<u>REVISED</u> MITIGATED NEGATIVE DECLARATION

FILES: General Plan Amendment A11-0003/ Rezone Z11-0004/ Planned Development Permit PD11-0002/ Tentative Parcel Map P11-0003

PROJECT NAME: Green Valley Center

NAME OF APPLICANT: Winn Communities

ASSESSOR'S PARCEL NOS.: 124-140-33 **SECTION:** 22 **T:** 10N **R:** 8E

LOCATION: The project is located at the southwest corner of Green Valley Road and Francisco Drive, El Dorado Hills, El Dorado County

☒ **GENERAL PLAN AMENDMENT: FROM:** High Density Residential (HDR) **TO:** Commercial

☒ **REZONING: FROM:** One-Family Residential District-Planned Development (R1-PD) **TO:** Commercial-Planned (C-PD)

☒ **TENTATIVE PARCEL MAP**: Tentative Parcel Map creating a total of three commercial parcels ranging from 1.53 acres to 3.04 acres in size;

☐ **SUBDIVISION**

☐ **SPECIAL USE PERMIT TO ALLOW:**

☒ **OTHER:** 1) Preliminary Planned Development Permit for the proposed commercial development consisting of three (3) commercial buildings totaling 28,615 square feet served with on-site parking, landscaping, and signs. Each commercial building shall be within individual parcel; 2) Findings of Consistency with Interim Interpretive Guidelines for General Plan Policy 7.3.3.4 (Wetland Buffers and Setbacks) for the proposed reduced wetland setback from 50 feet to 25 feet; 3) Design Waiver request reducing standard sidewalk width from 8-foot to 6-foot along Francisco Drive and Cambria Way

REASONS THE PROJECT WILL NOT HAVE A SIGNIFICANT ENVIRONMENTAL IMPACT:

☐ **NO SIGNIFICANT ENVIRONMENTAL CONCERNS WERE IDENTIFIED DURING THE INITIAL STUDY.**

☒ **MITIGATION HAS BEEN IDENTIFIED WHICH WOULD REDUCE POTENTIALLY SIGNIFICANT IMPACTS.**

☐ **OTHER:**

In accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), State Guidelines, and El Dorado County Guidelines for the Implementation of CEQA, the County Environmental Agent analyzed the project and determined that the project will not have a significant impact on the environment. Based on this finding, the Planning Department hereby prepares this <u>REVISED</u> MITIGATED NEGATIVE DECLARATION. A period of thirty (30) days from the date of filing this <u>revised</u> mitigated negative declaration will be provided to enable public review of the project specifications and this document prior to action on the project by COUNTY OF EL DORADO. A copy of the project specifications is on file at the County of El Dorado Planning Services, 2850 Fairlane Court, Placerville, CA 95667.

This <u>Revised</u> Mitigated Negative Declaration was adopted by the Board of Supervisors on
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____
Executive Secretary

EXHIBIT Q

EL DORADO COUNTY PLANNING SERVICES
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

REVISED INITIAL STUDY
ENVIRONMENTAL CHECKLIST FORM
(Revisions consists of additional texts which are shown with double underline)

Project Title/Application Nos.: Green Valley Center/A11-0003, Z11-0004, PD11-0002, P11-0003

Lead Agency Name and Address: El Dorado County, 2850 Fairlane Court, Placerville, CA 95667

Contact Person: Mel Pabalinas, Senior Planner

Phone Number: (530) 621-5363

Property Owner's Name and Address: Family Real Property, LP, 3001 I ST STE 300, Sacramento, CA 95816

Project Applicant's/Agent's Name and Address: Winn Communities 3001 I ST STE 300, Sacramento, CA 95816

Project Engineer's Name and Address: RSC Engineering, 2250 Douglas Blvd., Ste 150, Roseville, CA 95661

Project Location: The project is located at the southwest corner of Green Valley Road and Francisco Drive, El Dorado Hills, El Dorado County (Attachment 1)

Assessor's Parcel Number(s): 124-140-33 (Attachment 2)

Size: 6.85 acres

Zoning: One-Family Residential- Planned Development (R1-PD) (Attachment 4)

Section: 22 **T: 10N** **R:** 8E

General Plan Designation: High Density Residential (HDR) (Attachment 3)

Description of Project:

The project consists of the following requests:

1. General Plan Amendment amending the land use designation from High Density Residential (HDR) to Commercial (C);

2. Rezone from One-Family Residential-Planned Development (R1-PD) to Commercial-Planned Development (C-PD);

3. Preliminary Development Plan for the proposed commercial development consisting of three (3) commercial buildings totaling 28,615 square feet served with on-site parking, landscaping, and signs. Each commercial building shall be within individual parcel;

4. Tentative Parcel Map creating a total of three commercial parcels ranging from 1.53 acres to 3.04 acres in size;

5. Findings of Consistency with Interim Interpretive Guidelines for General Plan Policy 7.3.3.4 (Wetland Buffers and Setbacks) for proposed reduced wetland setback from 50 feet to 25 feet;

6. Design Waiver request reducing standard sidewalk width from 8-foot to 6-foot along Francisco Drive and Cambria Way

Surrounding Land Uses and Setting:

The vacant project site is located at the southwest corner of Green Valley Road, a major east-west arterial road, and Francisco Drive, a minor north-south collector road, within the El Dorado Hills area. Cambria Way, which is part public and part private street, intersects with Francisco Drive and borders the southern perimeter of the site.

The 6.85-acre site was originally a part of a 69-lot Francisco Oaks residential subdivision. It was reserved for future development while the balance of the subdivision lots was developed. This private gated subdivision is also accessed at the northern end via Cambria and Brittany Way at the southern end. Attachments 3 and 4 and Table 1 below details the specific land use designations and uses of the subject and adjacent properties. Commercial development borders the project site to the north, northeast, west, and east of the site.

Table 1. Land Use Information

	General Plan	Zoning	Land Use/Improvements
Site	High Density Residential (HDR)	One-Family Residential District-Planned Development (R1-PD)	Undeveloped
North/ Northeast	Commercial (C)-Northwest El Dorado Hills Specific Plan	Planned Commercial (CP) District	Commercial
South	High Density Residential (HDR)	One-Family Residential District-Planned Development (R1A-PD)	Existing Residential Development-Francisco Oaks Subdivision
East	Commercial (C)	Commercial-Planned Development (C-PD)	Various Commercial Uses (Office and Restaurant)
West	Commercial (C)	Commercial-Planned Development (C-PD)	Commercial (Mini-Storage)

Briefly Describe the setting

The site primarily composes of annual grassland mixed with oak woodland canopy. The oak woodland canopy covers 3.42 acres of the 6.85-acre property. Site topography ranges from approximately 575 feet to 625 feet above mean sea level. Eighty seven percent of the site is contained within 0 to 30% slope gradient, while the balance of the site within 40% slope range primarily situated within swale areas. Soil composition consists of Auburn silt loam (AwD) and Auburn very rocky silt loam (AxE), which characterized with 2% to 30% slopes. The northern half of the property drains into a well-define runoff into a watercourse which carries upstream drainage while the southern half drains west-southwest from the site and also receives outflow from three offsite pipe systems. A total 0.14 acre of jurisdictional wetland (ephemeral and swale) exists along the northern and southern portions of the property. A 6-foot sidewalk exists along its frontage on Green Valley Road.

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

1. Development Services Department (Planning Services and Building Services): Improvement Plan, Grading Permit, Final Map, Building Permits
2. Department of Transportation (DOT): Improvement Plan, Grading Permit, Final Map, Building Permits, Encroachment Permit
3. El Dorado Irrigation District (EID): Facility Plan Report, Improvement Plan, Meter Award Letter
4. Resource Conservation District (RCD): Improvement Plan, Grading Permit
5. El Dorado Hills Fire Department: Improvement Plan, Building Permit
6. Department of Fish and Game: Streambed Alteration Permit
7. California Regional Quality Board: 401Water Quality Certification
8. U.S. Army Corp of Engineer: Nationwide Permit

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

Signature: ____________ Date: 11/7/12

Printed Name: Mel Pabalinas, Senior Planner For: El Dorado County

Signature: ____________ Date: 7 Nov. 2012

Printed Name: Peter Maurer For: El Dorado County

DETAILED PROJECT DESCRIPTION

Introduction

This Initial Study for Green Valley Center has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts resulting from the proposed development.

Project Description

The project consists of the following:

1. **General Plan Amendment amending the land use designation of property from High Density Residential (HDR) to Commercial (C).**

   To facilitate the proposed commercial development, the project proposes to amend land use designation from High Density Residential to Commercial designation. This designation would provide a full range of commercial uses ranging from retail, office, and a variety of commercial uses that would serve the residents and businesses in the area (Attachment 5).

2. **Rezone of subject property from One-Family Residential-Planned Development (R1-PD) to Commercial-Planned Development (C-PD).**

   The project would amend the underlying the residential zone to Commercial-Planned Development corresponding to the proposed Commercial land use designation (Attachment 5). The proposed Commercial zone is subject to Chapter 17.32.I of the El Dorado County Zoning Ordinance. This district identifies various by-right and conditionally allowed uses (via special use permit) including offices, retail and service uses. Development standards, including minimum setbacks, lot size, and height limitations, are provided regulating development building siting and design. The proposed Commercial zone would be combined with a Planned Development (PD) overlay zone, which is necessary to establish the Development Plan for the proposed commercial use.

3. **Preliminary Planned Development Permit for the proposed commercial development consisting of three commercial buildings totaling 28,615 square feet served with on-site parking, landscaping, and signs.**

   A Preliminary Planned Development (PD) Permit is proposed for the construction and operation of a 28,615 square foot commercial development, in accordance with Sections 17.02 and 17.04 of the Zoning Ordinance. The proposed development consists of a total of three commercial parcels (subject to a Tentative Parcel Map application further discussed below) each containing a building with identified uses and building area. The development would be served by on-site parking, landscaping, lighting, and signs. Exterior and architectural design depicts a craftsman theme that utilizes various accent and decorative materials and a mixture of paint colors. Table 2 below further detail the specific components of the proposed development. Project plans are included as Attachments 6-13.

Table 2. Green Valley Commercial Center

Proposed Parcel		Proposed Commercial Buildings					
Lot ID	Size (in acres)^{B}	Building ID	Floor Area (in square feet)	Proposed Use	Parking Stalls^{A}	Maximum Height^{C}	Notes
1	3.04	1	16,500	Retail Pharmacy with drive-thru	68	36’	Building Pad at 612.65 feet; Building coverage is 12%
2	1.53	2	5,115	Fast Food Restaurant (with play area) with drive-thru	41	30’- 6”	Building Pad at 614 feet; Building coverage is 3%

3	2.35	3	7,000	Office	20	22'	Building Pad at 613 feet; Building coverage is 7%

Notes: A. Total Proposed Parking is 129 stalls. Total required stalls is 123 per Section 17.18.060 of the Zoning Ordinance; B. Minimum Commercial Lot Size= 5,000 square feet; C. Maximum Building Height= 50 feet as measured from finished building pads.

The applicant elected that the PD permit be deemed preliminary because of the project's impacts to oak canopy is currently does not meet the mandated oak tree impact mitigation under General Plan Policy 7.4.4.4, which is further discussed in *Section IV. Biological Resource.* Accordingly, the project would be conditioned to submit a Final Planned Development Permit consistent with the all applicable General Plan policies (in particular General Plan Policy 7.4.4.4), zoning standards, and potentially be required an additional environmental review. The Final PD would be subject to review by the County and affected agencies. Alternatively, may elect to re-design the project to meet the requirements of the policy.

Site Improvement and Design

Approximately 3.85 acres of the site would require grading in order to establish the necessary infrastructure to serve the proposed uses including construction of individual building pads, utilities, drainage, landscaping, and parking lot (Attachments 6-8). The proposed building pads, which are centrally located within the site, have elevations of 612.65 feet (Building 1), 614 feet (Building 2), and 613 feet (Building 3). To balance the site, a total of 14,000 cubic yard cut is estimated. Approximately 2,500 cubic yard will be used as fill and 11,500 cubic yard will be exported. Retaining walls with varying heights from 1 to 11 feet tall are proposed at specific locations providing structural support for site grading.

Standard site accesses are proposed off Green Valley Road (right-in/right-out only) and Cambria Way (full access). On-site circulation has been designed to meet standard drive aisle, parking, vehicular turning ratio, and landscaping requirements based on the Zoning Ordinance. Subject to a proposed reduction under a Design Waiver request, 6-foot wide sidewalks would be constructed along site frontage on Cambria Way and Francisco Drive.

Utilities

The site is within the El Dorado Irrigation District (EID) service area for source of public water, sewer, and recycled water. The development would be required to obtain these services which involves connection to the existing lines adjacent the property. Specifically, according to the Facilities Improvement Letter (FIL) provided by EID indicated an 8-inch water line exists along Cambria Way and Green Valley Road and 16-inch line in Francisco Drive. A total of 15 Equivalent Dwelling Units (EDU) would be required subject to verification of purchase of water meter prior to map filing. These existing lines would be able to accommodate the necessary fire flow and pressure, subject to verification by the El Dorado Hills Fire Department.

On-site storm drainage would be managed through construction of underground drainage network. Existing offsite drainage inlets along Francisco Drive and Green Valley Road would connect to the proposed on-site storm drains and pipes conveying flow into the open, natural drainage at the southwest corner of the site. The project would also utilize designated landscape planter areas as storm water detention. A culvert would be constructed at the crossing for the proposed driveway access along Green Valley Road conveying drainage along the northern perimeter of the site. All utilities would be contained within defined easements, replacing the existing recorded easements on the property (Attachment 19). Improvement Plans would be required showing the proposed infrastructure subject to review by affected agencies.

Off-Site Improvements

Specific off-site road improvements has been identified or required for the project. A 117-foot decelaration taper lane has been required by the Department of Transportation (DOT) along Green Valley Road west of the site. Construction of this taper lane would include an 8-foot sidewalk, curb, and gutter within an existing right-of-way. Based on the approved Traffic Impact Analysis (TIA) (Attachment 17) and as further discussed in *Section XVI. Transportation/Traffic*, improvements along Francisco Drive at its intersection with El

Dorado Hills Blvd. would require the construction of additional channelized east bound right-turn and south bound receiving lane. This improvement would be constructed as part of DOT's on-going Spring 2013 Maintenance and Improvement program under the department's Capital Improvement Program (CIP). The TIA also identified project impacts along Salmon Falls Road at its intersection with Green Valley Road, which is proposed to be mitigated with the modification of the existing configuration to provide for an additional south bound approach and receiving lanes. This impact will be mitigated by payment of traffic impact fees based on the project's proportionate impact.

4. **Tentative Parcel Map of 6.85 acre property a total of three commercial parcels ranging from 1.53 acres to 3.04 acres in size;**

   The proposed Tentative Parcel Map would divide the property into three parcels each containing a commercial building. As depicted in Table 1, the resulting lot size exceeds the standard minimum lot size. Parcels 1 and 3 would include preserved wetland features along the northern and southwest perimeters. Each parcel would also include portions of the off-street parking stalls and landscaping. Future users of the proposed commercial buildings would have mutual parking use and access to these on-site improvements.

5. **Findings of Consistency with Interim Interpretive Guidelines for General Plan Policy 7.3.3.4 (Wetland Buffers and Setbacks) involving proposed reduced wetland setback from 50 feet to between 25 and 45 feet;**

   In accordance with the interim interpretive guideline of the policy, the project proposes to reduce to the standard development wetland setback from 50 feet to a minimum of 25 feet along Wetland channel CH1 located along the northern perimeter of the site. The project shall implement standard construction measures and Best Management Practices (BMP) ensuring protection of this wetland.

6. **Design Waiver request reducing standard sidewalk width from 8-foot to 6-foot along Francisco Drive and Cambria Way**

   El Dorado Design and Improvement Standard Manual (DISM) Standard Plan 101A (Industrial and Commercial) requires a minimum 8-foot wide sidewalk for commercial development. The project includes a requests to reduce the width of sidewalks along Franscisco Drive and Cambria Way to 6-foot. The reduced width would match the existing 6-foot sidewalk along project frontage on Green Valley.

EVALUATION OF ENVIRONMENTAL IMPACTS

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 a fair argument 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. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of Mitigation Measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the Mitigation Measures, and briefly explain how they reduce the effect to a less than significant level.

5. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

6. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

7. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

8. 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.

Initial Study Schedule

This Initial Study is being circulated for public and agency review for a 30-day period. Written comments on the Initial Study should be submitted to the project planner indicated in the Summary section above.

Following the conclusion of the comment period, the Initial Study will be considered by the Lead Agency in a public meeting and will be certified if it is determined to be in compliance with CEQA. The Lead Agency will also determine whether to approve the project.

ENVIRONMENTAL IMPACTS

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

Discussion:

A substantial adverse effect to Visual Resources would result in the introduction of physical features that are not characteristic of the surrounding development, substantially change the natural landscape, or obstruct an identified public scenic vista.

a. and c. Scenic Vista and Visual Character: The project site is not located any areas identified as scenic or of significant importance in this area of El Dorado Hills. The site is surrounded by existing residential development to the south and variety of medium to large commercial uses in the northeast (shopping center), northwest and east (restaurants and office).

The proposed buildings would be visible entirely or partly along all bordering roads. The proposed building pads, which range from approximately 612 feet to 614 feet, are slightly higher than the existing grade of Green Valley Road, which range from 584 feet to 614 feet easterly along project frontage (Attachments 8 and 11). The pads are lower in elevation in comparison with the grade along Francisco Drive, which measures from 625 to 645 feet. The building pads are also lower in comparison with grade along Cambria Way (ranging from 619-640 feet) bordered by the existing residential subdivision to the south.

Implementation of the proposed development would not substantially degrade the visual character of the site. All buildings are below the maximum height of 50 feet allowed in the Commercial zone district. Landscaping, which includes a variety of type and size trees including Red Oak, Blue Oaks and Crape Myrtles, would be installed along project perimeters providing screening that would minimize potential visual effects (Attachment 11). Additionally, the buildings would employ Craftsman-style design consistent with the existing commercial development in the surrounding area. Impacts are anticipated to be less than significant.

b. **Scenic Resources and Historic Buildings.** The project site is currently vacant. There are no significant existing cultural or historical resources on-site as described in the Cultural Resource Report. As discussed in Section IV *Biological Resources*, implementation of the project would result in the removal of oak trees, which would not meet the standards of the General Plan Policy 7.4.4.4. Mitigation Measure BIO-7 requires that a Final Planned Development Permit cannot be approved and grading permit cannot be issued until such time as the County has adopted a mitigation program that is compliant with CEQA and provides for a feasible alternative to retention of on-site oaks. In the event that an alternative to on-site retention of oaks is not available, the project would be required to be redesigned prior to approval of the Final Development, subject to additional environmental review. Impacts are anticipated to be less than significant.

d. **Light and Glare**. Common lighting and glare effects would be anticipated during operation of the proposed commercial development. The submitted Preliminary Photometric Plan, which depicts the type and location of proposed light standards on site, has been designed with lighting effects (measured in candle-foot rating) identified near 0 candle-foot along all project perimeters (Attachment 12). Lighting effects from buildings would be minimized by sufficient by setback to project perimeters (e.g. Building 3 minimum setback of 60 feet) and proposed landscaping. Wall signs, which are internally illuminated, along the southern facades of Buildings 1 and 3 shall be prohibited as part of the Sign Program for the development. Impacts are anticipated to be less than significant.

As discussed under Section XVI. Transportation/Traffic on page 36 of this Initial Study Checklist, the following details the analysis related to the Supplemental Traffic Information (Attachment 21).

PC Issue No. 3: Potential Vehicular Headlight Effects at adjacent residences in Francisco Oaks

Summary Response from Supplemental Traffic Information: The analysis included an evaluation of potential headlight glare effects from the vehicles exiting the project off Cambria Way into the residences along the northern perimeter of Francisco Oaks subdivision. The analysis concluded that no glare effects are anticipated to occur due the shielding from the existing 6-foot tall perimeter wall adjacent to the subdivision.

County Response: Staff supports the findings of the supplemental information. No additional mitigation measure or condition of approval is required.

FINDING: Based on the above discussion, the design of the commercial development would have minimal impacts to aesthetics. For this "Aesthetics" category, impacts would be less than significant.

II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by California Department of forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forrest Protocols adopted by the California Air Resources Board. Would the project:

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

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				

Discussion:

A substantial adverse effect to Agricultural Resources would occur if:

- There is a conversion of choice agricultural land to nonagricultural use, or impairment of the agricultural productivity of agricultural land;
- The amount of agricultural land in the County is substantially reduced; or
- Agricultural uses are subjected to impacts from adjacent incompatible land uses.

a-e. **Farmland Mapping and Monitoring Program.** The site is not designated as farmland or lands containing prime farmland of state wide or local importance. No impact.

Williamson Act Contract. The property is not subject to a Williamson Act Contract nor is agriculturally zoned. The site has a land use designation of High Density Residential and the proposed amendment would change this designation to Commercial. No impact.

Non-Agricultural Use. No conversion of agriculture land would occur as a result of the project. No impact.

Loss of Forest land or Conversion of Forest land. No forest land exists on site. No impact.

Conversion of Prime Farmland or Forest Land. No prime farmland exists on site. No impact.

FINDING: For this "Agriculture" category, there would be no impact.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X		
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)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations?			X	
e. Create objectionable odors affecting a substantial number of people?			X	

Discussion:

A substantial adverse effect on Air Quality would occur if:

- Emissions of ROG and No$_x$, will result in construction or operation emissions greater than 82lbs/day (See Table 5.2, of the El Dorado County Air Pollution Control District – CEQA Guide);
- Emissions of PM$_{10}$, CO, SO$_2$ and No$_x$, as a result of construction or operation emissions, will result in ambient pollutant concentrations in excess of the applicable National or State Ambient Air Quality Standard (AAQS). Special standards for ozone, CO, and visibility apply in the Lake Tahoe Air Basin portion of the County; or
- Emissions of toxic air contaminants cause cancer risk greater than 1 in 1 million (10 in 1 million if best available control technology for toxics is used) or a non-cancer Hazard Index greater than 1. In addition, the project must demonstrate compliance with all applicable District, State and U.S. EPA regulations governing toxic and hazardous emissions.

An air quality analysis has been prepared by URS Corporation evaluating the potential impacts to air quality by the project (Attachment 15). The studies, which include an evaluation of Greenhouse Gas further discussed under *Section VII Greenhouse Gas Emissions*, evaluates impacts from the anticipated generated emissions associated with the construction (grading, building, and paving) of the development and the operation of the proposed uses. As discussed below, the study recommends measures to mitigate the identified project impacts. The El Dorado County Air Quality Management District (AQMD) has reviewed and determined the sufficiency of the study.

a. **Air Quality Plan.** El Dorado County has adopted the *Rules and Regulations of the El Dorado County Air Pollution Control District* (February 15, 2000) establishing rules and standards for the reduction of stationary source air pollutants (ROG/VOC, NOx, and O3). Any activities associated to the grading and construction of this project would pose a less than significant impact on air quality because the El Dorado County Air Quality Management District (AQMD) would require that the project implement a Fugitive Dust Mitigation (FDM) plan during grading and construction activities. Such a plan would address grading measures and operation of equipment to minimize and reduce the level of defined particulate matter exposure and/or emissions, anticipated to be below a level of significance.

b. **Air Quality Standards.** The project would generate emission which may contribute to an existing or projected air quality violation during construction. Construction activities associated with the project include site grading improvements and building construction. The following discussion relates to the potential air quality effects from implementation of the project.

- Construction Dust Threshold

Construction-related emissions are generally short term in duration, but may still cause adverse air quality impacts. Inhalable Particulate Matter PM10 (particles less than 10 microns in diameter) is the pollutant of greatest concern with respect to construction activities. PM10 emissions can result from a variety of construction activities, including excavation and grading. Because PM2.5 air quality standards are relatively recent, the EDCAQMD's Guide to Air Quality Assessment (El Dorado County Air Pollution Control District 2002) focuses on PM10 rather than PM2.5.

According to the guide, mass emissions of PM10 fugitive dust need not be quantified, and may be assumed not significant, if the project includes mitigation measures that will prevent visible dust beyond the property lines. However, without mitigation, uncontrolled fugitive dust would be considered a significant impact. Mitigation measures can reduce fugitive dust emissions by approximately 50-75%. Because the proposed project does not include the implementation of PM10 construction mitigation measures, construction emissions could have a potentially significant temporary air quality impact. The construction activities associated with site construction would generate PM10 dust emissions that could exceed either the state or federal ambient air quality standards for PM10. This would be a potentially significant impact during construction. Implementation of the following mitigation measure will reduce emissions to a less than significant level.

