBERS: Cooper, Detrick, Hume, Trigg

NOES: COUNCILMEMBERS: None

ABSTAIN : COUNCILMEMBERS: None

ABSENT: COUNCILMEMBERS: Davis


**Jason Lindgren, City Clerk
City of Elk Grove, California**