Mitigation Measure MM AIR-1: *The applicant shall implement EDCAQMD's Rule 223-1 regulations.*

Method of Verification: *Incorporate as Notes on Improvement Plan and Grading Plan*

Implementation Timing: *Prior to Approval of Improvement Plan and Issuance of Grading Permit*

Monitoring Agency: *Air Quality Management District (AQMD) and Planning Services*

- Construction-Related Asbestos Dust

Certain areas of El Dorado County contain ultramafic rocks and faults where serpentine rock and naturally occurring asbestos (NOA) can occur. Any project that is located in an area that includes ultramafic rock, which often contains NOA, could potentially release asbestos during construction. When this rock is broken or crushed, asbestos may be released and become airborne, causing a potential health hazard. Consequently, any project located in an area of known ultramafic rock is considered potentially significant with respect to the release of asbestos during construction.

Construction of the proposed project would involve grading, excavating, and trenching. The proposed project is located outside of areas designated as potentially having NOA according to the Asbestos Review Map of El Dorado County Western Slope. In addition, Youngdahl & Associates Consulting Group conducted soil sampling at the proposed project site. Youngdahl & Associates does not report any NOA on the project site (Youngdahl & Associates, 1989). Since surveys did not report NOA on the project site, impacts are considered less than significant. However, in the event that NOA is found on the project site during construction, compliance with the mitigation measure will reduce the exposure of workers and residents living in the project vicinity to a less than significant level.

Mitigation Measure AIR-2: *The applicant shall implement EDCAQMD's Rule 223-2 regulations.*

Method of Verification: *Incorporate as Notes on Improvement Plan and Grading Plan*

Implementation Timing: *Prior to Approval of Improvement Plan and Issuance of Grading Permit*

Monitoring Agency: *Air Quality Management District (AQMD) and Planning Services*

- Construction-Related Criteria Pollutant

The EDCAQMD has established maximum daily and construction period diesel fuel use thresholds designed to ensure that criteria pollutant emissions are less than the mass emission significance thresholds. A project's emissions of all criteria pollutants are deemed to be less than significant if its maximum daily fuel use is less than 337 gallons diesel fuel used for all equipment of 1995 model year or earlier or 402 gallons per day for all equipment of model year 1996 or later. Table 3 (Page 12) of the Air Quality Analysis shows estimates of the quantity of diesel fuel that would be consumed during project construction. The project would increase diesel fuel use by a maximum of 373 gallons per day (during site grading) and 34,619 gallons over the construction period. This increase in diesel combustion would result in the generation of ROG, NOx, CO, and PM10 combustion emissions that exceed the significance thresholds. This is considered a significant impact; however, with implementation of the following mitigation measure, the impact will be reduced to a less than significant level.

Mitigation Measure AIR-3: *All contractors using diesel powered construction equipment shall verify that all equipment is 1996 model year or later. With this newer equipment, the threshold of 402 gallons of diesel fuel per day shall not be exceeded.*

Method of Verification: Incorporate Mitigation Measure as Notes on Improvement Plan and Grading Plan

Implementation Timing: Prior to Approval of Improvement Plan and Issuance of Grading Permit

Monitoring Agency: Air Quality Management District (AQMD) and Planning Services

- Operational Ozone Precursor

The EDCAQMD has established significance thresholds of 82 pounds per day for Reactive Organic Gas (ROG) and Nitrogen Oxides (NOx) associated with project operation. Emissions from sources that are below these levels are considered less than significant. The URBEMIS 2007 model (appendix in Air Quality Analysis) was used to estimate the increase in ROG and NOx emissions. Table 4 (page 14) of the Air Quality Analysis shows the estimated increase in ROG and NOx associated with project operations for the summer and winter periods. On-road operational emissions are based on the trip generation rates provided by Kimley-Horn and Associates, Inc (2010). Winter emissions are higher because of area source emissions, especially those associated with fuel combustion from wood stoves and fireplaces. The use of wood stove and fireplaces as a possible source of interior heating is a standard residential design feature, is not prohibited by the construction standards, and, therefore is a valid assumption in analyzing operational emissions.

Project operations will generate vehicle trips traveling to and from the proposed project along with area source emissions associated with water and space heating, landscape maintenance, and consumer products. These emission sources will generate emissions of the ozone precursors, ROG and NOx. However, as shown in Table 4, the emissions of ROG and NOx would be less than the significance thresholds established by the EDCAQMD. Therefore, this impact is less than significant.

For the other criteria pollutants, CO SO_2, NO_2, and PM_{10} significance is based on whether a project would cause or contribute to violations of the California or federal ambient air quality standards. However, if a project's ROG or NOx emissions are below the 82 pounds per day thresholds, then the project's emission impacts of CO, SO2, NO2, and PM10 are also considered less than significant. Based on less than significant effects from ROG and NOx, the anticipated emissions from CO, SO_2, NO_2 and PM_{10} are also less than significant.

The EDCAQMD has identified the following criteria to be used in determining whether a land use project has a potentially significant Toxic Air Contaminant (TAC) impact:

- the project generates heavy duty truck trips (from project operations) of 10 or more per day.
- the project uses more than 3,700 gallons of diesel fuel during construction if toxic-best available control technology (T-BACT) is not applied or 37,000 gallons if T-BACT is applied.

The project is unlikely to generate heavy-duty truck trips of 10 or more per day. The evaluation of construction related TAC emissions found that, with implementation of T-BACT, construction emissions of TAC would be less than significant.

c. **Cumulative Impacts.** URS Corporation analyzed the project cumulative operation and area emissions in accordance with AQMD's CEQA Guide. URS utilized URBEMIS 2007 modeling of the emissions for operational and area emissions in the target year of 2013. The analysis based its criteria on the project specific emission impacts from Ozone Precursors, Carbon Monoxide, Particulate Matter (PM 10), Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2), and Toxic Air Contaminant (TAC). Given that the project would produce less than significant emissions in each of the above criteria, the analysis concluded that the project cumulative impacts are considered less than significant.

d. **Sensitive Receptors.** CEQA Guidelines identifies sensitive receptors as facilities that house or attract children, the elderly, people with illnesses, or others that are especially sensitive to the affects of air pollutants. Hospitals, schools and convalescent hospitals are examples of sensitive receptors. There are no hospitals or convalescent hospitals in the immediate area. There are three schools in proximity of the project: a private Montessori school located within the commercial complex and a preschool north of the project site and Jackson Elementary school approximately 2,000 feet east of the project site located at the northeast area of El Dorado Hills Blvd. and Francisco Blvd.

Standard AQMD Rules 214 (Architectural Coatings), 223.1 (Fugitive Dust-Construction, Bulk Material Handling, Blasting, Other Earthmoving Activities and Carryout and Trackout Prevention), 224 (Cutback and Emulsified Asphalt Paving Materials), 300 (Open Burning), Fugitive Dust Plan, as well as implementing typical conditions for the development of the site as it relates to pollutant concentrations based on Environmental Management rules, regulations, and standards, would be required to be implemented during project development. Implementation of these AQMD standards and mitigation measures above, and adherence to County Codes required during the site grading, encroachment, and building permit processes, the proposed project is not anticipated to expose sensitive receptors to substantial pollutant concentrations. Impacts would be anticipated to be less than significant.

e. **Objectionable Odors.** Office/retail/restaurant uses are not classified as an odor generating facility within Table 3.1 of the El Dorado County AQMD CEQA Guide. The proposed project is not anticipated to create significant levels of odors as measured with current standards. Impacts would be anticipated to be less than significant.

FINDING: The proposed project would not affect the implementation of regional air quality regulations or management plans. The project would result in insubstantial increase in emissions due to construction and operation. Standard conditions of approval, as required by the El Dorado County Air Quality Management District (AQMD) shall be required of the project. As such, the project anticipates a less than significant impact in this category subject to the identified mitigation measures.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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?		X		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
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?		X		
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?			X	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		

IV. **BIOLOGICAL RESOURCES.** *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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?				X

Discussion:

A substantial adverse effect on Biological Resources would occur if the implementation of the project would:

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

As detailed in the Biological Resource Assessment conducted for the project, two primary biological communities occur on the site including annual grassland and blue oak woodland (Attachment 16). These communities provide potential habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. The community is also supported by a small riparian area.

Annual grassland is present in small areas of the site where blue oak woodland does not dominate. Annual grassland species are also present in the understory of oak woodland habitats. The grassland is characterized primarily by an assemblage of non-native grasses and forbs. Dominant grass species includes soft chess (Bromus hordeaceous), ripgut brome (Bromus diandrus), and foxtail fescue (Vulpia myuros) Common dominant herbaceous non-natives include yellow star thistle (Centaurea solstitialis), woolly mullein (Verbascum thapsus), and vinegarweed (Trichostema lanceolatum). Annual grassland habitat supports breeding, foraging, and shelter habitat for several species of wildlife. Species observed or expected to occur in this habitat include savannah sparrow (Passerculus sandwichensis), California quail (Callipepla californica), western meadowlark (Sturnella neglecta), black-tailed jackrabbit (Lepus californicus), and coyote (Canis latrans).

The existing oak woodland canopy encompass 3.42 acre. Blue oak woodland dominates the plant community on the site which defined as woodlands with blue oak (Quercus douglasii) being the sole or dominating species in the tree canopy along with foothill pine (Pinus sabiniana), interior live oak (Quercus wislizeni), and valley oak (Quercus lobata). Typically, blue oak woodland exhibits a continuous, intermittent, or savannah-like canopy that is one or two-tiered; shrubs are infrequent or common; and ground cover is grassy. The oak woodland on the site has a canopy with periodic dense and overlapping tree canopy. Oak woodlands provide breeding, foraging, and cover habitat to a variety of wildlife species. Species observed onsite or expected to occur within this habitat type include acorn woodpecker (Melanerpes formicivorus), Nuttall's woodpecker (Picoides nuttalli), and oak titmouse (Baeolophus inornatus). Table 1 of the BRA lists a variety of animal and plant species and describes the degree of occurrence within the project site.

A total of 0.146 acre of existing wetlands have been formally delineated and verified on the property (Attachment 18). These wetland features consist of 0.092 acres of intermittent and ephemeral channels (identified as CH1 through CH3) located along the northern perimeter line and at the southwest corner of the site. The channels are fed by run-off via culvert outlet under Green Valley Road. The remaining 0.054 acres of wetland are situated within swales (identified as WS-1 and WS-2) along the southern perimeter. The swales comprised of shallow, linear drainage feature fed by urban run-off from adjacent roads and subdivision development. These water features are regulated under Section 404 of the Clean Water Act enforced by the U.S. Army Corp of Engineers as these features are tributary or adjacent to tributaries to Folsom Lake and the American River.

a. **Special Status Species.** The submitted biological reports evaluated the existence of the biological communities within the project site. Specifically, the site consists of biological communities including Interior live and blue oak woodland and California Grassland. Within these communities, varying types of species including raptors and hawks could potentially inhabit the site. Project implementation would result in the removal of oak trees (discussed below) which these migratory bird species could potentially inhabit for foraging and nesting purposes. The following mitigation measure shall be incorporated which would minimize the impact to less than significant:

Mitigation Measure BIO-1: A pre-construction survey for active bird nests shall be conducted by a qualified biologist if vegetation removal is conducted within the nesting period for most migratory bird species and nesting raptor species (between March 1 and August 15). If vegetation removal activities are delayed or suspended more than one month after the pre-construction survey, the area shall be re-surveyed. If active bird nests are identified, vegetation removal in these areas shall be postponed until after the nesting season, or a qualified biologist has determined the young have fledged and are independent of the nest site. No known active nests shall be disturbed without a permit or other authorization from USFWS or CDFG.

Method of Verification: Submittal of Pre-Construction Survey

Implementation Timing: Prior to Approval of Improvement Plan and Issuance of Grading Permit

Monitoring Agency: Planning Services

The site was also evaluated for potential presence of sensitive status plants including the Rare Plants or Pine Hill Endemic Plants. The study concluded that no special status plants were observed within the project area. However, given that the site is within the Ecological Preserve Area 2, in accordance with Chapter 17.71 of the El Dorado County Zoning Ordinance and Board of Supervisors Resolution No. 205-98, payment of standard mitigation fee for impacts to rare plant would be required and collected prior to issuance of building permits. This requirement shall be incorporated as a standard condition of approval.

b.-c. **Riparian Habitat/Wetlands.** Project implementation would impact 0.037 of 0.146 acres of the identified wetlands. Specifically, a total of 0.024 acres of the wetland swales (0.009 acre portion of WS-1 and 0.015 acre portion of WS-2) would be impacted as a result of fills associated with site development including construction of the parking lot, perimeter slope, and proposed Buildings 1 and 3. Additionally, a 0.013 acre portion of the wetland channel CH-3 would also be filled with the installation of clear span under the proposed driveway access off Green Valley Road. Impacts to these wetland features would be reduced to less than significant with implementation of the following mitigation measures.

Mitigation Measure BIO-2: The applicant shall obtain a Nationwide Permit from the U.S. Army Corp of Engineer.

Method of Verification: Submit Proof of Documentation

Monitoring Agency: Planning Services

Implementation Timing: *Prior to issuance of Grading Permit*

Mitigation Measure BIO-3: *The applicant shall acquire wetland credits at an approved mitigation bank or National Fish and Wildlife Foundation. The wetland credits shall be equivalent to the amount of wetlands impacted.*

Method of Verification: *Submit Proof of Documentation*

Monitoring Agency: *Planning Services*

Implementation Timing: *Prior to issuance of Grading Permit*

Mitigation Measure BIO-4: *A Streambed Alteration Agreement, pursuant to Fish and Game Code Section 1600 et seq, shall be obtained by the applicants, from the California Department of Fish and Game for the stream crossing and any other activities affecting the bed, bank, or associated riparian vegetation of any stream on the site. Appropriate mitigation measures shall be developed in coordination with CDFG in the context of the agreement process. Authorization prior to placement of any fill is required from the U.S. Army Corps of Engineers if any impacts are proposed to jurisdictional riparian habitat that were not disclosed during the project review. This authorization may require mitigation as deemed necessary by the Corps of Engineers.*

Method of Verification: *Submit Proof of Documentation*

Implementation Timing: *Prior to Issuance of Grading Permit*

Monitoring Agency: *Planning Services*

Mitigation Measure BIO-5: *The applicant shall obtain a Water Quality Certification, Section 401 permit from the California Regional Water Quality Control Board for applicable project improvements.*

Method of Verification: *Submit Proof of Documentation*

Implementation Timing: *Prior to Issuance of Grading Permit*

Monitoring Agency: *Planning Services*

The remaining 0.109 acres wetland shall be avoided as part of project design. The entire 0.013 acre of CH-2 and 0.030 acre portion of WS-2 wetland would be preserved within the undisturbed southwest area of Parcel 1. The remaining 0.01 acre of CH-3 would also be preserved within the underdeveloped area of Parcel 2. The entire CH-1 wetland (0.056 acre) would be preserved with the proposed minimum development setback of 25 feet from the southern ordinary high watermark of the wetland. This proposed buffer is a reduction from the standard 50 feet required by and subject to the requested Findings of Consistency General Plan Policy 7.3.3.4 with. Implementation of the following mitigation measure shall lessen the impact.

Mitigation Measure BIO-6: *A 25-foot setback line shall be shown on the Parcel Map or Final Site Plan from all high-water marks or the outer boundary of Wetland CH-1. No development shall occur within the setback area. Standard Best Management Practices (BMP) measures, including the installation of protective fencing around the wetland, shall be implemented.*

<u>Method of Verification:</u> Review of Parcel Map and Final Site Plan

<u>Implementation Timing:</u> Prior to filing of Parcel Map

<u>Monitoring Agency:</u> Planning Services

Application of the above mitigation measures would minimize said impacts to a less than significant level.

d. **Migration Corridor.** Wildlife movement zones are important for the movement of migratory wildlife populations. Corridors provide foraging opportunities and shelter during migration. Generally, wildlife movement zones are established migration routes for many species of wildlife. Movement corridors often occur in open areas or riverine habitats that provide a clear route for migration in addition to supporting ample food and water sources during movement. The Biological Resource Evaluation concluded that the site does not contain habitat that would make it suitable for wildlife migration corridor. The site is surrounded by existing development on all sides which further limits the suitability for migration corridor. Impact to wildlife migration corridor is anticipated to be less than significant.

e. **Local Plans.** General Plan Policies 7.4.4.4, 7.4.4.5, and 7.4.5.2 govern the removal of oak tress within El Dorado County. Specifically, Policy 7.4.4.4 contains two options to mitigate for the loss of oak woodlands: 1) Option A requires conformance to on-site tree canopy retention and replacement standards; and 2) Option B provides for in-lieu payment of mitigation fees in accordance with an Oak Woodland Management Plan (OWMP). With the invalidation of the OWMP as a result of the Third District Court of Appeals ruling in the case of Center for Sierra Nevada Conservation v. County of El Dorado, mitigation via in-lieu fee payment (Option B) is not available.

Project impact to the existing oak woodland canopy is subject to the retention and replacement standards of General Plan Policy 7.4.4.4 Option A (Attachment 9). As required by the policy, 2.73 acres of the 3.42 acres (80%) of existing oak canopy must be retained and the canopy to be impacted is limited to 0.68 acres. The project proposes to remove a total of 2.28 acres, while retaining only 1.14 acres of canopy. Based on this analysis, project impacts to oak canopy do not meet the policy.

It is anticipated that the County will adopt a new mitigation program as an alternative to retention of on-site oaks. However, until the County adopts a new oak mitigation program there is no means to utilize such an alternative. Accordingly, recommended Mitigation Measure BIO-7 requires that a grading permit shall not be issued until such time as the County has adopted a mitigation program that is compliant with CEQA and provides for a feasible alternative to retention of on-site oaks. Should the County fail to adopt an alternative to on-site retention of oaks, the project would be required to be redesigned prior to approval of the Final Development Plan and would be subject to additional environmental review.

<u>Mitigation Measure BIO-7</u>: The applicant shall submit an Oak Tree Plan as part of a Final Planned Development Permit. The plan shall indicate the size and location of all onsite oak trees and will indicate which trees are to be removed and retained. Approval of the Final Planned Development Permit and issuance of grading permits shall not occur unless the County has adopted an offsite oak tree mitigation program and the applicant has submitted a project-specific oak tree mitigation plan which the County finds fully compliant with the adopted offsite oak tree mitigation program. Should the County fail to adopt an offsite oak tree mitigation program, the project shall be redesigned to allow for onsite retention. This redesign shall be subject to subsequent environmental review.

<u>Method of Verification</u>: Review of Final Planned Development Permit and Grading Permit

<u>Implementation Timing:</u> Prior to Approval of Final Planned Development Permit and Issuance of Grading Permit

Monitoring Agency: Planning Services

f. **Adopted Plans.** This project, as designed, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact.

FINDING: For the "Biological Resources" category, the site contains area of sensitive biological resources that would be impacted as part of the project. As analyzed, conditioned, and mitigated, these impacts would be minimized to less than significant.

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

Discussion

In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a historical or cultural resource significant or important. A substantial adverse effect on Cultural Resources would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a prehistoric or historic archaeological site or a property or historic or cultural significant to a community or ethnic or social group; or a paleontological site except as a part of a scientific study;
- Affect a landmark of cultural/historical importance;
- Conflict with established recreational, educational, religious or scientific uses of the area; or
- Conflict with adopted environmental plans and goals of the community where it is located.

a-c. **Historic, Pre-historic, and Archeological Resources.** General Plan Policy 7.51.3 requires discretionary projects for new development to be analyzed for potential presence of sensitive cultural and archeological resources. Numerous cultural and archeological studies have been conducted on the site and the immediate area (See Supporting Information List, page 42). A recent cultural study was conducted in 2006, followed by a Phase 1 evaluation, verified absence of potentially significant artifact. Based on the analysis and conclusions in the cultural and archeological reports, no significant resources exist on site therefore any anticipated impacts are less than significant.

d. **Human Remains.** In addressing the potential of presence of human remains during construction, standard condition of approval, in accordance with CEQA Guidelines § 15064.5, Health and Safety Code § 7050.5 and Public Resources Code §§ 5097.94 and 5097.98, would be incorporated. Impacts would be anticipated to be less than significant.

FINDING: Based on the studies, no sensitive cultural and historical resources were identified on the site. However, a possibility of previously unknown resources or human remains could be discovered during construction. Specific conditions would be incorporated to ensure any potential discoveries. This project would have a less than significant impact within the Cultural Resources category.

VI. GEOLOGY AND SOILS. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b. Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
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?			X	
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?				X

A substantial adverse effect on Geologic Resources would occur if the implementation of the project would:

- Allow substantial development of structures or features in areas susceptible to seismically induced hazards such as groundshaking, liquefaction, seiche, and/or slope failure where the risk to people and property resulting from earthquakes could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards;
- Allow substantial development in areas subject to landslides, slope failure, erosion, subsidence, settlement, and/or expansive soils where the risk to people and property resulting from such geologic hazards could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards; or
- Allow substantial grading and construction activities in areas of known soil instability, steep slopes, or shallow depth to bedrock where such activities could result in accelerated erosion and sedimentation or exposure of people, property, and/or wildlife to hazardous conditions (e.g., blasting) that could not be mitigated through engineering and construction measures in accordance with regulations, codes, and professional standards.

a. Seismic Hazards.

i) According to the California Department of Conservation, Division of Mines and Geology, there are no Alquist-Priolo active fault zones within El Dorado County. The nearest such faults are located in Alpine and Butte Counties. There would be no impact.

ii) The potential for seismic ground shaking in the area would be considered less than significant. Any potential impacts due to seismic impacts would be addressed through compliance with the Uniform Building Code. All commercial structures would be built to meet the construction standards of the UBC for the appropriate seismic zone. Impacts would be less than significant.

iii) El Dorado County is considered an area with low potential for seismic activity. The potential areas for liquefaction on the project site would be the swale and ephemeral drainage area, which would be avoided. Impacts would be less than significant.

iv) All future grading activities would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance. Compliance with the Ordinance would reduce potential landslide impacts to less than significant.

b.-d. **Soil Erosion/ Geologic Hazards/Expansive Soils.** According to the Soils Survey of El Dorado County, the soil composition consists of Auburn Series, specifically Auburn silt loam (AwD) and Auburn very rocky silt loam (AxE). Auburn silt loam is characterized to occur within slopes between 5 to 15%, well drained and is typically utilized for range, irrigated pasture. Auburn very rocky slit loam also occurs within the same slope grade. Both types of soils have moderate permeability, medium to rapid surface runoff, and erosion hazard is moderate to high and shrink-swell potential is considered low.

As part of project implementation, potential for erosion would be mitigated through Best Management Practices subject to conformance with provisions of the El Dorado County Grading, Erosion Control and Sediment Ordinance. Development of the site would require submittal of a formal construction permit application which includes submittal of a Geotechnical Reports. These reports would be subject to review by the County and affected agencies for implementation of measures minimizing erosion hazards. Impacts would be less than significant.

e. **Septic Capability.** The commercial development project would be served by EID for sewage services. There would be no impacts related to septic systems.

FINDING: A review of the soils and geologic conditions on the project site determined that the soil types are suitable for the future commercial development, subject to applicable construction and building standards. All grading activities would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance which would address potential impacts related to soil erosion, landslides and other geologic impacts. For this 'Geology and Soils' category impacts would be less than significant.

VII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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 gases?			X	

Discussion

The prominent GHGs contributing to the greenhouse effect as specifically listed in Assembly Bill AB 32, the California Global Warming Solutions Act of 2006, are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors; in California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. California Energy Commission. 2006. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004.* (Staff Final Report). Publication CEC-600-2006-013-SF.

GHGs are global pollutants, unlike criteria for air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. Emitting CO_2 into the atmosphere is not itself an adverse environmental affect. It is the increased concentration of CO_2 in the atmosphere potentially resulting in global climate change and the associated consequences of such climate change that results in adverse environmental affects (e.g., sea level rise, loss of snowpack, severe weather events). Although it is possible to generally estimate a project's incremental contribution of CO_2 into the atmosphere, it is typically not possible to determine whether or how an individual project's relatively small incremental contribution might translate into physical effects on the environment.

In June 2008, the Office of Planning and Research's (OPR) issued a technical advisory (*CEQA and Climate Change)* to provide interim guidance regarding the basis for determining the proposed project's contribution of greenhouse gas emissions and the project's contribution to global climate change. In the absence of adopted local or statewide thresholds, OPR recommends the following approach for analyzing greenhouse gas emissions:

- Identify and quantify the project's greenhouse gas emissions;
- Assess the significance of the impact on climate change; and
- If the impact is found to be significant, identify alternatives and/or Mitigation Measures that would reduce the impact to less-than-significant levels.

Neither El Dorado County nor the El Dorado County Air Quality Management District has established GHG significance thresholds to assess project impacts under CEQA. The only air district in northern California that has established a GHG CEQA significance threshold is the Bay Area Air Quality Management District (BAAQMD). BAAQMD has set the significance threshold at 1,100 metric tons CO2e for operational emissions but has not established a GHG threshold for construction emissions. The Sacramento Metropolitan Air Quality Management District (SMAQMD), although not specifying CEQA thresholds, has suggested that a project's construction emissions be amortized over the life of the project and added to the project's operational emissions.

a and b. Generate Greenhouse Gas Emissions. A Greenhouse Gas analysis for the project was conducted by URS Corporation dated March 2, 2012 (Attachment 15). This analysis used 1,100 metric tons CO_{2e} referenced above as the significance threshold for the project. Tables 1 and 2 of the analysis shows that the project's estimated 2013 emissions, which include an amortized construction emissions in the amount 10 tons CO_{2e}, would equal to a total of 1,068.5 metric tons CO2e. Since these emissions would be less than the 1,100 metric ton CO_{2e} threshold, the project would have a less than significant GHG impact.

<u>FINDING</u>: The greenhouse gas emission analysis for the project estimated that the project emissions would be below the BAAQMD standard applicable to the project. For this "Greenhouse Gas Emissions" category, impacts would be anticipated to be less than significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. 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?			X	
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?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
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?				X
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?				X
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?				X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
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?			X	

Discussion

A substantial adverse effect due to Hazards or Hazardous Materials would occur if implementation of the project would:

- Expose people and property to hazards associated with the use, storage, transport, and disposal of hazardous materials where the risk of such exposure could not be reduced through implementation of Federal, State, and local laws and regulations;

- Expose people and property to risks associated with wildland fires where such risks could not be reduced through implementation of proper fuel management techniques, buffers and landscape setbacks, structural design features, and emergency access; or

- Expose people to safety hazards as a result of former on-site mining operations.

a.-b. **Hazardous Materials.** Implementation of the project may involve transportation, use, and disposal of hazardous materials such as construction materials, paints, fuels, landscaping materials. The usage of these materials is more typical during construction phase and commercial operational uses. Contractors are required to obtain approval of a Hazardous Materials Business Plan through the Environmental Management Department- Hazardous Waste Division of El Dorado County. Any uses of hazardous materials would be required to comply with all applicable federal, state, and local standards associated with the handling and storage of hazardous materials. The impacts are anticipated to be less than significant.

c.- g. **Hazardous Materials Near Schools.** A private Montessori school and pre-school are located within the commercial development north of the project site. Jackson Elementary school is located approximately 2,000 feet to the east. As discussed above, any uses of hazardous materials would be required to comply with all applicable federal, state, and local standards associated with the handling and storage of hazardous materials. Impacts would be anticipated to be less than significant.

Hazardous Sites. No parcels within El Dorado County are included on the Cortese List. There would be no impact.

Aircraft Hazards and Private Airstrips. The project site is not within any airport plan, nor is it in any public or private airport. There would be no impact.

Emergency Plan. No formal emergency or evacuation plan is proposed for the project. However, the proposed interior circulation has been designed in accordance with the County Design and Improvement Standards Manual and Zoning Ordinance that would accommodate necessary emergency situations. The site has two points of accesses, appropriately sized drive aisles to accommodate 2-way vehicular traffic, and pedestrian sidewalks connectivity off-site. Impacts would be anticipated to be less than significant.

h. **Wildfire Hazards.** The project borders to the west an undeveloped portion of the adjacent property. This portion of the property contains native vegetation including oak woodland canopy. The project has been reviewed by the El Dorado Hills Fire Department for project's potential exposure to wildfire. As conditioned, the Department requires the project to comply with Public Resource Code 4291, which includes bordering fence be non-combustible and planting of select low-lying vegetation. Prior to approval, Improvement and Building Permit Plans shall be reviewed by the department for consistency with applicable fire codes. Impacts would be anticipated to be less than significant.

FINDING: Site construction and development would anticipate use of various potential hazardous materials, subject to permitting standards at the local and state level. The proposed commercial development is not located in any airport facilities. A Wildfire Safe Plan would require implementation as part of the development. For this 'Hazards and Hazardous Materials' category, impacts would be less than significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. HYDROLOGY AND WATER QUALITY. *Would the project:*				
a. Violate any water quality standards or waste discharge requirements?			X	
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)?			X	
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?			X	
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			X	

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. HYDROLOGY AND WATER QUALITY. *Would the project:*				
the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f. Otherwise substantially degrade water quality?			X	
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?				X
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j. Inundation by seiche, tsunami, or mudflow?				X

Discussion

A substantial adverse effect on Hydrology and Water Quality would occur if the implementation of the project would:

- Expose residents to flood hazards by being located within the 100-year floodplain as defined by the Federal Emergency Management Agency;
- Cause substantial change in the rate and amount of surface runoff leaving the project site ultimately causing a substantial change in the amount of water in a stream, river or other waterway;
- Substantially interfere with groundwater recharge;
- Cause degradation of water quality (temperature, dissolved oxygen, turbidity and/or other typical stormwater pollutants) in the project area; or
- Cause degradation of groundwater quality in the vicinity of the project site.

a. **Water Quality Standards.** Construction of the project would require site and ground disturbance. Grading and Improvement plans shall be required for review by the El Dorado County Department of Transportation (DOT) and/or Building Services for consistency with *County of El Dorado Grading, Erosion and Sediment Control Ordinance.* These standards require that erosion and sediment control be implemented into the design of the project. Grading and drainage plans would be designed pursuant to a project specific Storm Water Mitigation Plan (SWMP). This would address Storm Water Prevention and Pollution Program (SWPPP) standards in order to adhere to the state requirements, as well as the federal, National Pollution Discharge Elimination System (NPDES) requirements for water quality and water discharge. Impacts would be anticipated to be less than significant.

b. **Groundwater Supplies.** The project would require to connect to public water service provided by El Dorado Irrigation District and would not utilize any groundwater as part of the project. Impact would be considered less than significant.

c-f. **Drainage Patterns.**

As discussed in *Section IV Biological Resources*, the site contains wetland swales and an ephemeral drainage. The predominant of the wetland features (0.109 of .0146 acre) shall be avoided as part of project design. The impacted wetland area would be filled with the installation of drainage facilities subject to construction standards and identified mitigation measures.

A Drainage Report was prepared by Civil Engineering Solutions in accordance with El Dorado County Drainage Manual (Attachment 19). A pre- and post-project conditions hydrologic model at selected downstream locations was calculated for the site and surrounding tributary areas. The modeling indicates that development of the site as proposed would result in changes in the flow at several locations, including the tributary area from the northern portion of the site to the existing channel. The proposed development would increase flow at the confluence of all runoff into a single stream at 1 cubic foot per second (cfs) for both the 10-year and the 100-year events. This represents an increase of approximately 0.7% of existing for the 10-year and 0.5% of existing for the 100-year. A post-project mitigated model was prepared in order to estimate the mitigation measures required to attenuate the increased peak flows back to pre-project levels.

Post construction stormwater management is intended to treat in perpetuity the urban runoff generated on-site. The stormwater treatment is composed of three general elements: source control, runoff reduction, and treatment of runoff. The basic practice of source control is to minimize the potential for constituents to enter runoff at the source. An example of a source control BMP would be stamping of drainage inlets to inform occupants that waters flow to the creeks. The project proposes to provide stormwater quality treatment through the use of treatment swales and structural Best Management Practices (BMPs).

The proposed site improvements also include bio-filtration runoff collection areas within the landscape planters where runoff from tributary impervious areas would be collected and filtered prior to entry into the pipe collection system. Where such areas are not feasible structural measures will used such as inlet separation units and an in-line separation unit. Standard conditions of approval would require submittal of Improvement Plans, which includes details of drainage improvements, subject to review by various agencies and final approval by the Department of Transportation. Impacts would be less than significant.

g-j. **Flood-related Hazards.** The site, which is identified within the 06017C0704E panel of the Flood Insurance Rate Map (FIRM) map, is designated as Flood Zone X. This designation describes areas that are outside of any mapped 100-year or 500-year flood areas. The proposed development shall be required to adhere to applicable construction and building standards involving drainage control and flood prevention. No dams are located in the project area and therefore, no potential hazards related to dam failures. The risk of exposure to seiche, tsunami, or mudflows is remote. There would be no impact.

FINDING: The proposed drainage facilities would adequately convey the anticipated run-off associated to the project. Water would be provided for this project via connections to the EID infrastructures, as well as adequate capacity to connect to the existing EID septic facility system. BMPs for pre-and-post-construction for erosion and sediment controls would be incorporated into the final grading and drainage design for the project. As conditioned, mitigated, and with adherence to applicable County Codes, impacts within this category would be anticipated to be less than significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
X. LAND USE PLANNING. *Would the project:*				
a. Physically divide an established community?			X	
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?			X	
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion

A substantial adverse effect on Land Use would occur if the implementation of the project would:

- Result in the conversion of Prime Farmland as defined by the State Department of Conservation;
- Result in conversion of land that either contains choice soils or which the County Agricultural Commission has identified as suitable for sustained grazing, provided that such lands were not assigned urban or other nonagricultural use in the Land Use Map;
- Result in conversion of undeveloped open space to more intensive land uses;
- Result in a use substantially incompatible with the existing surrounding land uses; or
- Conflict with adopted environmental plans, policies, and goals of the community.

a.-b. **Established Community and Land Use Consistency.** The project would not physically divide an established community, which contains both residential and commercial development. The corner vacant site is located in an area that is surrounded by existing commercial development on three sides and a residential development on one side. The site is bordered by a heavily traveled arterial road (Green Valley Road) and collector road (Francisco Drive). The commercial project proposes additional sources of retail and office uses to serve the immediate area. Impact is anticipated to be less than significant.

c. **Habitat Conservation Plan.** El Dorado County does not have an adopted Habitat Conservation Plan Program. There would be no impact.

FINDING: For the 'Land Use Planning' category, the project would have no impact.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. 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?				X
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?				X

Discussion

A substantial adverse effect on Mineral Resources would occur if the implementation of the project would:

- Result in obstruction of access to, and extraction of mineral resources classified MRZ-2x, or result in land use compatibility conflicts with mineral extraction operations.

a-b. **Mineral Resources.** The site has a residential land use designation. The proposal is to amend the designation to commercial. There are no known mineral resources on the site according to the General Plan. There are no known mineral resources of local importance on or near the project site. There would be no impact.

FINDING: No known mineral resources are located on or within the vicinity of the project. There would be no impact to this 'Mineral Resources' category.

XII. NOISE. *Would the project result in:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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?			X	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
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 level?				X
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?				X

Discussion

A substantial adverse effect due to Noise would occur if the implementation of the project would:

- Result in short-term construction noise that creates noise exposures to surrounding noise sensitive land uses in excess of 60dBA CNEL;
- Result in long-term operational noise that creates noise exposures in excess of 60 dBA CNEL at the adjoining property line of a noise sensitive land use and the background noise level is increased by 3dBA, or more; or
- Results in noise levels inconsistent with the performance standards contained in Table 6-1 and Table 6-2 in the El Dorado County General Plan.

The ambient noise environment in the project vicinity is dominated by local traffic along Green Valley Road, Francisco Drive and Cambria Way. Additional ambient noise source is also comes from the neighboring commercial uses in the west, north, and east, and, to a lesser extent, residential development to the south and southeast. The location of vacant project site between Green Valley Road and Cambria Way provides a natural noise buffer for the Francisco Oaks subdivision with its property depth and existing tree canopy. The project site and Green Valley Road are located at a lower elevation in comparison to the elevation of Francisco Oaks subdivision, which is further buffered by an existing 6-foot tall sound wall along its northern and eastern perimeters.

Noise impacts are regulated under the Public Health, Safety and Noise Element of the General Plan. In particular, noise levels from non-transportation sources and transportation sources are limited to standards established in Tables 6-1 and 6-2 under Objective 6.5.1 of the element.

TABLE 6-1
MAXIMUM ALLOWABLE NOISE EXPOSURE FOR TRANSPORTATION NOISE SOURCES

Land Use	**Outdoor Activity Areas**[1] **L_{dn}/CNEL, dB**	**Interior Spaces**	
		L_{dn}/CNEL, dB	**L_{eq}, dB**[2]
Residential	**60^3**	**45**	--
Transient Lodging	**60^3**	**45**	--
Hospitals, Nursing Homes	**60^3**	**45**	--
Theaters, Auditoriums, Music Halls	--	—	**35**
Churches, Meeting Halls, Schools	**60^3**	--	**40**
Office Buildings	--	--	**45**
Libraries, Museums	--	—	**45**
Playgrounds, Neighborhood Parks	**70**	—	--

Notes:

[1] In Communities and Rural Centers, where the location of outdoor activity areas is not clearly defined, the exterior noise level standard shall be applied to the property line of the receiving land use. For residential uses with front yards facing the identified noise source, an exterior noise level criterion of 65 dB L_{dn} shall be applied at the building facade, in addition to a 60 dB L_{dn} criterion at the outdoor activity area. In Rural Regions, an exterior noise level criterion of 60 dB L_{dn} shall be applied at a 100 foot radius from the residence unless it is within Platted Lands where the underlying land use designation is consistent with Community Region densities in which case the 65 dB L_{dn} may apply. The 100-foot radius applies to properties which are five acres and larger; the balance will fall under the property line requirement.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

TABLE 6-2
NOISE LEVEL PERFORMANCE PROTECTION STANDARDS FOR NOISE SENSITIVE LAND USES AFFECTED BY NON-TRANSPORTATION* SOURCES

	Daytime 7 a.m. - 7 p.m.		Evening 7 p.m. - 10 p.m.		Night 10 p.m. - 7 a.m.	
Noise Level Descriptor	**Community**	**Rural**	**Community**	**Rural**	**Community**	**Rural**
Hourly L_{eq}, dB	55	50	50	45	45	40
Maximum level, dB	70	60	60	55	55	50

Notes:
Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

The County can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.

In Community areas the exterior noise level standard shall be applied to the property line of the receiving property. In Rural Areas the exterior noise level standard shall be applied at a point 100' away from the residence. The above standards shall be measured only on property containing a noise sensitive land use as defined in Objective 6.5.1. This measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement between all effected property owners and approved by the County.

***Note: For the purposes of the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by Federal and State regulations. Control of noise from facilities of regulated public facilities is preempted by California Public Utilities Commission (CPUC) regulations. All other noise sources are subject to local regulations. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, schools, hospitals, commercial land uses, other outdoor land use, etc.**

General Plan Policy 6.5.1.1 requires an Acoustical Analysis of proposed developments that may exceed the above standards. Bollard Acoustical Consultants (BAC) performed two separate environmental noise assessment of the project's potential noise impacts (Attachment 20). The April 5, 2011 assessment analyzed the noise related from the non-transportation sources of the proposed project. The addendum assessment, dated January 31, 2012, evaluated the noise related from the transportation noise sources borne by the project. The primary focus of these evaluations involved the potential noise effects of the project to the residential development south of the project.

a. Noise Exposures.

Construction Noise

Noise during scheduled site construction is anticipated to occur intermittently and on a short-term basis within the standard hours of 7:00 AM to 7:00 PM Monday through Friday and 8:00 AM to 5:00 PM on weekends and federally recognized holidays. Construction activities would include use of various machinery and construction tools that are equipped with noise muffling device. With application of construction hours limitation, ample building setbacks, natural buffering from the existing topography, these construction noise effects are not anticipated to be in excess of the standards.

Operational Noise

The anticipated commercial operational noise effects includes on-site vehicular traffic, parking lot activities, and drive thru facilities proposed for Building 1 (Pharmacy) and 2 (Restaurant). Building 3 is proposed as a less intensive office use and does not have drive thru facility. Primary entrance for customers and commercial deliveries is anticipated to come from Green Valley Road while Cambria Way provides an alternative secondary site access.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Building 1 is sited along the western property line against the property occupied by mini storage warehouse and is approximately 240 feet from the northern property line of Francisco Oak subdivision. Building 2 is sited closer to Green Valley Road and Francisco Drive and along the existing commercial uses on these roads. Building 2 is setback approximately 240 feet to the subdivision and is at a lower elevation on average by 15 feet in comparison with the elevation along Cambria Way. Building 3 is oriented with the rear of the building facing the residential subdivision and provides a noise buffer from the activities in the parking lot area. Truck deliveries to the pharmacy and fast food restaurant would occur during the hours of 7 AM and 7 PM. No more the than one truck delivery per day is anticipated. All off-loading of trucks would be completed using hand trucks and lifts (no forklifts). These activities are intermittent and temporary and are not anticipated to be significant.

Refuse and recycle collection is also a common commercial operation that occurs within the parking lot. The development proposes three locations for refuse/recycle enclosures: one in front of Building 3, one in front of Building 2, and another in the loading area of Building 1. Collection is anticipated to occur two to three times a week during the daytime in short (two to three minutes) duration. As analyzed, the noise effects during the collection of the refuse would be minimal given the distant location of enclosures to the nearest residential development and buffering from the proposed buildings and soundwall.

The proposed drive-thru facilities are located southwest of Building 1 and northwest of Building 2. Specifically, the drive thru for Building 2 is typically equipped with speakers built within a kiosk and a service drive-up window while Building 1 drive thru serves as a pick-up station for pre-ordered prescriptions. As discussed above and analyzed in the study (April 5, 2011 Environmental Noise Assessment), the nearest point of Building 2 to Francisco Oaks is approximately 240 feet while the location of the kiosk along the drive thru is further at approximately 440 feet and is directed towards Green Valley Road. Building 1 drive thru area is approximately 240 feet from Francisco Oaks, lower in elevation, and is buffered by a landscaped engineered slope along the southern perimeter. The assessment verified the drive thru noise levels and determined to be below the thresholds established in Table 2 above. Noise impacts from the drive thru facilities are considered be less than significant.

The current building design does not depict any HVAC units on top of the roof or around the buildings. In the event that HVAC units are proposed on top of the roof, BAC recommends the placement of the units behind the parapet or be screened to minimize any noise to less than significant level.

Traffic Noise

The BAC February 21, 2012 environmental noise assessment evaluated the potential noise effects generated by the project vehicular traffic impacts. The assessment was based on a noise survey conducted on site and surrounding local road network (including Francisco Drive, Green Valley Road and Cambria Way) and a modeling of the vehicular traffic noise factors including types of vehicles, duration and speed based on Federal Highway Traffic Noise Prediction Model (FHWA RD-77-108). The assessment estimates the current noise level of 55 dBA in the rear yards of the closest residential lots along Cambria Way; however, with the shielding from the existing 6-foot tall soundwall along Cambria Way and Francisco Drive, this level would be reduced by 5 dBA to 50 dBA. Table 2 in the assessment states that a project related increase by 5 dBA is considered significant.

Table 3 below detail the results of the assessment of the project noise levels. The assessment determined that project traffic noise levels are significant along Cambria Way, showing an increase of 10 dBA (47 dBA to 57 dBA) from the ambient noise levels with project implementation. With the existing soundwall, the traffic noise exposure is anticipated to be reduced by 5 dBA to 52 dBA. Combining this noise exposure (52 dBA) with the existing noise level (reduced at 50 dBA), the resulting estimated noise level effects to the rear of the residential lots along Cambria Way is 54 dBA. Based on Table 2 in the assessment, this 4 dBA increase from the ambient level of 50 dBA is not significant. The 54 dBA level is also below the residential noise impact threshold (outdoor activity area) of 60 dBA. Impacts would be less than significant.

Table 3
Predicted Traffic Noise Levels and Project-Related Increases
(L_{dn}, dBA, 50 feet from roadway centerlines)

Roadway	From	To	Exist No Project	Exist + Project	Exist + App Projects	Exist + App Projects + Prop Proj	Change[1]
Francisco Drive	Village Center Drive	Green Valley Road	69	69	69	69	0 / 0 / 0
	Green Valley Road	Cambria Way	68	68	68	68	0 / 0 / 0
	Cambria Way	El Dorado Hills Blvd	68	68	68	68	0 / 0 / 0
Green Valley Road	Miller Road	Site Driveway	73	73	74	74	0 / 1 / 1
	Site Driveway	Francisco Drive	73	73	74	74	0 / 1 / 1
	Francisco Drive	El Dorado Hills Blvd	71	72	72	72	1 / 1 / 1
Cambria Way	Asuncion Ct	Site Driveway	47	47	47	47	0 / 0 / 0
	Site Driveway	Francisco Drive	47	57	47	57	10 / 0 / 10
Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	54	54	54	54	0 / 0 / 0

Source: Bollard Acoustical Consulting, Inc.

1. Change = change relative to existing no-project conditions for the three scenarios to the right of existing no-project conditions.

b. **Ground borne Shaking.** Development of the site may generate ground borne vibration or shaking events during project construction, which includes grading activities and building construction. Adherence to the time limitations of construction activities, which would be incorporated as a condition of the project, to 7:00 AM to 7:00 PM Monday through Friday and 8:00 AM to 5:00 PM on weekends and federally recognized holidays would limit the ground shaking effects in the project area. Impact would be less than significant.

c. **Permanent Ambient Noise Increases.** As discussed above, the operation of the commercial development is not expected to add significant noise ambient levels of the surrounding area. Impacts are anticipated to be less than significant.

d. **Temporary Ambient Noise Increases:** The construction phase of the project would result in an increase in noise levels with surrounding area as the site access and building pads are constructed, utility infrastructures installed, and commercial buildings are constructed. Construction operation would utilize muffled construction equipments and tools would maintain compliance with the noise standards under the General Plan Noise Element and would occur within standard construction hours. Operation would also result in short term noise generation above current levels from the use of personal vehicles, landscaping equipment, etc. The overall types and volumes of noise from project operation is not anticipated to be excessive and would be similar in nature to anticipated by the General Plan for land uses within high density designated area. Impacts are anticipated to be less than significant.

e-f. **Aircraft Noise.** The project site is not within any airport plan. The site is not located the vicinity of public airport, or private airport. The nearest airport is the Cameron Park Airport, which is located 6.5 miles east of the project site. There would be no impact.

FINDING: Based on project and general site conditions, implementation of the project does anticipate significant impacts to or from noise effects. For this "Noise" category, the thresholds of significance are not anticipated to be exceeded.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. *Would the project:*				
a. Induce substantial population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure)?			X	
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Discussion:

A substantial adverse effect on Population and Housing would occur if the implementation of the project would:

- Create substantial growth or concentration in population;
- Create a more substantial imbalance in the County's current jobs to housing ratio; or
- Conflict with adopted goals and policies set forth in applicable planning documents.

a. **Population Growth.** The proposed commercial project is not anticipated to induce substantial population growth in an area which is proposed for lands designated by the General Plan for commercial uses. Impact would be less than significant.

b-c. **Housing Displacement.** The site is vacant and implementation would not result in any displacement or relocation of housing or people. There would be no impact.

FINDING: Implementation of project would not have any significant increase to population or housing. No displacement would occur. For this "Population and Housing" category, impacts would be less than significant.

XIV. 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?			X	
b. Police protection?			X	
c. Schools?			X	
d. Parks?			X	
e. Other government services?			X	

Discussion

A substantial adverse effect on Public Services would occur if the implementation of the project would:

- Substantially increase or expand the demand for fire protection and emergency medical services without increasing staffing and equipment to meet the Department's/District's goal of 1.5 firefighters per 1,000 residents and 2 firefighters per 1,000 residents, respectively;
- Substantially increase or expand the demand for public law enforcement protection without increasing staffing and equipment to maintain the Sheriff's Department goal of one sworn officer per 1,000 residents;
- Substantially increase the public school student population exceeding current school capacity without also including provisions to adequately accommodate the increased demand in services;
- Place a demand for library services in excess of available resources;
- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Be inconsistent with County adopted goals, objectives or policies.

a. **Fire Protection.** The project site is within the El Dorado Hills Fire Department Service Area for fire and emergency service. The nearest fire station, Marina Station #84, is located less than ¼ mile north along Francisco Drive. The department has reviewed the project and recommended specific conditions of approvals that would ensure adequate services to the development. Specifically, the fire department would review Improvement Plans verifying necessary size of water infrastructures to accommodate anticipated water flows for fire sprinklers and fire hydrant. The department would also review building permits for the construction of the proposed commercial building, installation of sprinklers, and adequate site circulation. The department would receive development impact fees based on the total square foot of the commercial building prior to issuance of building permit. Impacts would be anticipated to be less than significant.

b. **Police Protection.** Police services would continue to be provided by the El Dorado County Sheriff's Department. Due to the size and scope of the project, the demand for additional police protection not anticipated to change. Impacts would be anticipated to be less than significant.

c-e. **Schools and Government Services.** The project site is within the Rescue Union School District (K-12) and El Dorado Union High School District. Two K-5 schools (Lake Forest Elementary and Marina Village Middle School) are located ¾ miles north along Francisco Drive and Jackson Elementary School located ½ mile at the northeast corner of El Dorado Hills Blvd. and Francisco Drive. Oak Ridge High School is located approximately two miles along Harvard Way.

The construction of three commercial buildings for pharmacy/office/restaurant uses are not anticipated to result in any permanent population-related increases that would contribute to additional demand on schools, new or expansion of recreational parks, or other governmental services. Impacts would be anticipated to be less than significant.

FINDING: No significant increase of services is anticipated with this project. For this 'Public Services' category, impacts would be less than significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a. Would the project 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?			X	
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Discussion:

A substantial adverse effect on Recreational Resources would occur if the implementation of the project would:

- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Substantially increase the use of neighborhood or regional parks in the area such that substantial physical deterioration of the facility would occur.

a-b. **Parks and Recreational Services.** The proposed project does not include any increase in permanent population that would contribute to increased demand on new or expansion of existing recreation facilities. Impacts would be less than significant impact.

FINDING: Impacts to Parks and Recreational amenities are considered less than significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. *Would the project:*				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		X		
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?		X		
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?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e. Result in inadequate emergency access?			X	
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?			X	

Discussion:

A substantial adverse effect on Traffic would occur if the implementation of the project would:

- Result in an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system;
- Generate traffic volumes which cause violations of adopted level of service standards (project and cumulative); or
- Result in, or worsen, Level of Service "F" traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county as a result of a residential development project of 5 or more units.

Supplemental Traffic Information

During the October 25, 2012 Planning Commission hearing, project information and public testimonies were considered and deliberated. The Commission identified several project issues, remanded the project to staff for further analysis, and continued the item off-calendar. The applicant submitted the Supplemental Traffic Information, prepared by Kimley Horn Associates (KHA) dated October 30, 2012, analyzing the issues (Attachment 21).

The Planning Commission (PC) issues are the following:

PC Issue No.1:	Analysis of Traffic and Circulation Conditions of Existing Sight Distance at Francisco Drive and Cambria Way
PC Issue No. 2:	Analysis of U-turn at Green Valley Road and Francisco Drive.
PC Issue No. 3:	Potential Vehicular Headlight Effects at adjacent residences in Francisco Oaks
PC Issue No. 4:	Potential Traffic Impacts Resulting "New" vs. "Existing" Vehicular Project Trips

PC Issue Nos. 1 and 2, which corresponds to potential traffic hazards, are discussed under subsection d. (Design Hazards) in this section of the checklist. PC Issue No.3 is discussed under subsection d. (Light and Glare) of Section I Aesthetics. PC Issue No.4, which corresponds to potential circulation effects, are discussed under subsections a-b. (Circulation and Congestion Management Plan) in this section of the checklist.

a-b. Circulation and Congestion Management Plan.

A Traffic Impact Analysis (TIA) was conducted analyzing the potential traffic effects resulting from project implementation based on the established protocols and procedures by DOT (Attachment 17). The TIA covered factors such as analysis of the affected roadways, impacts to Level of Service (LOS), and estimation of generated trips by the project. Specifically, the roadways analyzed include project frontages along Green Valley Road, Francisco Drive and Cambria Way, and off-site roadways along El Dorado Hills Boulevard and Salmon Falls Road east of the project site. Of these, the roadways that have current LOS F are Green Valley Road at Salmon Falls Road/El Dorado Hills Blvd. and El Dorado Hills Blvd. and Francisco Drive.

The applicable County's standards includes following:

- Level of Service (LOS) for County-maintained roads and State highways within the unincorporated areas of the County shall not be worse than LOS E in the Community Regions." (El Dorado County General Plan Policy TC-Xd);
- If a project causes the peak-hour level of service…on a County road or State highway that would

otherwise meet the County standards (without the project) to exceed the [given] values, then theimpact shall be considered significant;

- If any county road or state highway fails to meet the [given] standards for peak hour level of service...under existing conditions, and the project will 'significantly worsen' conditions on the road or highway, then the impact shall be considered significant." According to General Plan Policy TCX-e, significantly worsen is defined as "a 2 percent increase in traffic during the a.m. peak hour, p.m. peak hour, or daily, or the addition of 100 or more daily trips, or the addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour."

According to the TIA, Level of Service (LOS) analysis was based on various scenarios including evaluation of project impacts during Existing (2010) Conditions, Existing (2010) plus Proposed Project Conditions, Cumulative (2025) Conditions, and Cumulative (2025) plus Proposed Project Conditions. The TIA estimated 3,388 total new daily trips which consist of 176 new trips occurring during the AM peak-hour and 180 new trips occurring during the PM peak-hour. DOT reviewed the analysis, verified the findings, and recommended project conditions of approval to mitigate the traffic impacts. The following details the impacted roadways and identified mitigation measures/conditions of approval to minimize the impact to less than significant.

2010 Plus Proposed Project Conditions

Intersection Green Valley Road @ El Dorado Hills Boulevard/Salmon Falls Road: This intersection operates at LOS F during the AM peak hour without the project, and the project contributes more than 10 peak hour trips to the intersection during a peak hour. This is a significant impact. Implementation of the following measure would lessen intersection operation during AM peak hour to LOS D.

As part of project conditions of approval, DOT shall require the applicant to optimize the signal cycle length and reallocate the green time at the intersection of Green Valley Road and El Dorado Hills Blvd/Salmon Falls Road. The design shall be substantially completed to the approval of the Department of Transportation prior to the filing of the parcel map.

Intersection of El Dorado Hills Boulevard @ Francisco Drive: This intersection operates at LOS F during the AM peak hour without the project, and the project contributes more than 10 peak hour trips to the intersection during a peak hour. In addition, this intersection operates at LOS E during the PM peak hour without the project, and with the project results in LOS F. This is a significant impact.

The TIA recommended mitigation measure at this intersection would be to add an eastbound channelized right turn lane. Channelization of the eastbound right turn lane will require the addition of a southbound receiving lane. This mitigation measure would result in the intersection operating at LOS D and LOS C during the AM and PM peak hours, respectively. DOT has confirmed that this improvement would be completed as part of DOT Maintenance and Improvement in Spring of 2013.

2015 Existing Plus Approved Projects Plus Proposed Project Conditions

Intersection of El Dorado Hills Boulevard @ Francisco Drive: This intersection operates at LOS F during the AM and PM peak hour without the project and the project contributes more than 10 peak hour trips to the intersection during a peak hour. This is a significant impact.

Similar as above, the TIA recommended mitigation measure at this intersection would be to add an eastbound channelized right turn lane. Channelization of the eastbound right turn lane will require the addition of a southbound receiving lane. This mitigation measure would result in the intersection operating at LOS D and LOS C during the

AM and PM peak hours, respectively. DOT has confirmed that this improvement would be completed as part of the department's Maintenance and Improvement in Spring of 2013.

2025 Cumulative Plus Proposed Project Conditions

Intersection of Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Road: This intersection operates at LOS F during the AM peak hour without the project, and the project contributes more than 10 peak hour trips to the intersection during a peak hour. This is a significant impact. Implementation of the mitigation measure below would minimize the impact to less than significant LOS E.

DOT has reviewed the impact and determined that payment of traffic impact fees based on the project's proportionate impact at this intersection would be required prior to issuance of building permit.

Intersection of Francisco Drive @ Embarcadero Drive: This intersection operates at LOS D during the PM peak hour without the project, and the project results in LOS F. This is a significant impact. Implementation of the mitigation measure below would minimize the impact to less than significant and improve LOS to E.

Mitigation Measure MM Trans-1: The applicant shall construct an additional eastbound right turn flare at the intersection of Francisco Drive and Embarcadero Drive to provide storage for 1 vehicle.

Method of Verification: Improvement Plan

Implementation Timing: Prior to Issuance of Building Permit

Monitoring Agency: DOT

Intersection of El Dorado Hills Blvd @ Francisco Drive: This intersection operates at LOS F during the AM and PM peak hours without the project and the project contributes more than 10 peak hour trips to the intersection during a peak hour. This is a significant impact.

Similar as above, the TIA recommended mitigation measure at this intersection would be to add an eastbound channelized right turn lane. Channelization of the eastbound right turn lane will require the addition of a southbound receiving lane. This mitigation measure would result in the intersection operating at LOS D and LOS C during the AM and PM peak hours, respectively. DOT has confirmed that this improvement would be completed as part of the department's Maintenance and Improvement in Spring of 2013.

As referenced above, the following discussion details the analysis related to the Supplemental Traffic Information.

PC Issue No. 4: Potential Traffic Impacts Resulting "New" vs. "Existing" Vehicular Project Trips

Summary Response from Supplemental Traffic Information: The supplemental traffic information reiterated the analysis of the "new" and "existing" project trips conducted in the original traffic analysis (dated March 3, 2011). The supplemental traffic information states that, "while the overall trip numbers are reduced (pass-by trips), the full number of project trips are evaluated at the site driveways. As a result, the original traffic study fully documents the anticipated site driveway intersection operations resulting from the full complement of site generated trips."

County Response: Staff supports the findings of the supplemental information. No additional mitigation measure or condition of approval is required.

The DOT also evaluated the project comment from Caltrans dated October 22, 2012 regarding the possible need to analyze project impacts on US 50 (Attachment 22). In response, the department indicated that further analysis is not warranted given the LOS on Highway 50 is E and the number of trips generated by the project do not trigger a change in the LOS. The LOS E was determined from the Caltrans Transportation Corridor Concept Report dated June 2010.

c. **Air traffic.** The project site is not identified in any airport plan, nor is it located within any public or private airport flight zones. There would be no impact to air traffic patterns.

d. **Design Hazards.** The project proposal and submitted traffic analysis have been reviewed by DOT for design features, such as sharp curves, dangerous intersection or incompatible uses that would increase hazards. The project has been conditioned to reduce known or potential hazards created by the additional traffic encroaching onto the existing local road systems to less than significant levels. Specifically, DOT, in response to public inquiries has researched vehicular accidents and conducted site visits for potential sight distance constraints near the intersection of Francisco Drive and Cambria Way (Attachment 14). DOT determined that no significant amount of accidents has occurred and that adequate sight distance currently exists. Impacts would be less than significant.

As referenced above, the following discussion details the analysis related to the Supplemental Traffic Information.

PC Issue No.1: Analysis of Traffic and Circulation Conditions of Existing Sight Distance at Francisco Drive and Cambria Way

Summary Response from Supplemental Traffic Information: The supplemental traffic information analyzed the existing sight distance conditions at this intersection which limits the line of sight for vehicles exiting Cambria Way northbound onto Francisco Drive or to travel straight across onto Embarcadero Drive. This condition currently persists in the absence of the proposed development of the project site. The vertical sight distance limitations are anticipated to be resolved in conjunction with the County's planned widening project along this segment of Francisco Drive. The DOT has previously determined that the stopping sight distance is currently adequate and the vehicular accident rate at this location is at an acceptable level. The analysis identified and qualitatively evaluated potential solutions to this condition including construction of a roundabout, traffic signal, an all-way stop control, and left-turn median access along Francisco Drive into Cambria Way and Embarcadero Drive. The analysis also evaluated an alternative project access along its frontage on Francisco Drive, instead of the proposed access off Cambria Way.

County Response: The Department of Transportation has evaluated the solutions identified in the supplemental traffic analysis and determined that the construction of a restricted left turn median access is the preferred improvement. The department recommends an additional project condition of approval requiring off-site improvement including restriping a right-in and right-out encroachment on the Cambria Way and Embarcadero Drive intersection with Francisco Drive and construction of a dual left turn lane with a raised concrete median at the intersection of Francisco Drive (Attachment 23). This condition shall be incorporated as a new mitigation measure MM Trans-2 detailed below:

Mitigation Measure MM Trans-2: The applicant shall restripe a right-in and right-out encroachments on the Cambria Way and Embarcadero Drive intersection with Francisco Drive, and construct a dual left turn lane with a raised concrete median at the intersection of Francisco Drive as referenced in the Francisco Drive Exhibit by RSC Engineering, Sheet # EX FR, dated October 29, 2012.

Method of Verification: The improvements shall be completed to the satisfaction of the Department of Transportation or the applicant shall obtain an approved improvement agreement with security.

Implementation Timing: Prior to filing of Parcel Map

Monitoring Agency: DOT

With the required construction of this improvement vehicular movement out of Cambria Way and Embarcadero Drive onto Francisco Drive would be limited to right-out only, eliminating the possibility of left-out. Depending on the destination, vehicles may opt to utilize alternate existing roads within the residential neighborhood or utilize the proposed project site's internal roadway to travel between Cambria Way and Green Valley Road (Attachment 24).

PC Issue No. 2: Analysis of U-turn at Green Valley Road and Francisco Drive.

Summary Response from Supplemental Traffic Information: The analysis re-evaluated the feasibility of the addition of an eastbound u-turn movement at the Green Valley Road intersection with Francisco Drive as a possible mean to reduce the quantity of project trips that are required to utilize Cambria Way exiting the project site and destined for points to the west. Currently, eastbound to westbound U-turns are prohibited by use of an overhead lane designation sign. While the County does not have its own specific design standard for the application of U-turn movements, DOT representatives have field verified and documented available physical space to accommodate u-turn movement, in conjunction with the existing traffic signal phasing and signal equipment locations. KHA coordinated and confirmed with DOT that the U-turn movement can be allowed to occur with the removal of the u-turn restriction at the intersection.

County Response: The DOT concurs with the analysis of the u-turn movement. The department recommends an additional project condition of approval requiring the installation of signage allowing u-turn at the Green Valley Road and Francisco Drive intersection (Attachment 23). This condition shall be incorporated as a new mitigation measure MM Trans-3 detailed below:

Mitigation Measure MM Trans-3: The applicant shall install U-turn signage at the intersection of Green Valley Road and Francisco Drive for eastbound Green Valley Road. The signing and striping shall be designed and constructed per the latest version of the Manual Uniform Traffic Control Devices (MUTCD) and the California Supplement.

Method of Verification: The improvements shall be completed to the satisfaction of the Department of Transportation or the applicant shall obtain an approved improvement agreement with security.

Implementation Timing: Prior to filing of Parcel Map

Monitoring Agency: DOT

e. **Emergency Access.** The proposed development would be adequately served by two points of accesses along Green Valley Road and Cambria Way that would also serve as an emergency access. Improvement Plan depicting the design of these accesses shall be reviewed by affected agencies including Development Services Department and El Dorado Hills Fire Department. Impacts would be less than significant.

f. **Alternative Transportation Plan.** The project site is along Green Valley Road, which is an identified corridor within the El Dorado County Master Bicycle Plan. Green Valley Road, along the project frontage currently includes a Class II bicycle lane. In accordance with the Building Code and the Bicycle Plan, the commercial project would be required to install bicycle racks to accommodate potential bicyclist customers.

As part of project design, 6-foot wide pedestrian sidewalks would be constructed along Francisco Drive and Cambria Way. Along with the existing 6-foot wide sidewalk along Green Valley Road, these sidewalks would provide safe connectivity to the surrounding neighborhood.

El Dorado Transit has been consulted for potential bus turnout locations and no comments were received.
Impacts would be less than significant.

FINDING: The proposed project would have impacts to existing road infrastructures that would be reduced to less than significant subject to mitigation measures and DOT improvements. For the Transportation/ Traffic category, impacts would be less than significant.

XVII. UTILITIES AND SERVICE SYSTEMS. *Would the project:*

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
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?			X	
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?			X	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
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?			X	
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Discussion

A substantial adverse effect on Utilities and Service Systems would occur if the implementation of the project would:

- Breach published national, state, or local standards relating to solid waste or litter control;
- Substantially increase the demand for potable water in excess of available supplies or distribution capacity without also including provisions to adequately accommodate the increased demand, or is unable to provide an adequate on-site water supply, including treatment, storage and distribution;
- Substantially increase the demand for the public collection, treatment, and disposal of wastewater without also including provisions to adequately accommodate the increased demand, or is unable to provide for adequate on-site wastewater system; or

- Result in demand for expansion of power or telecommunications service facilities without also including provisions to adequately accommodate the increased or expanded demand.

a-e. Potable, Wastewater, and Stormwater Facilities.

The project is required to comply with EID requirements for the treatment, collection, processing, and disposal of waste as established by the Regional Water Quality Control Board (RWQCB). No new or expansion to existing waste water facilities would be required of the project; however, the project would be required to connect to existing sewer lines adjacent the site in order to receive these services.

The project preliminary drainage plan identified minor discharge of storm runoff generated on-site and off-site that would require construction of storm water drainage facilities. These facilities, which include drainage inlets and culverts, shall be designed in accordance with El Dorado County Drainage Manual. The final drainage plan shall be reviewed as part of the Improvement Plan by DOT.

The proposed development would be served with public sewer and water by El Dorado Irrigation District (EID) via connection to existing lines along the frontage roads. According to the Facility Improvement Letter (FIL) submitted for the project, an 8-inch and 16-inch water lines exists along the frontage road. A Facility Plan Report detailing the construction of the facilities would be required and reviewed as part of the Improvement Plan for the development. A submittal of an EID meter award letter confirming acquisition of services would be verified prior to Parcel Map application filing or issuance of building permit.

f- g. Solid Waste

County Ordinance No. 4319 requires that new development provide for adequate, accessible, and convenient storing, collecting, and loading of solid waste and recyclables on site. Solid waste collection for the proposed lots would be handled through the local waste management contractor. Future operator of the commercial development shall coordinate with El Dorado Disposal to obtain garbage and recycle service in accordance with Environmental Management- Solid Waste Division standards. Impacts would be less than significant.

In December of 1996, direct public disposal into the Union Mine Disposal Site was discontinued and the Material Recovery Facility/Transfer Station was opened. Only certain inert waste materials (e.g., concrete, asphalt, etc.) may be dumped at the Union Mine Waste Disposal Site. All other materials that cannot be recycled are exported to the Lockwood Regional Landfill near Sparks, Nevada. In 1997, El Dorado County signed a 30-year contract with the Lockwood Landfill Facility for continued waste disposal services. The Lockwood Landfill has a remaining capacity of 43 million tons over the 655-acre site. Approximately six million tons of waste was deposited between 1979 and 1993. This equates to approximately 46,000 tons of waste per year for this period.

After July of 2006, El Dorado Disposal began distributing municipal solid waste to Forward Landfill in Stockton and Kiefer Landfill in Sacramento. Pursuant to El Dorado County Environmental Management Solid Waste Division staff, both facilities have sufficient capacity to serve the County. Recyclable materials are distributed to a facility in Benicia and green wastes are sent to a processing facility in Sacramento.

FINDING: The project has been designed to adequately convey storm drainage. Utilities such as water, sewer, and trash/recycle services shall be provided to the commercial development by local purveyors of the service. For this 'Utilities and Service Systems' category, impacts would be less than significant.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. *Does the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
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?			X	
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)?			X	
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Discussion

a. **Degradation of Environment.** The project site is surrounded by existing development and is located along heavily traveled roadways. The site is not within any wildlife corridor but contains existing biological resources that would be affected as part of project development including impacts to oak canopy and wetlands. Specifically, the project would impact nearly half of the existing oak canopy; however, no development shall occur until Final Planned Development Plans has been verified to conform to current retention standards under General Plan Policy 7.4.4.4 or to an alternative oak mitigation program, which may be developed by the County in the future. Potential raptor foraging or nesting habitat within the oak woodland canopy would be verified prior to any construction. Impacts to wetlands are minimal and would be subject to identified mitigation measures and application of construction standards to ensure adequate water quality. Based on the above discussions, project impacts to quality of the environment are anticipated to be less than significant after applicable mitigation measures are implemented.

b. **Cumulative Effects.** Cumulative impacts are defined in Section 15355 of the California Environmental Quality Act (CEQA) Guidelines as "two or more individual effects, which when considered together, would be considerable or which would compound or increase other environmental impacts." Based on the analysis and conclusions in this checklist, including impacts to Air Quality, Biological Resources and Traffic, it has been determined that the projects individual and cumulative effects are not considerable and would have a less than significant impacts with adherence to identified mitigation measures and conformance to specific construction and permitting standards.

c. **Effects on Human Beings.** Project implementation would result to environmental effects including impacts to Air Quality, Traffic, and Water Quality that may affect human beings. As analyzed, implementation of project design, adherence to specific mitigation measures, and application of standard building and construction requirements would result in less than significant effects to human beings.

PROJECT INFORMATION

ATTACHMENTS

Attachment 1: Location Map
Attachment 2: Assessor's Parcel Map
Attachment 3: General Plan Land Use Map
Attachment 4: Zoning Map
Attachment 5: General Plan Amendment and Rezone
Attachment 6: Preliminary Site Plan
Attachment 7: Slope Map
Attachment 8: Preliminary Grading Plan/Building Limit Line
Attachment 9: Oak Tree Canopy
Attachment 10: Preliminary Landscape Plan
Attachment 11: Preliminary Building Elevations
Attachment 12: Preliminary Photometric Plan
Attachment 13: Tentative Parcel Map
Attachment 14: Vehicular Accident Reports and Sight Distance Verification
Attachment 15: Air Quality/Greenhouse Gas Assessment
Attachment 16: Biological Resource Assessment
Attachment 17: Traffic Impact Analysis
Attachment 18: Wetland Delineation and Buffer Analysis
Attachment 19: Drainage Report
Attachment 20: Environmental Noise Assessment
Attachment 21: Supplemental Traffic Information by Kimley Horn Associates (October 30, 2012)
Attachment 22: Caltrans Comment Letter (October 22, 2012)
Attachment 23: DOT Recommended Conditions of Approval
Attachment 24: Circulation Map within vicinity of Project Site

SUPPORTING INFORMATION SOURCE LIST

The following documents are available at El Dorado County Planning Services in Placerville.

El Dorado County General Plan Draft Environmental Impact Report
Volume 1 of 3 – EIR Text, Chapter 1 through Section 5.6
Volume 2 of 3 – EIR Text, Section 5.7 through Chapter 9
Appendix A
Volume 3 of 3 – Technical Appendices B through H

El Dorado County General Plan – A Plan for Managed Growth and Open Roads; A Plan for Quality Neighborhoods and Traffic Relief (Adopted July 19, 2004)

Findings of Fact of the El Dorado County Board of Supervisors for the General Plan

El Dorado County Zoning Ordinance (Title 17 - County Code)

County of El Dorado Drainage Manual (Resolution No. 67-97, Adopted March 14, 1995)

County of El Dorado Grading, Erosion and Sediment Control Ordinance (Ordinance No. 3883, amended Ordinance Nos. 4061, 4167, 4170)

El Dorado County Design and Improvement Standards Manual (DISM)

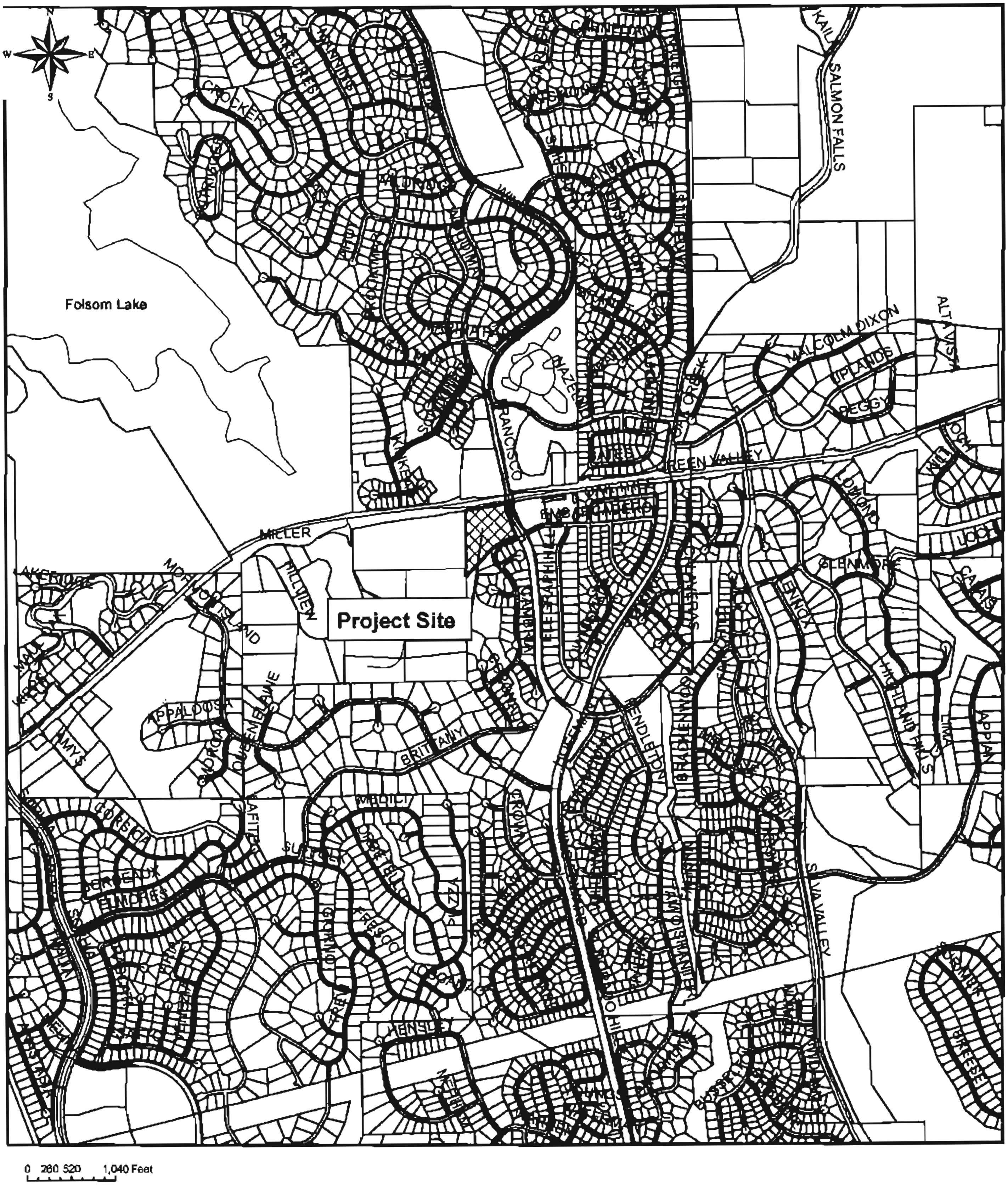
El Dorado County Subdivision Ordinances (Title 16- County Code)

Soil Survey of El Dorado Area, California

California Environmental Quality Act (CEQA) Statutes (Public Resources Code Section 21000, et seq.)

Title 14, California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act (Section 15000, et seq.)

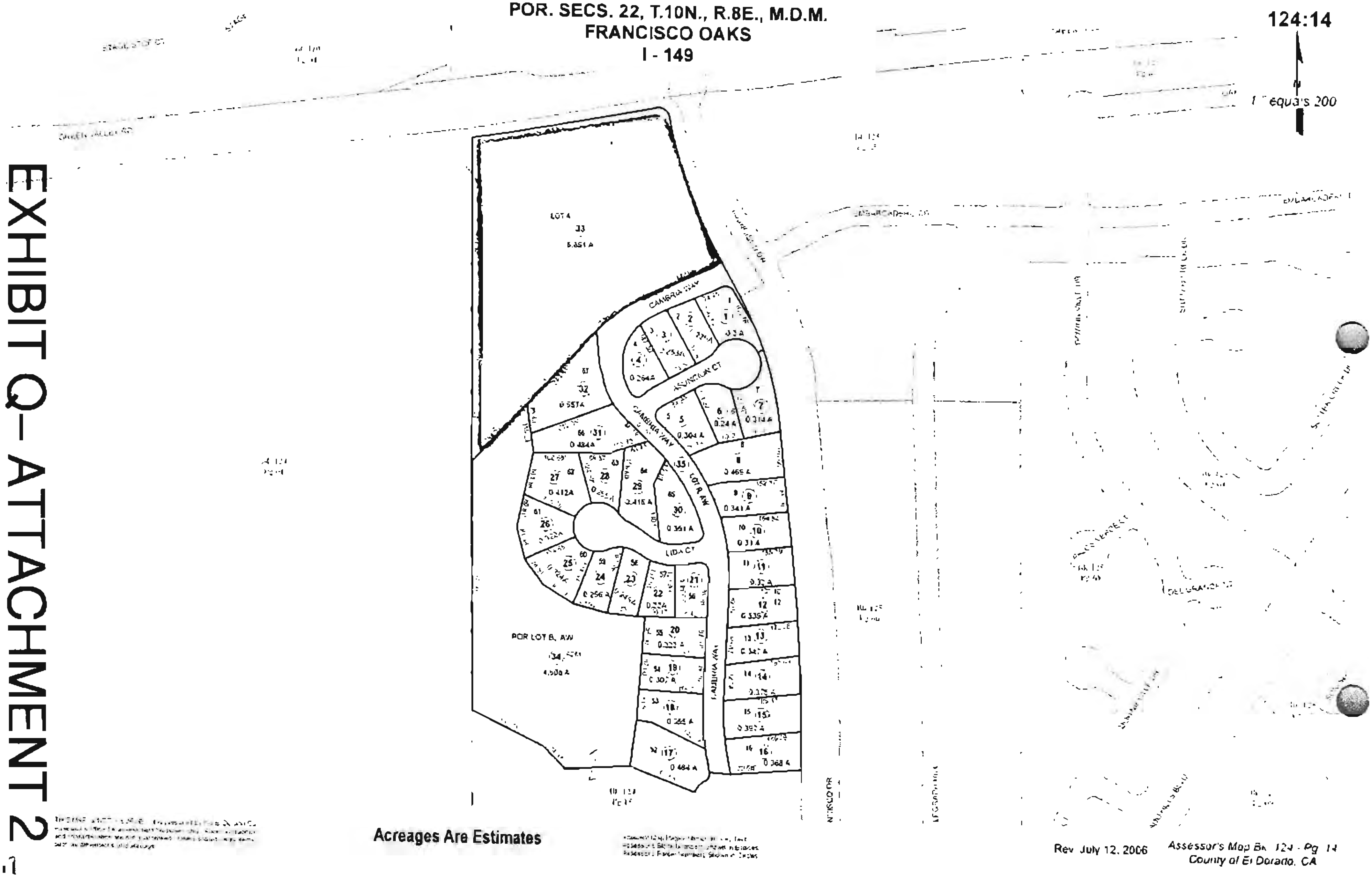
Green Valley/Francisco Commercial Center
File Nos. A11-0003, Z11-0004, PD11-0002, P11-0003



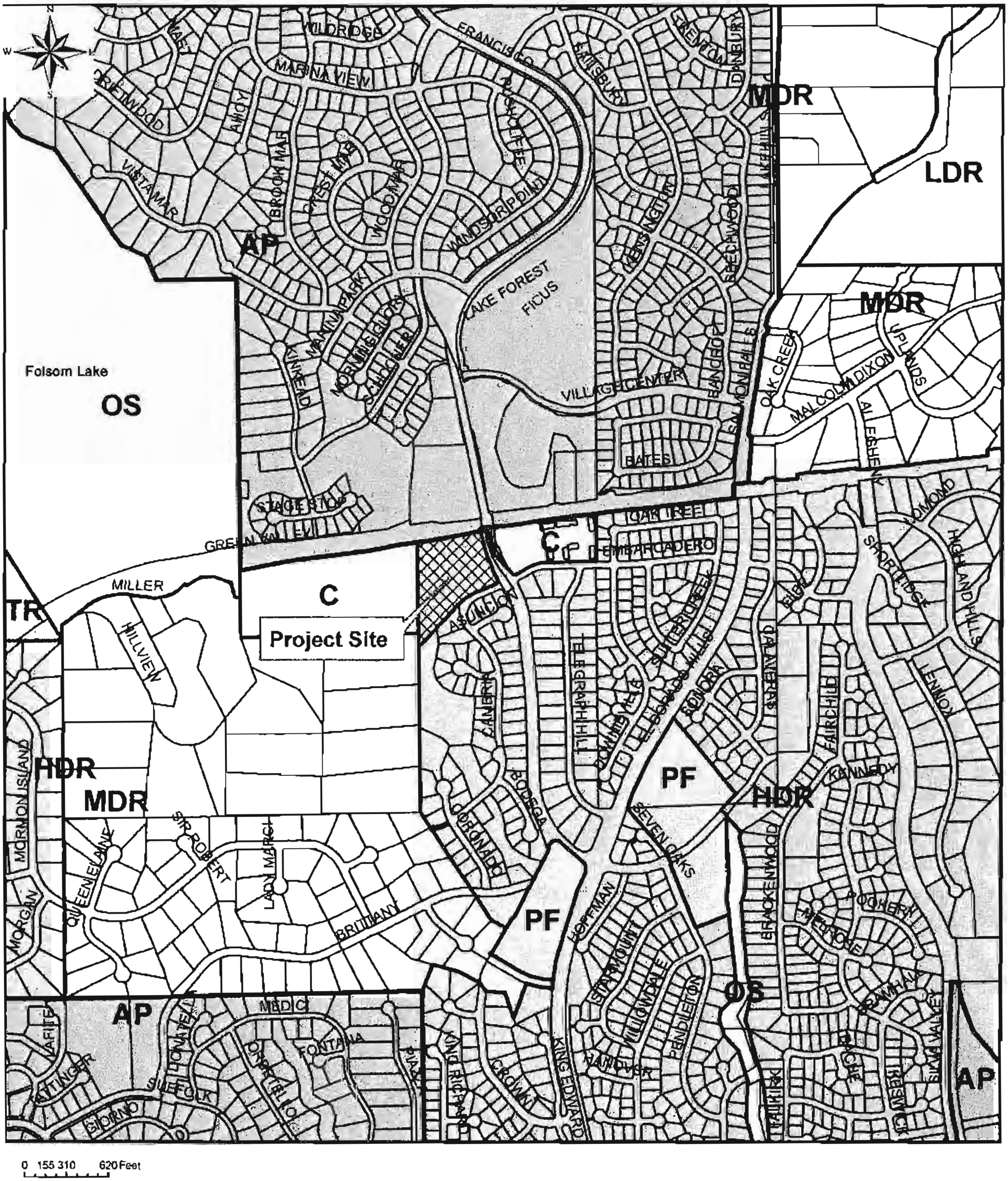
Map prepared by:
Mel Pabalinas
El Dorado County
Development Services-Planning

EXHIBIT Q– ATTACHMENT 1

EXHIBIT Q – ATTACHMENT 2



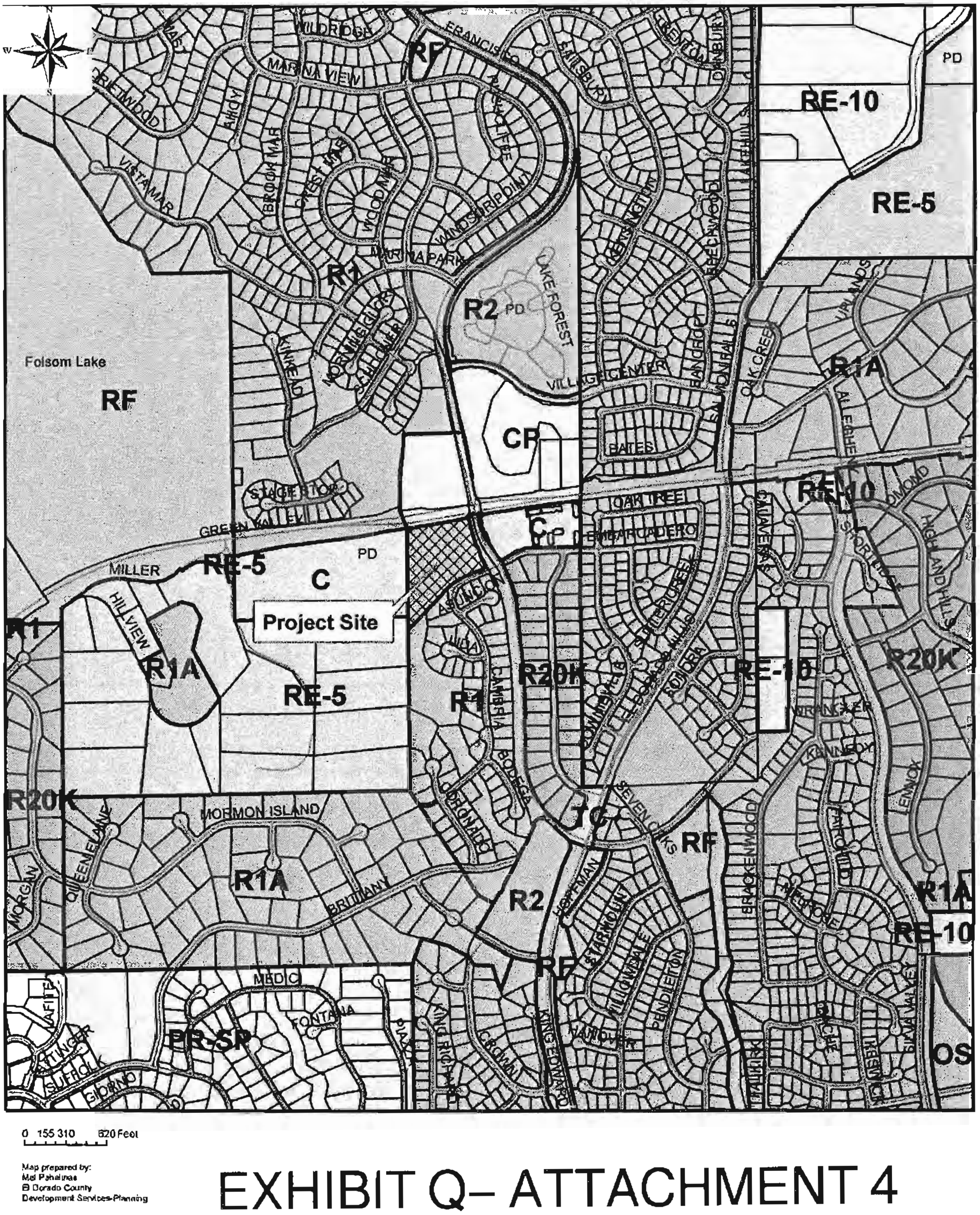
Green Valley/Francisco Commercial Center
File Nos. A11-0003, Z11-0004, PD11-0002, P11-0003



Map prepared by,
Mel Pabalinas
El Dorado County
Development Services-Planning

EXHIBIT Q– ATTACHMENT 3

Green Valley/Francisco Commercial Center
File Nos. A11-0003, Z11-0004, PD11-0002, P11-0003



Map prepared by:
Mel Pabalinas
El Dorado County
Development Services-Planning

EXHIBIT Q– ATTACHMENT 4

EXHIBIT Q- ATTACHMENT 5

OWNER:
FAMILY REAL PROPERTY
1130 IRON POINT ROAD, SUITE 150
FOLSOM, CA 95630
ATTN: GEORGE M. CARPENTER, JR.
(916) 355-1450

APPLICANT:
WINN COMMUNITIES
1130 IRON POINT ROAD, SUITE 150
FOLSOM, CA 95630
ATTN: GEORGE M. CARPENTER, JR.
(916) 355-1450

ENGINEER:
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661
ATTN: RICHARD S. CHAVEZ, P.E.
(916) 788-2884

ASSESSOR'S PARCEL NO.:
124-140-33

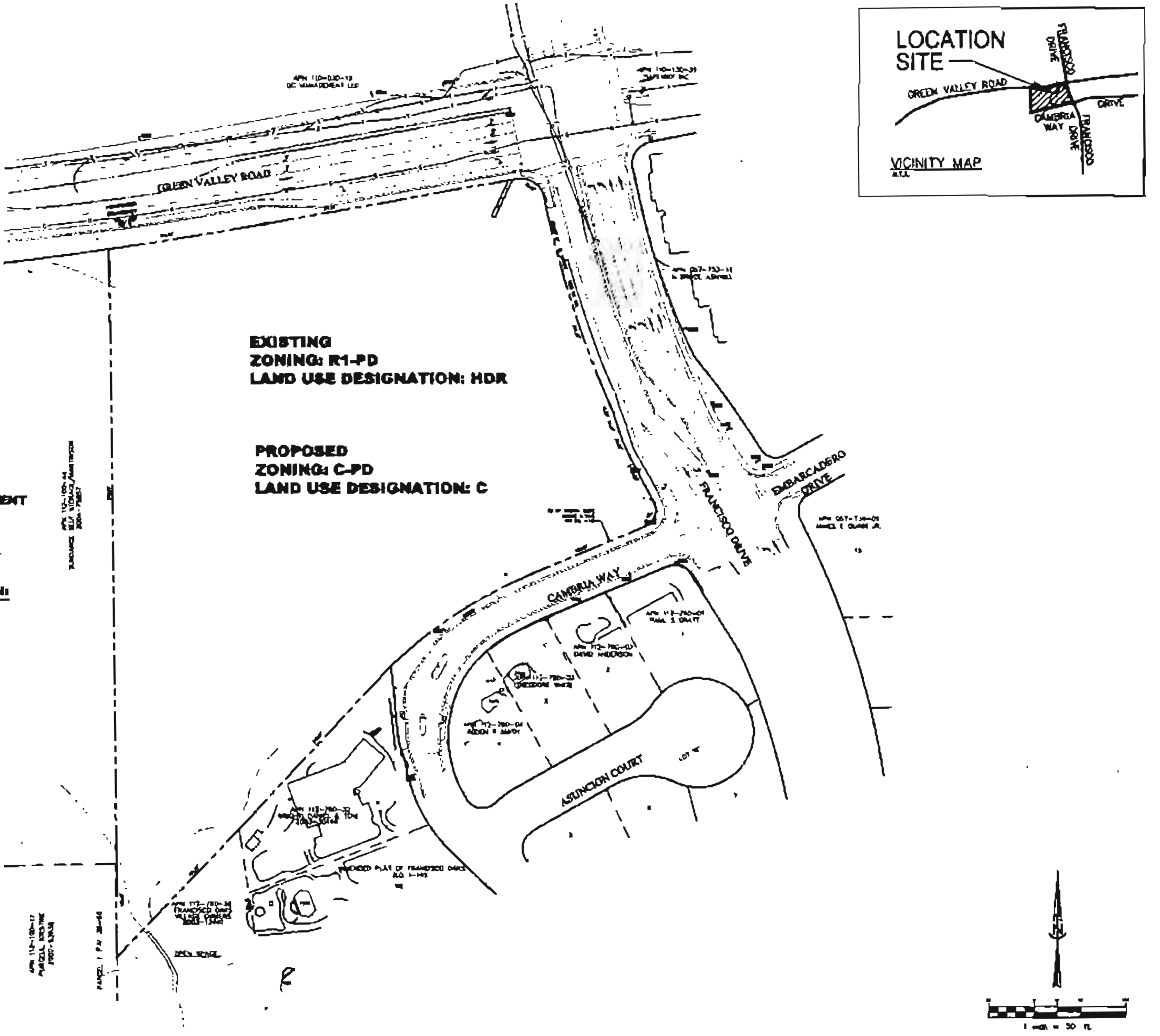
EXISTING ZONE:
ONE FAMILY RESIDENTIAL -
PLANNED DEVELOPMENT (R1-PD)

PROPOSED ZONE:
COMMERCIAL-PLANNED DEVELOPMENT
(C-PD)

EXISTING LAND USE DESIGNATION:
HIGH DENSITY RESIDENTIAL (HDR)

PROPOSED LAND USE DESIGNATION:
COMMERCIAL (C)

TOTAL ACREAGE:
5.55 ACRES



WINN COMMUNITIES

A11-0003/Z 11-0004

FILE COPY

RSC ENGINEERING

PROJECT NO. 0801-001
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

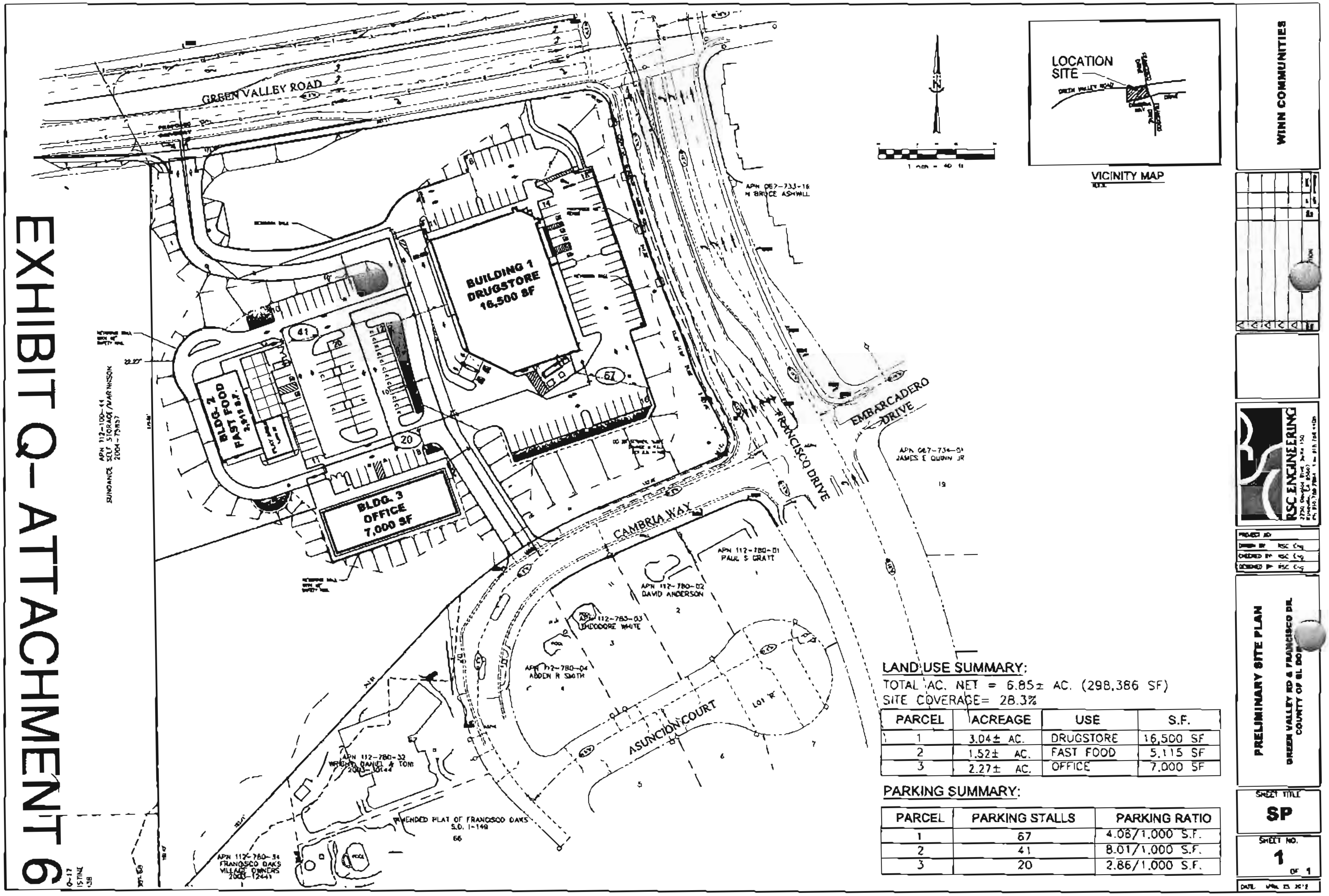
REZONE & GENERAL PLAN
AMENDMENT EXHIBIT
FRANCISCO/GREEN VALLEY
COMMERCIAL CENTER
GREEN VALLEY RD & FRANCISCO DR.
COUNTY OF EL DORADO

SHEET TITLE
EXH

SHEET NO.
1
OF 4

DATE: MARCH 28, 2011

EXHIBIT Q- ATTACHMENT 6



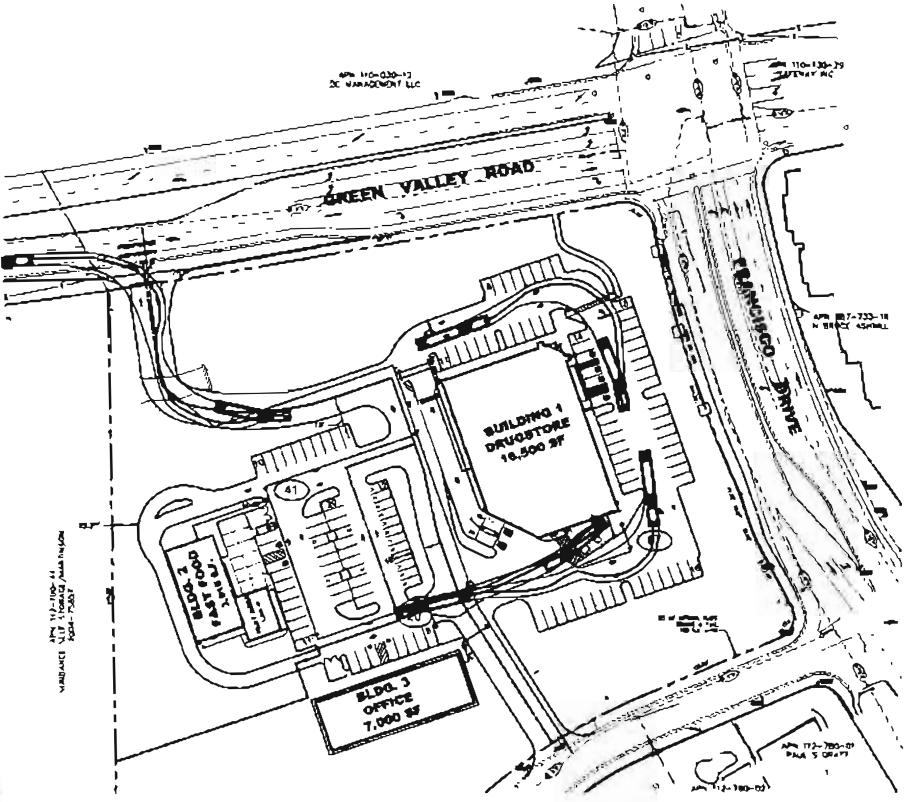
LAND USE SUMMARY:

TOTAL AC. NET = 6.85± AC. (298,386 SF)
SITE COVERAGE= 28.3%

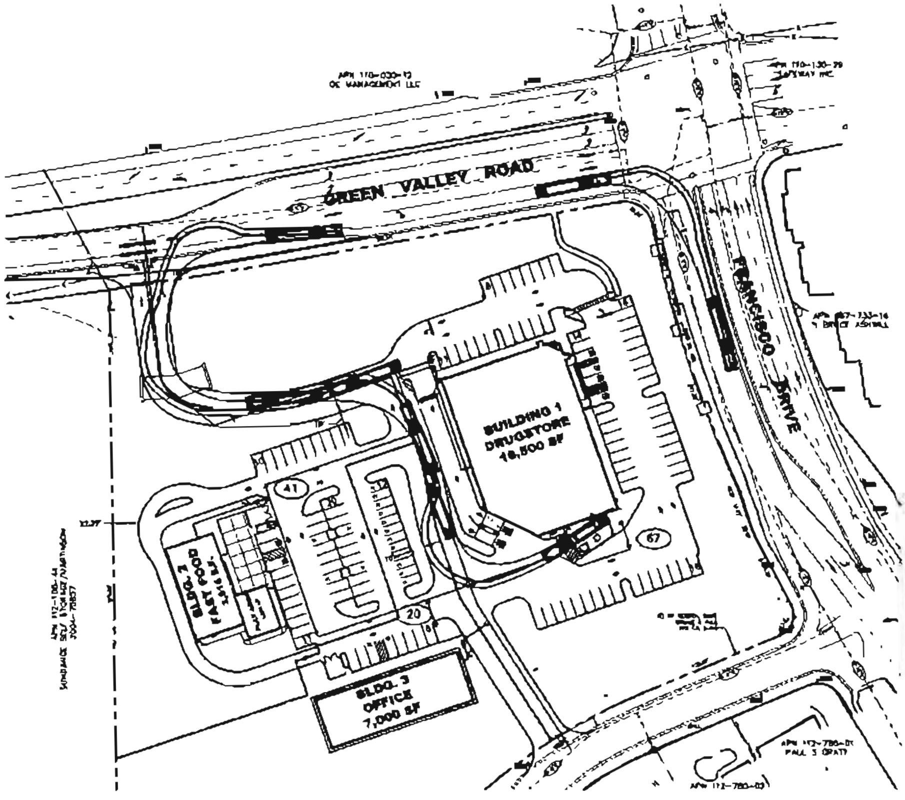
PARCEL	ACREAGE	USE	S.F.
1	3.04± AC.	DRUGSTORE	16,500 SF
2	1.52± AC.	FAST FOOD	5,115 SF
3	2.27± AC.	OFFICE	7,000 SF

PARKING SUMMARY:

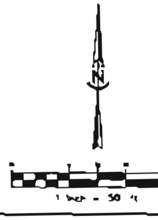
PARCEL	PARKING STALLS	PARKING RATIO
1	67	4.06/1,000 S.F.
2	41	8.01/1,000 S.F.
3	20	2.86/1,000 S.F.



TRUCK TURN IN MOVEMENTS



TRUCK TURN OUT MOVEMENTS



WINN COMMUNITIES

DESCRIPTION

RSC ENGINEERING

PROJECT NO. 1097-004
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
CHECKED BY: RSC Eng

TRUCK TURN EXHIBIT
GREEN VALLEY CENTER

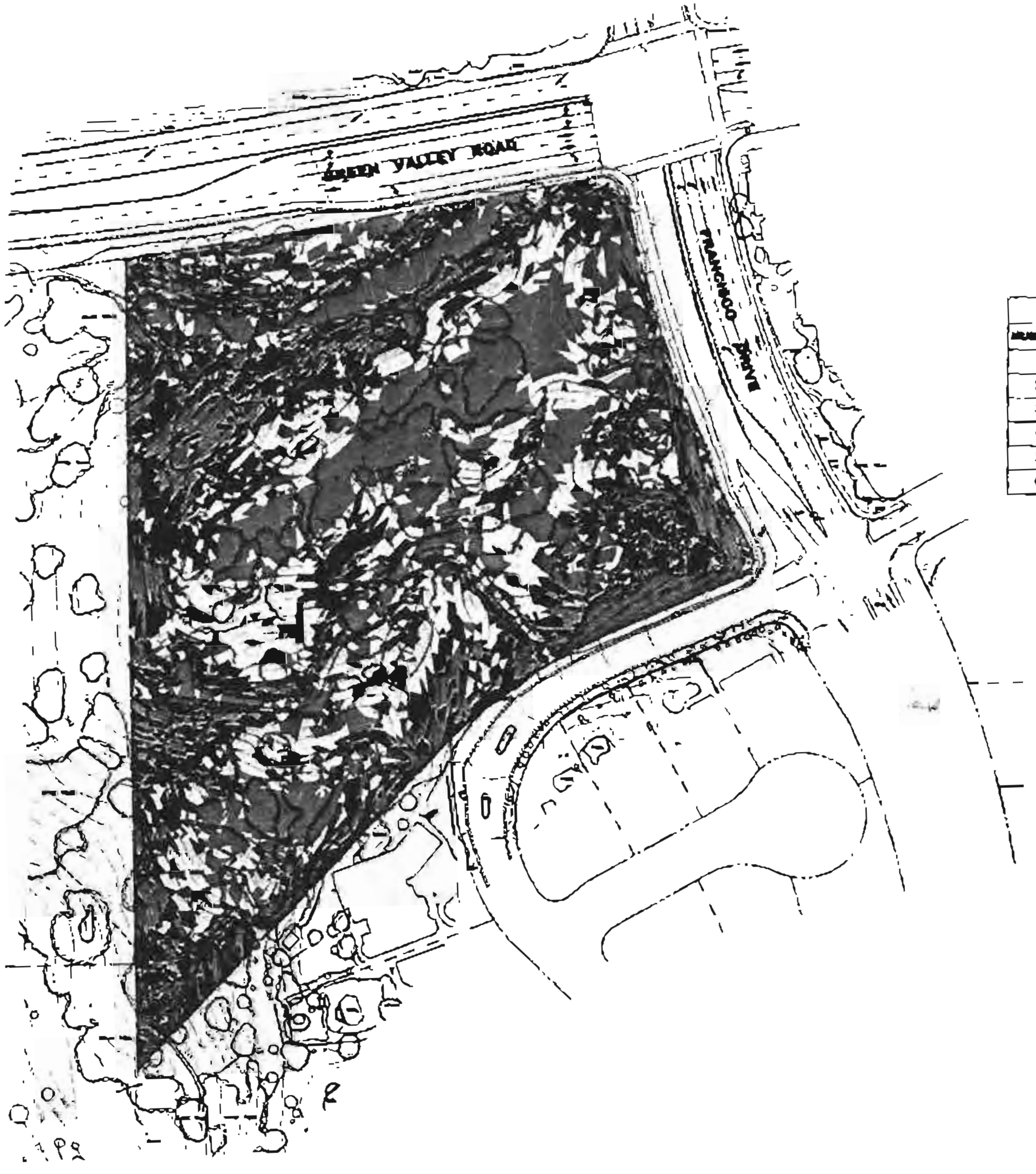
GREEN VALLEY RD & FRANCISCO DR.
COUNTY OF EL DORADO

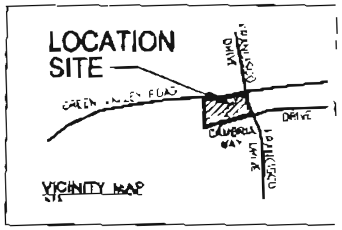
SHEET TITLE
SP

SHEET NO.
1
OF 1

DATE: APRIL 19, 2012

EXHIBIT Q- ATTACHMENT 7





SLOPE TABLE

NUMBER	COLOR	MIN. SLOPE	MAX. SLOPE	AREA	% OF AREA
1	■	0%	10%	79,224 SF	26.6%
2		11%	15%	82,415 SF	27.6%
3	■	16%	20%	50,654 SF	17.0%
4	■	21%	30%	49,037 SF	16.4%
5	■	31%	40%	17,335 SF	5.8%
6	■	+41%		19,985 SF	6.7%

1 inch = 50 ft

WINN COMMUNITIES

A 0003/Z 11-0004

FILE COPY

RSC ENGINEERING

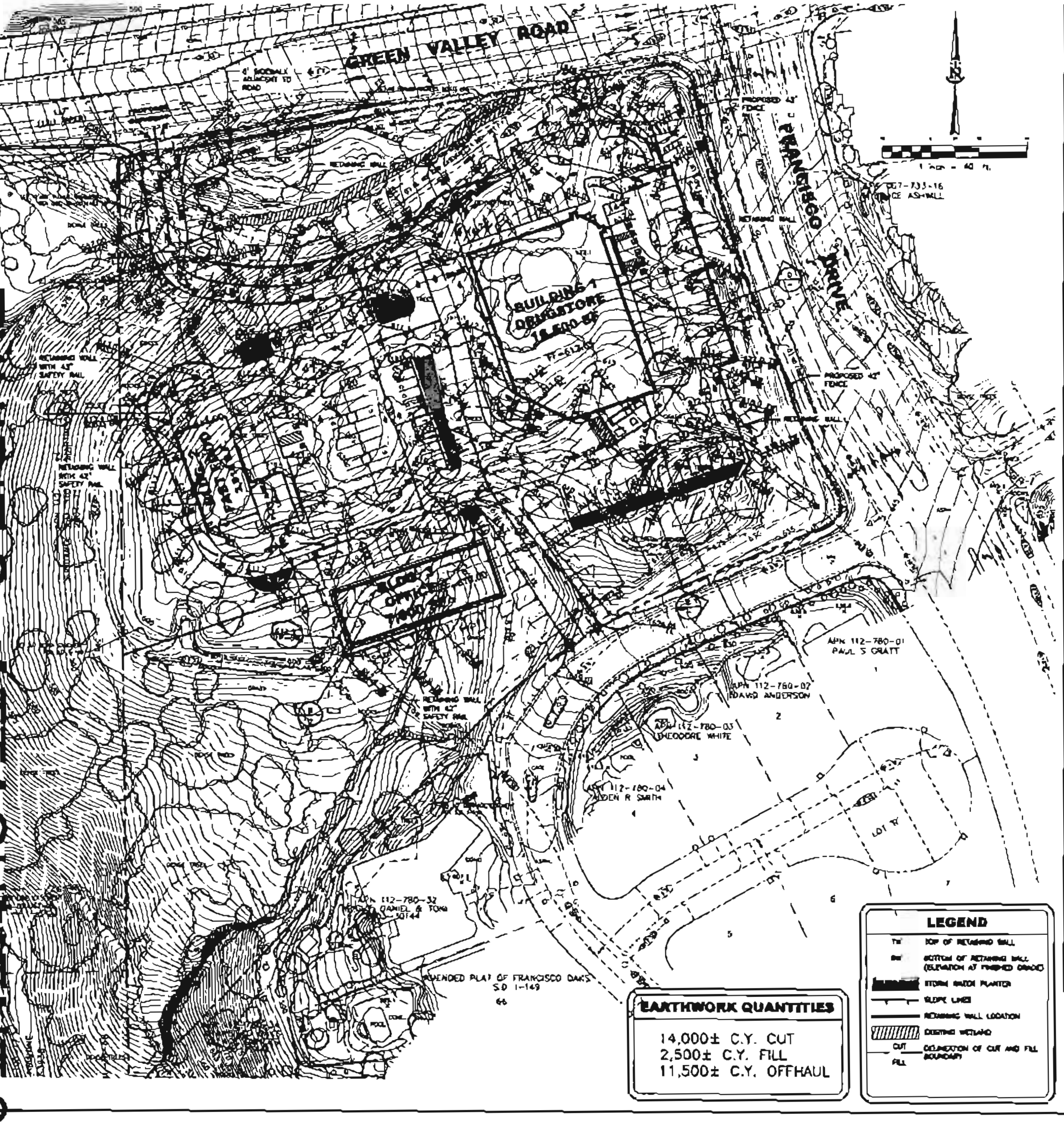
SLOPE MAP EXHIBIT
FRANCISCO/GREEN VALLEY
COMMERCIAL CENTER

GREEN VALLEY RD & FRANCISCO DR,
COUNTY OF EL DORADO

SHEET TITLE
EXH

SHEET NO.
1

EXHIBIT Q - ATTACHMENT 8

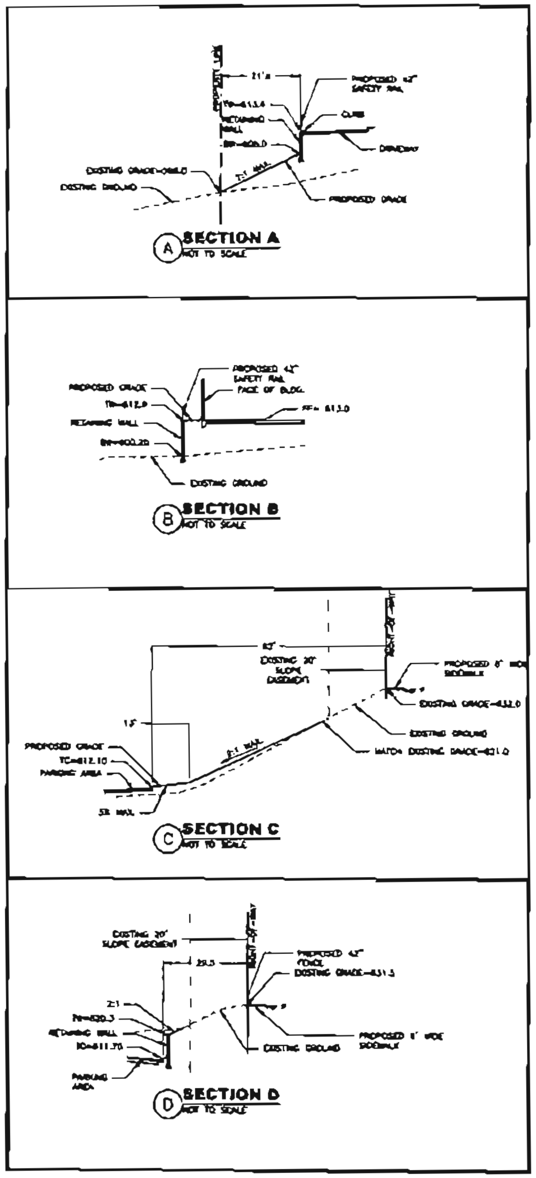


EARTHWORK QUANTITIES

14,000± C.Y. CUT
2,500± C.Y. FILL
11,500± C.Y. OFFHAUL

LEGEND

TW	TOP OF RETAINING WALL
BW	BOTTOM OF RETAINING WALL (ELEVATION AT FINISHED GRADE)
■	STORM WATER PLANTER
	SLOPE LINES
	RETAINING WALL LOCATION
▨	EXISTING WETLAND
CUT / FILL	DELINEATION OF CUT AND FILL BOUNDARY



WINN COMMUNITIES

RSC ENGINEERING

PROJECT NO: DRQ-001
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

PRELIMINARY PLANS
GREEN VALLEY CENTER

GREEN VALLEY RD. & FRANCISCO DR.
EL DORADO COUNTY, CALIFORNIA

SHEET TITLE
PRELIMINARY GRADING PLAN

SHEET NO.
G-0.1
OF 1

DATE: APRIL 2012

OWNER:
FAMILY REAL PROPERTY
1130 IRON POINT ROAD, SUITE 150
FOLSOM, CA 95630
ATTN: GEORGE M. CARPENTER, JR.
(916) 355-1450

APPLICANT:
WINN COMMUNITIES
1130 IRON POINT ROAD, SUITE 150
FOLSOM, CA 95630
ATTN: GEORGE M. CARPENTER, JR.
(916) 355-1450

ENGINEER:
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661
ATTN: RICHARD S. CHAVEZ, P.E.
(916) 788-2884

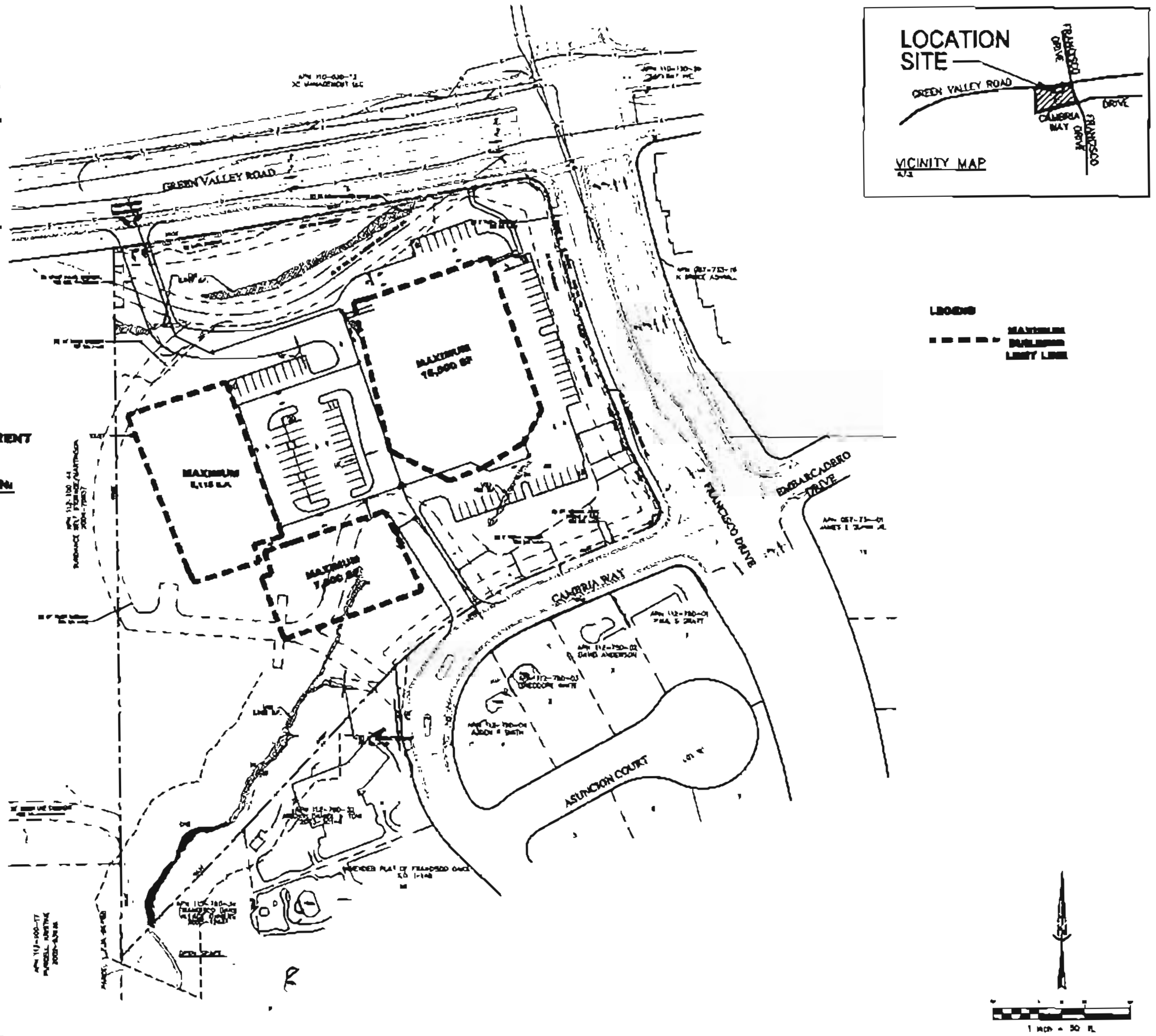
ASSESSOR'S PARCEL NO.:
124-140-33

PROPOSED ZONE:
COMMERCIAL-PLANNED DEVELOPMENT
(C-PD)

PROPOSED LAND USE DESIGNATION:
COMMERCIAL (C)

TOTAL ACREAGE:
6.85 ACRES

MAXIMUM BUILDING AREA:
28,615 SF



WINN COMMUNITIES

11-0003/Z 11-0004

FILE COPY

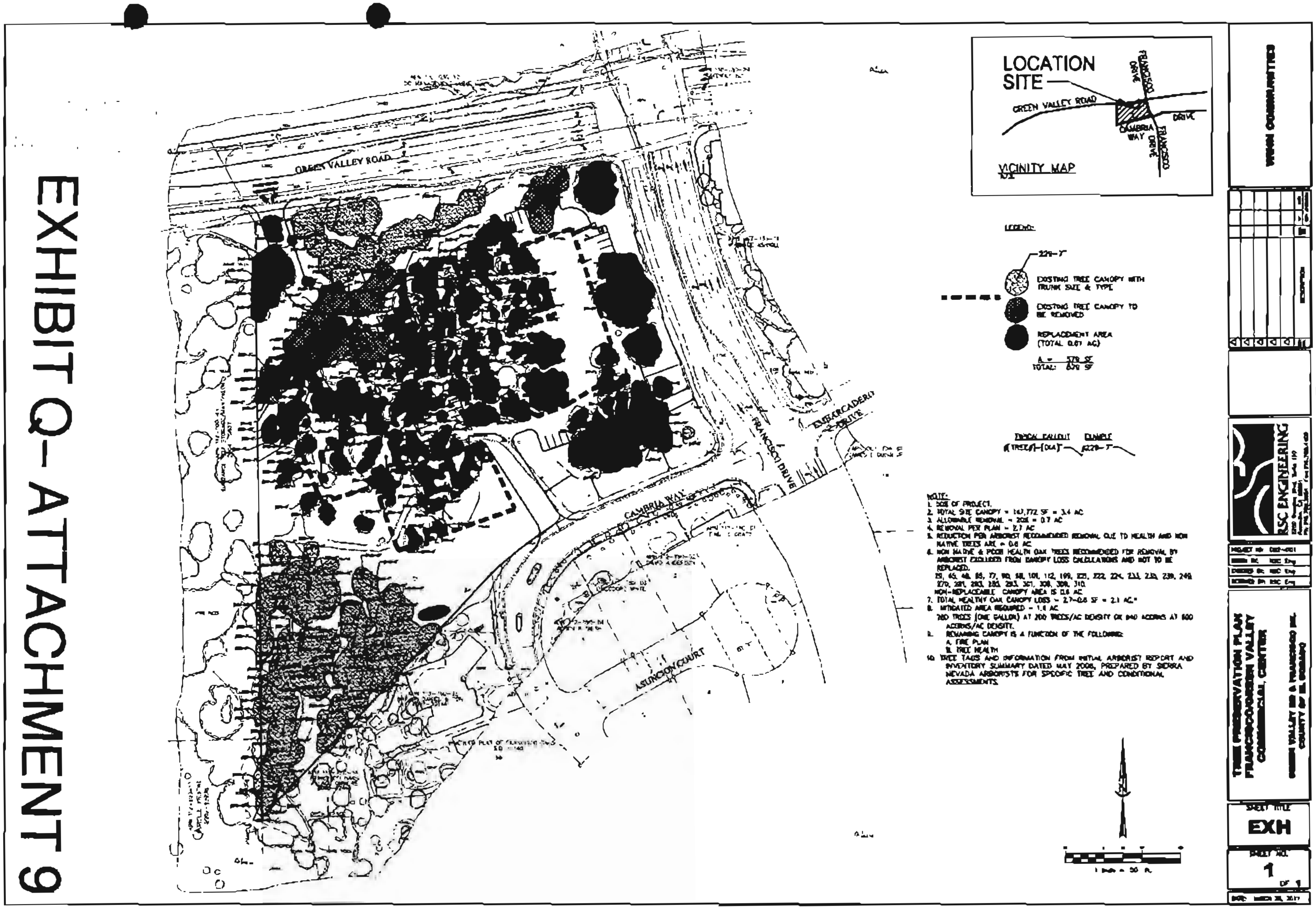
RSC ENGINEERING

BUILDING LIMIT LINE EXHIBIT
FRANCISCO/GREEN VALLEY
COMMERCIAL CENTER
GREEN VALLEY RD & FRANCISCO DR.
COUNTY OF EL DORADO

SHEET TITLE
EXH

SHEET NO.
1
OF 1

EXHIBIT Q- ATTACHMENT 9



NOTE:

1. SIZE OF PROJECT.
2. TOTAL SITE CANOPY = 147,772 SF = 3.4 AC
3. ALLOWABLE REMOVAL = 20% = 0.7 AC
4. REMOVAL PER PLAN = 2.7 AC
5. REDUCTION PER ARBORIST RECOMMENDED REMOVAL DUE TO HEALTH AND NON NATIVE TREES ARE = 0.6 AC
6. NON NATIVE & POOR HEALTH OAK TREES RECOMMENDED FOR REMOVAL BY ARBORIST EXCLUDED FROM CANOPY LOSS CALCULATIONS AND NOT TO BE REPLACED.
   25, 65, 68, 85, 77, 90, 98, 101, 112, 199, 220, 222, 224, 233, 236, 239, 249, 270, 281, 283, 285, 293, 307, 308, 309, 310
   NON-REPLACEABLE CANOPY AREA IS 0.6 AC
7. TOTAL HEALTHY OAK CANOPY LOSS = 2.7-0.6 SF = 2.1 AC.*
8. MITIGATED AREA REQUIRED = 1.4 AC
   280 TREES (ONE GALLON) AT 200 TREES/AC DENSITY OR 840 ACORNS AT 600 ACORNS/AC DENSITY.
9. REMAINING CANOPY IS A FUNCTION OF THE FOLLOWING:
   A. FIRE PLAN
   B. TREE HEALTH
10. TREE TAGS AND INFORMATION FROM INITIAL ARBORIST REPORT AND INVENTORY SUMMARY DATED MAY 2006, PREPARED BY SIERRA NEVADA ARBORISTS FOR SPECIFIC TREE AND CONDITIONAL ASSESSMENTS.

FILE COPY

A 0003/Z 11-0004

EXHIBIT Q- ATTACHMENT 10

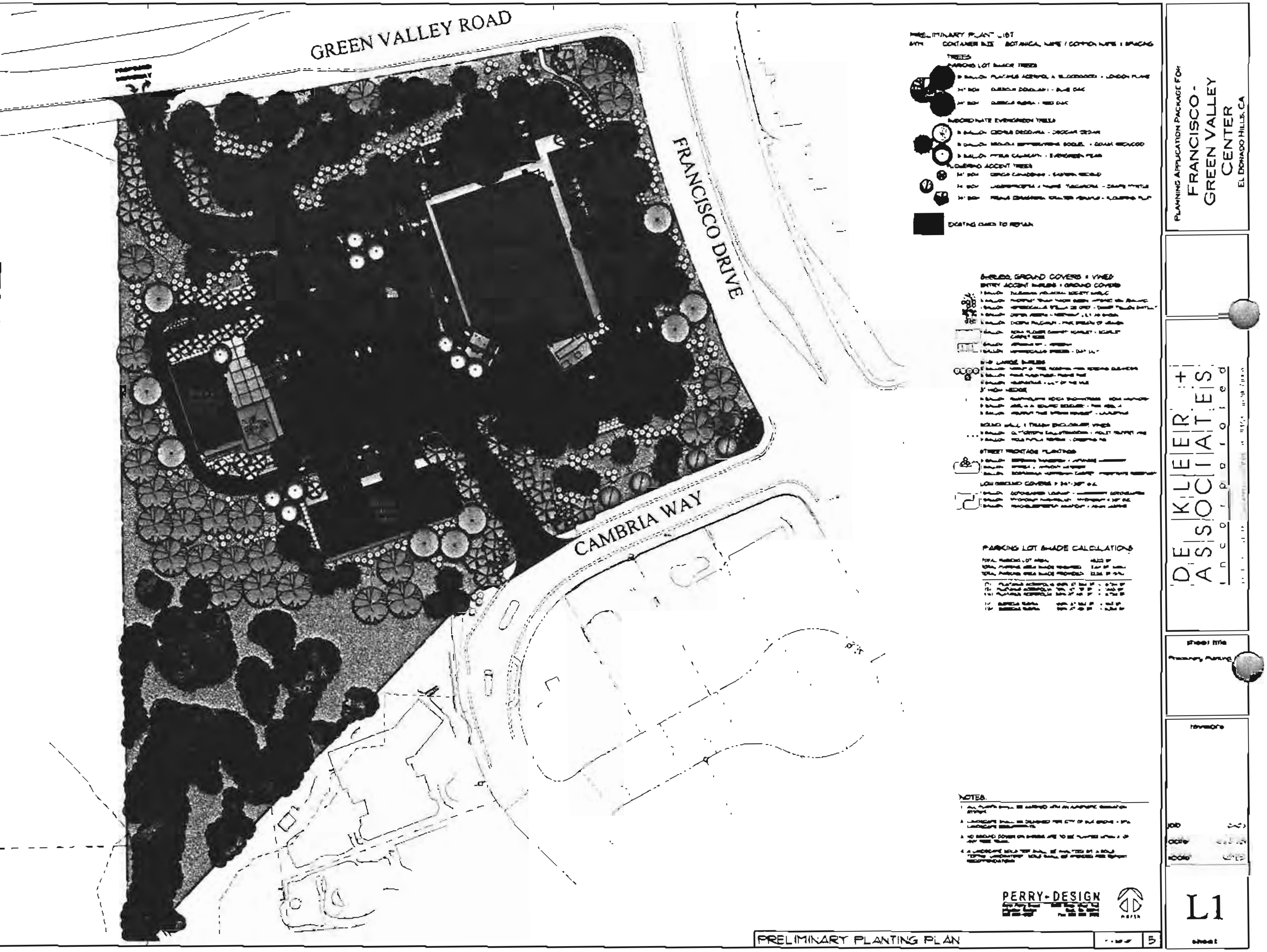
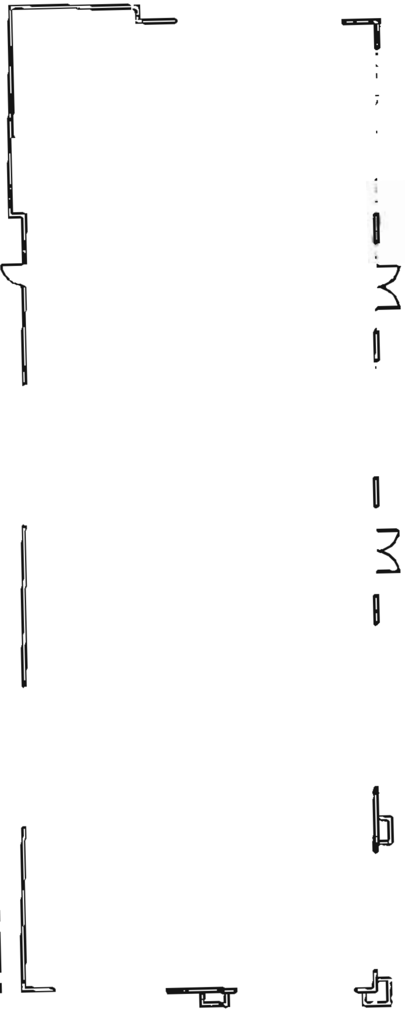
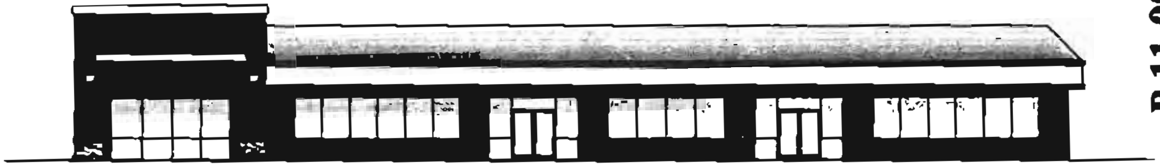


EXHIBIT Q- ATTACHMENT 11

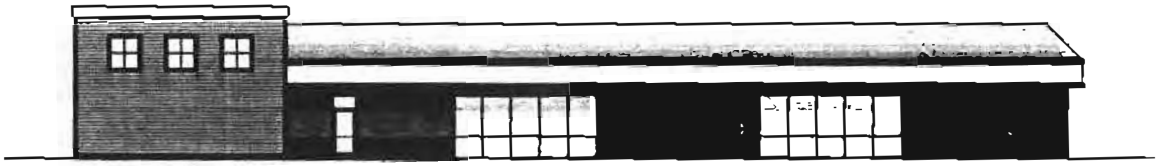
P 11-0003/PD 11-0002



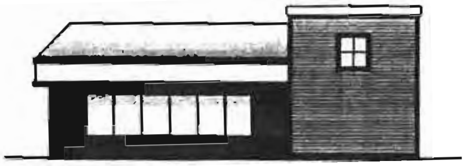
loor Plan Scale [illegible]



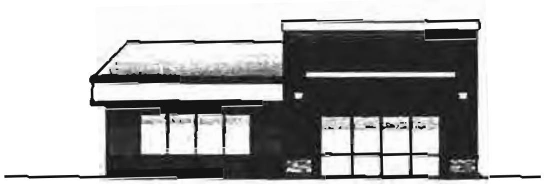
North Elevation Scale [illegible]



South Elevation Scale [illegible]



West Elevation Scale [illegible]



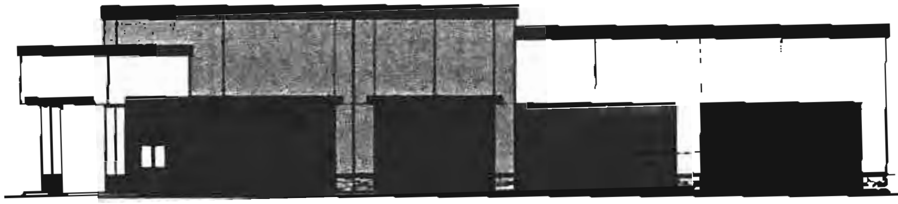
East (Francisco Drive) Elevation Scale [illegible]

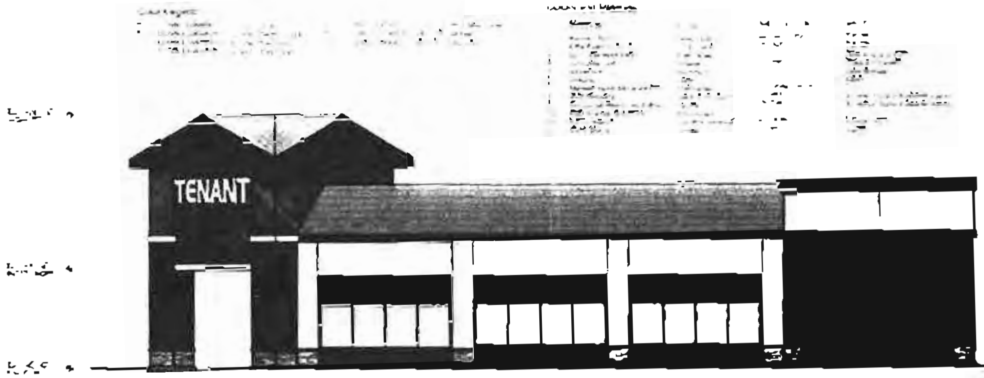
FRANCISCO - GREEN VALLEY

Winn Communities

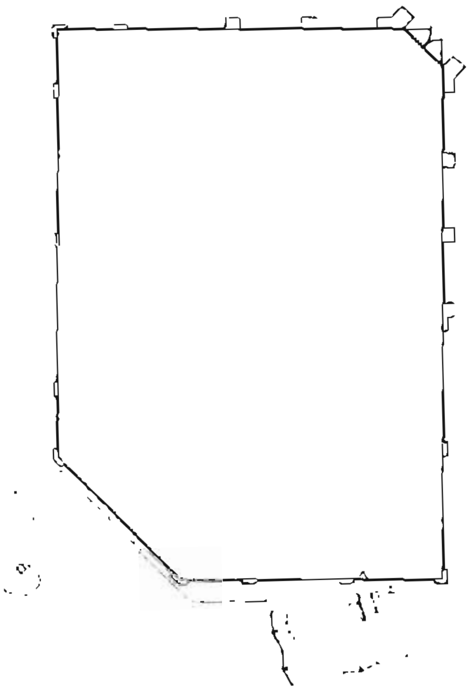
DE KLEER + ASSOCIATES

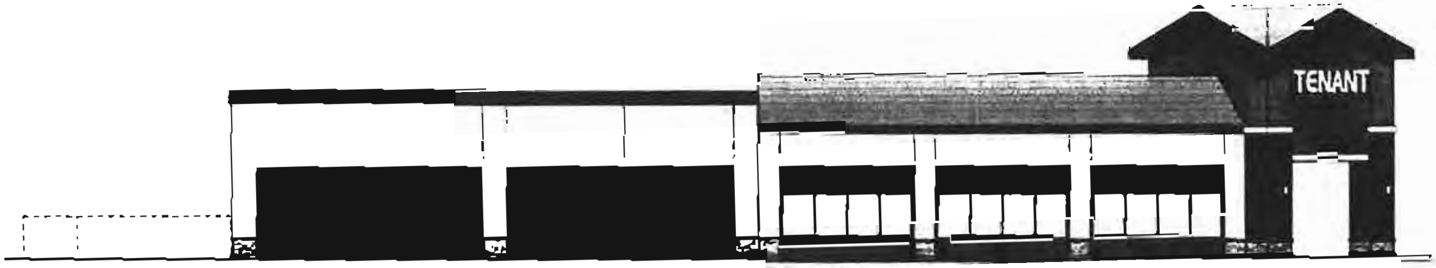
P 0003/PD 11-0002


South Elevation



North Elevation


Floor Plan



East Elevation


West Elevation

FRANCISCO - GREEN VALLEY
Winn Communities

DE KLEER + ASSOCIATES

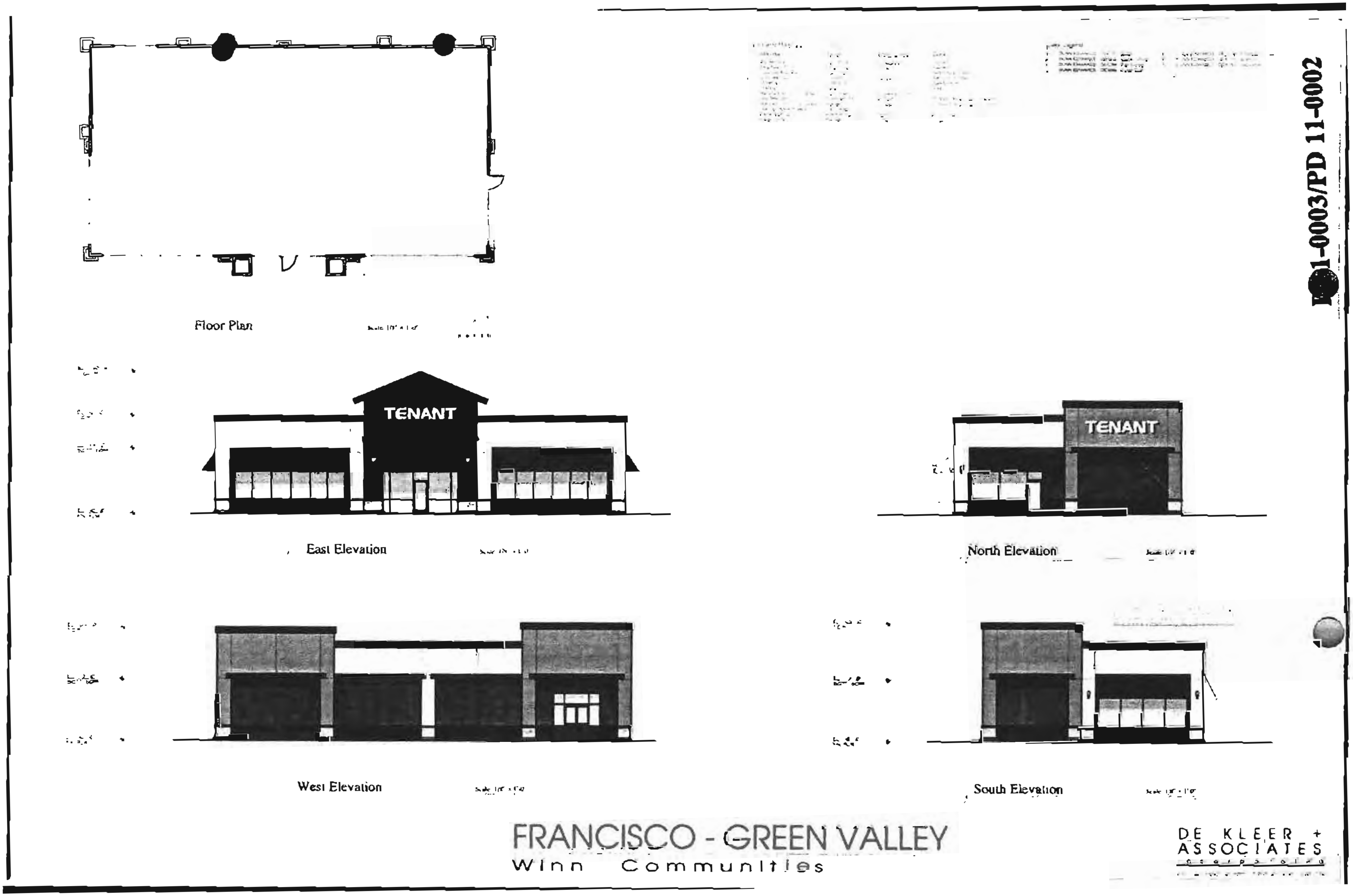
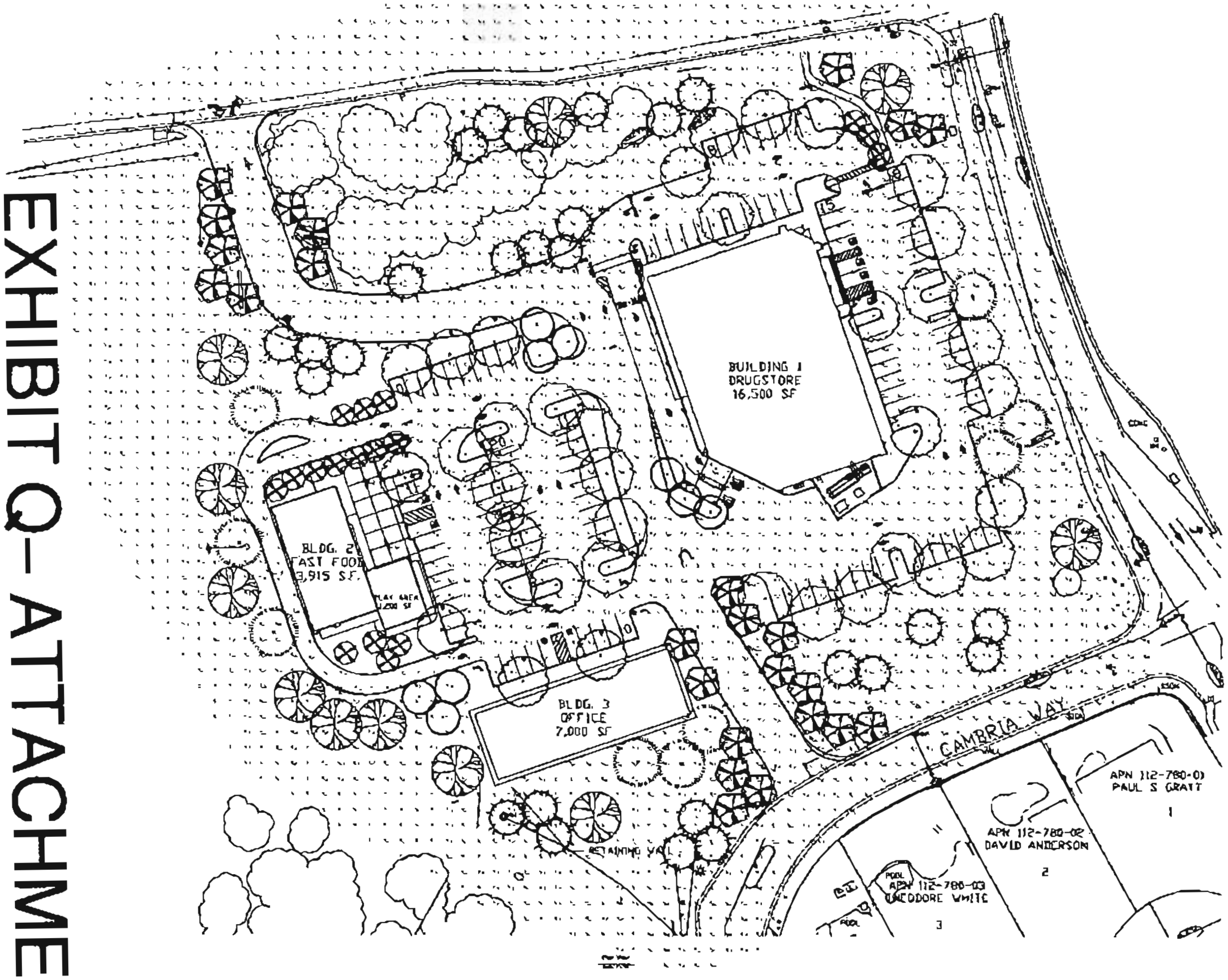
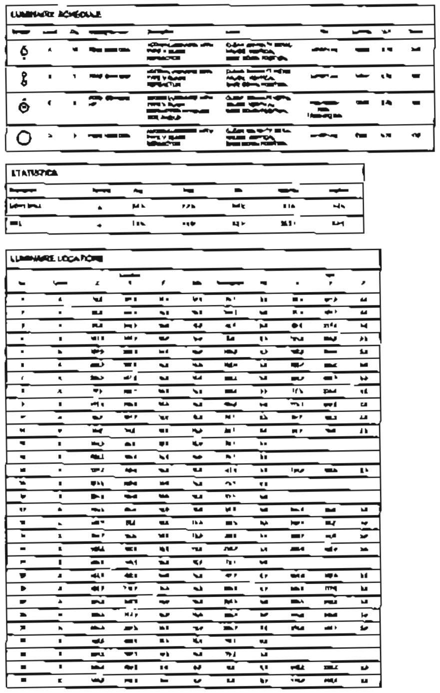
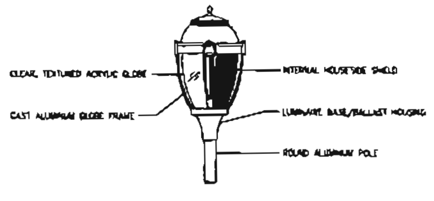

1-0003/PD 11-0002
Floor Plan
TENANT
East Elevation
TENANT
North Elevation
West Elevation
South Elevation
FRANCISCO - GREEN VALLEY
Winn Communities
DE KLEER + ASSOCIATES

EXHIBIT Q- ATTACHMENT 12







LUMINAIRE ELEVATION

CJS LIGHTING

FRANCISCO-GREEN VALLEY CENTER
SITE LIGHTING

Designer
AMV
Date
Feb 14 2012
Scale
1" = 30'
Drawing No.
FRANCISCOGVCTRS.VSL

1 of 1

EXHIBIT Q- ATTACHMENT 13

OWNER
FAMILY REAL PROPERTY
1130 IRON POINT ROAD, SUITE 150
FOLSOM, CA 95630
ATTN: GEORGE M. CARPENTER, JR
(916) 355-1450

APPLICANT
WINN COMMUNITIES
1130 IRON POINT ROAD, SUITE 150
FOLSOM, CA 95630
ATTN: GEORGE M. CARPENTER, JR.
(916) 355-1450

ENGINEER
RSC ENGINEERING, INC.
2250 DOUGLAS BLVD., SUITE 150
ROSEVILLE, CA 95661
ATTN. RICHARD S. CHAVEZ, P.E.
(916) 788-2884

SCALE:
1"=50'

CONTOUR INTERVAL:
1 FOOT

SOURCE OF TOPOGRAPHY:
RADMAN AERIAL SURVEY 05-30-05

SECTION, TOWNSHIP & RANGE:
SECTION 22, TOWNSHIP 10N, RANGE 8 EAST

ASSESSOR'S PARCEL NO.
124-140-33

EXISTING ZONE:
R1-PD

PROPOSED ZONE:
COMMERCIAL-PLANNED DEVELOPMENT (C-PD)

PROPOSED LAND USE DESIGNATION
COMMERCIAL-PLANNED DEVELOPMENT (C-PD)

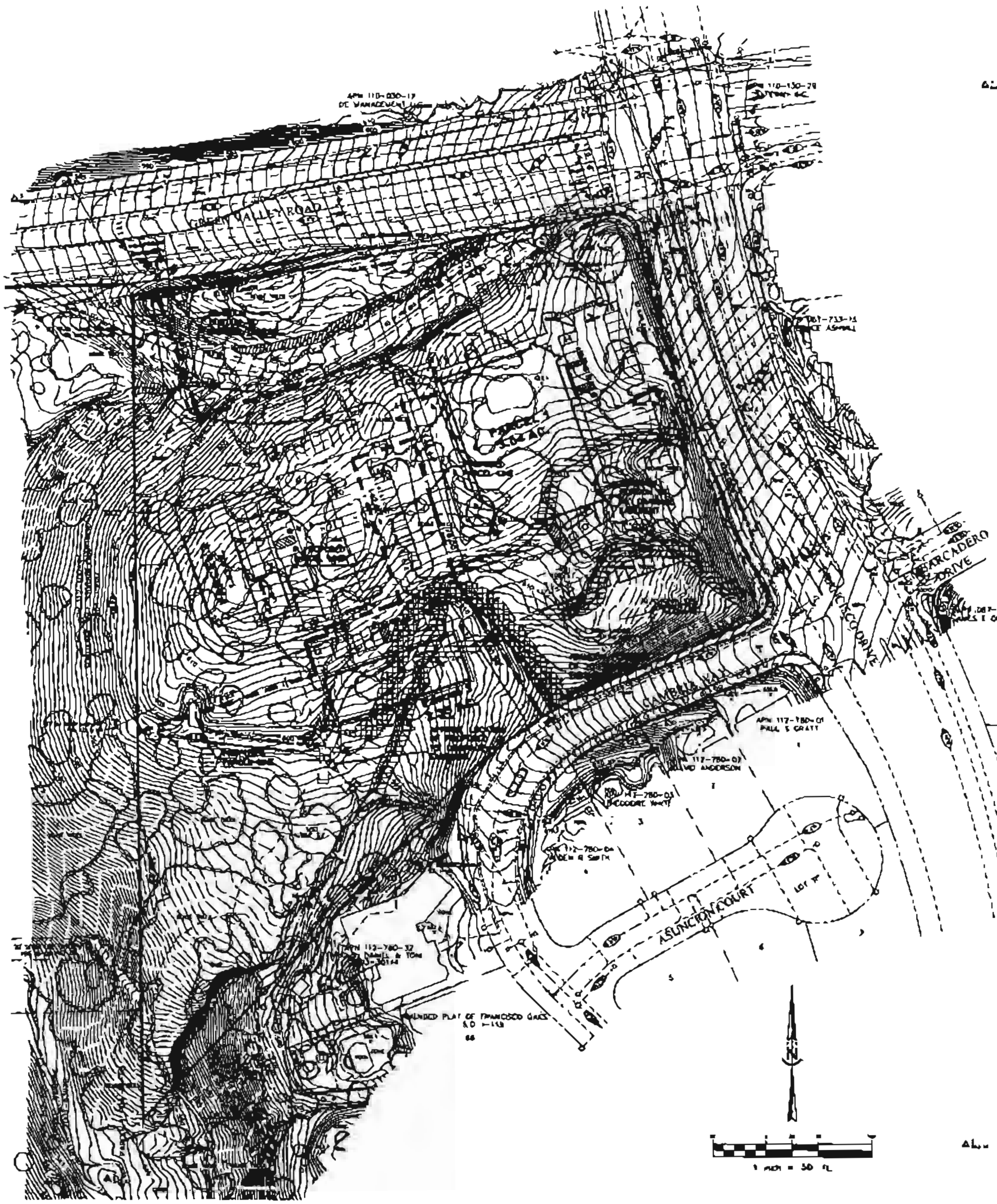
TOTAL ACREAGE:
6.85 ACRES

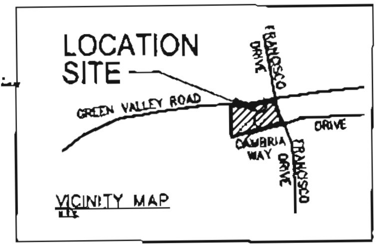
TOTAL EXISTING PARCELS
1

TOTAL PROPOSED PARCELS:
3

MAXIMUM PARCEL=3.04 AC.
MINIMUM PARCEL=1.53 AC.

UTILITIES
SEWER – EL DORADO IRRIGATION DISTRICT
WATER – EL DORADO IRRIGATION DISTRICT
GAS & ELECTRICITY – P.G.&E.
TELEPHONE – AT&T
CABLE – COMCAST
WASTE DISPOSAL – EL DORADO DISPOSAL
FIRE – EL DORADO HILLS FIRE DEPARTMENT





LEGEND

EXISTING BOUNDARY	— - - —
PROPOSED PARCEL LINES	— - — - —
EXISTING EASEMENTS	- - - - - - -
EXISTING WETLANDS	■
ABANDON PORTION OF NO EGRESS INGRESS RIGHTS LINE	▩
ABANDON PORTION OF 20' SEWER EASEMENT	▦
ABANDON PORTION OF 15' DRAINAGE EASEMENT	▤
APPROX. LOCATION OF PROPOSED 15' DRAINAGE EASEMENT	— — — —

Notes:
1. Refer to final parcel map for accurate lot dimensions and configuration
2. The property lies within Zone 'X' on FIRM Map No 06017C Panel 0704E dated Sept. 26, 2008. Zone 'X' is an area outside the 500 year flood plain.
3. See grading & drainage plan and utility plan for drainage and hydrant improvements
4. See tree preservation plan for location, type and size of all existing trees on site including quantity of trees to be removed.

Zoning Administrator: ____________
Approval/Denial Date: ____________
Board of Supervisors: ____________
Approval/Denial Date: ____________

WINN COMMUNITIES

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph 916 788 2884 Fax 916 788 4408

PROJECT NO: 082-001
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

TENTATIVE PARCEL MAP
FRANCISCO/GREEN VALLEY
COMMERCIAL CENTER
GREEN VALLEY RD & FRA[illegible]O DR.
COUNTY OF EL DO[illegible]

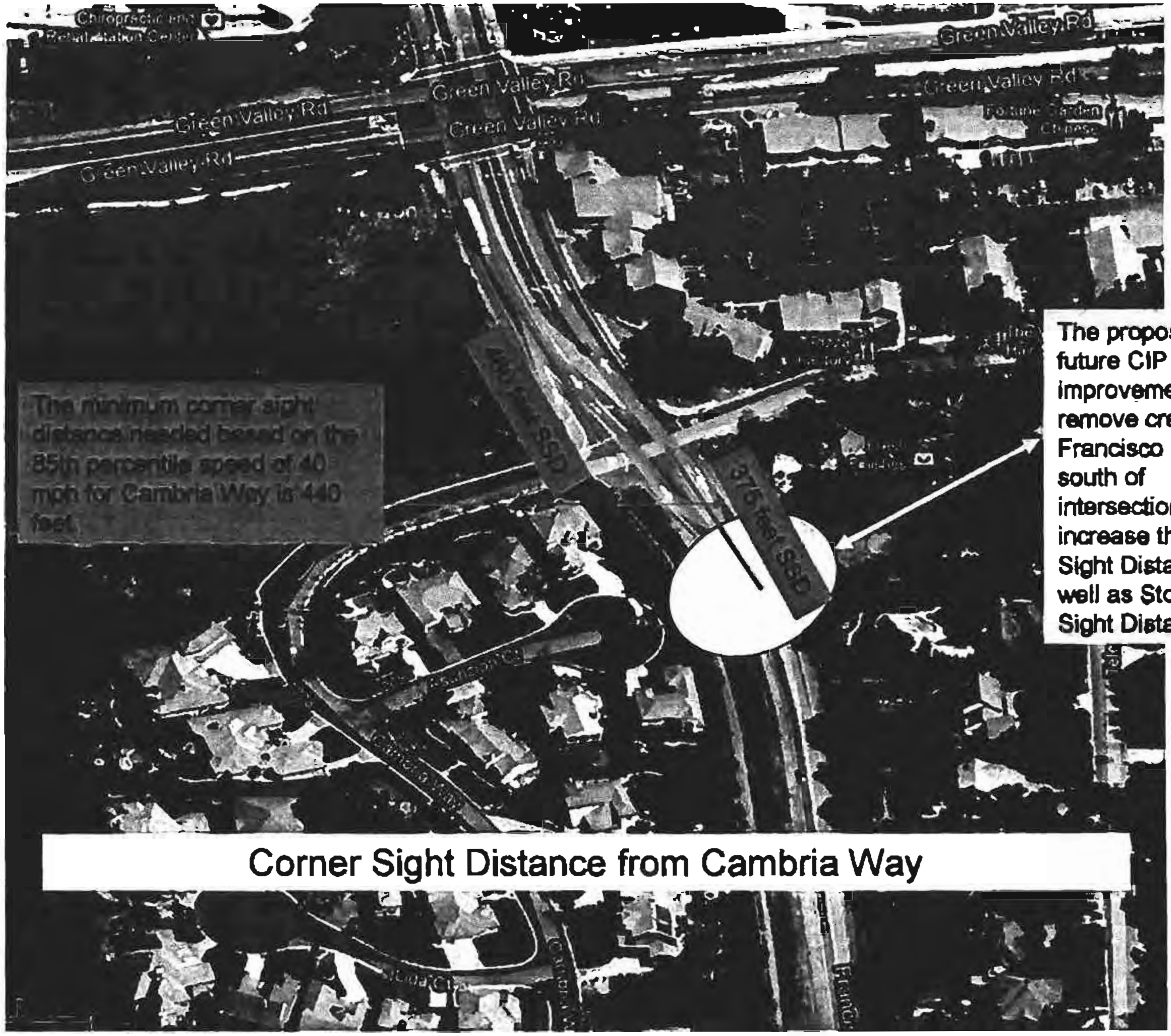
SHEET TITLE
PM

SHEET NO
1
OF 1

DATE: APR. 23, 2012

EXHIBIT Q – ATTACHMENT 14

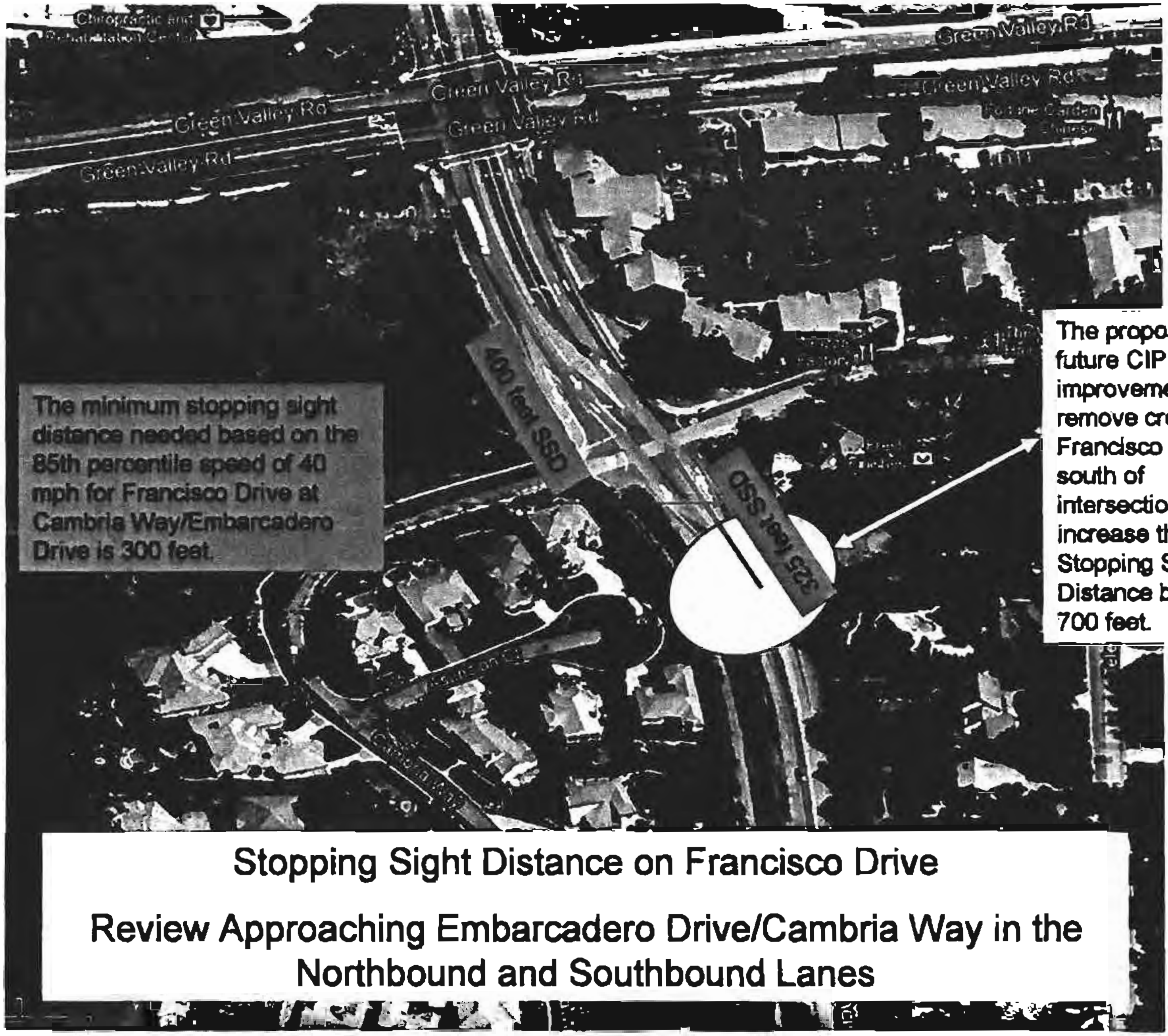
3/5/12



The minimum corner sight distance needed based on the 85th percentile speed of 40 mph for Cambria Way is 440 feet.

The proposed future CIP improvements to remove crest on Francisco Drive south of intersection will increase the Corner Sight Distance as well as Stopping Sight Distance

Corner Sight Distance from Cambria Way



The minimum stopping sight distance needed based on the 85th percentile speed of 40 mph for Francisco Drive at Cambria Way/Embarcadero Drive is 300 feet.

The proposed future CIP improvements to remove crest on Francisco Drive south of intersection will increase the Stopping Sight Distance by over 700 feet.

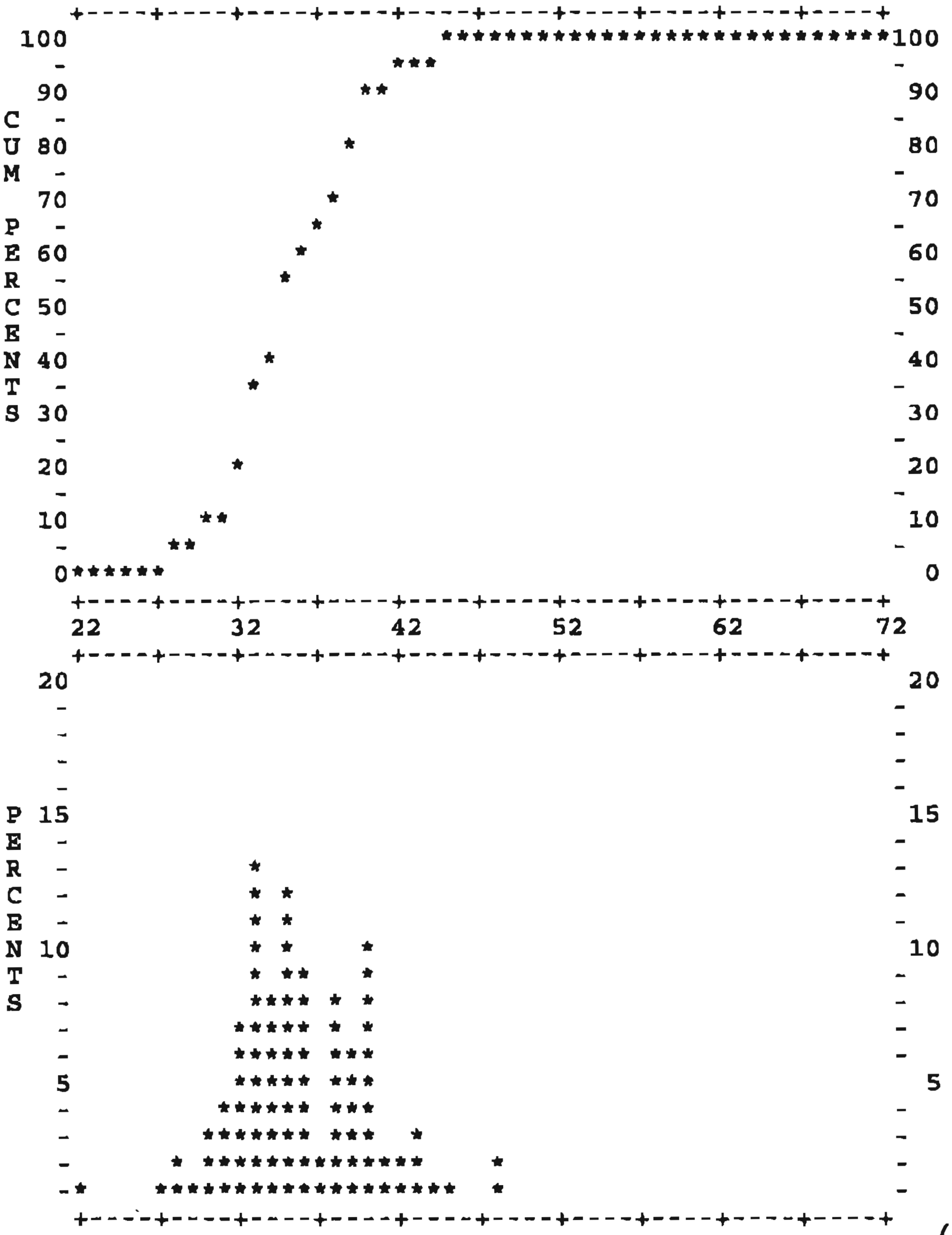
Stopping Sight Distance on Francisco Drive

Review Approaching Embarcadero Drive/Cambria Way in the Northbound and Southbound Lanes

3/15/12

```
                   Bather Belrose Boje, Inc. SPEEDPLOT Program
STREET................. 0 Blk. FRANCISCO DR
LIMITS................. N/0 CAMBRIA to

DIRECTION(S)..........N/S                50TH PERCENTILE SPEED.................35
DATE..................3/9/12             85TH PERCENTILE SPEED.................40
TIME..................9:10 TO 9:30       10 MPH PACE SPEED.........31 through 40
POSTED SPEED LIMIT....55                 PERCENT IN PACE SPEED............. 80.6
                                         PERCENT OVER PACE SPEED.............11.2
                                         PERCENT UNDER PACE SPEED........... 8.2
                    CUM.                 RANGE OF SPEEDS.................22 to 48
SPEED NO. PCT.  PCT.                     VEHICLES OBSERVED.................. 98
====================                     AVERAGE SPEED......................35.8
 22      1  1.0   1.0
 23      0  0.0   1.0
 24      0  0.0   1.0
 25      0  0.0   1.0
 26      0  0.0   1.0
 27      1  1.0   2.0
 28      2  2.0   4.1
 29      1  1.0   5.1
 30      3  3.1   8.2
 31      4  4.1  12.2
 32      7  7.1  19.4
 33     13 13.3  32.7
 34      8  8.2  40.8
 35     12 12.2  53.1
 36      9  9.2  62.2
 37      2  2.0  64.3
 38      8  8.2  72.4
 39      6  6.1  78.6
 40     10 10.2  88.8
 41      2  2.0  90.8
 42      2  2.0  92.9
 43      3  3.1  95.9
 44      1  1.0  96.9
 45      1  1.0  98.0
 46      0  0.0  98.0
 47      0  0.0  98.0
 48      2  2.0 100.0
```



3/15/13

TURNING MOVEMENT COUNT TABLE

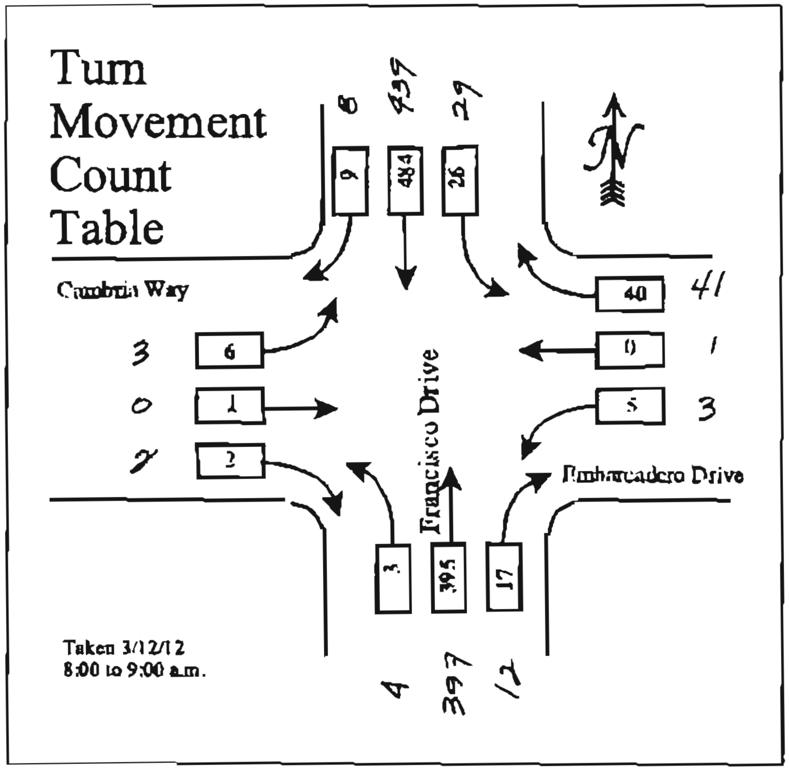
Fracisco Drive at Cambria Way/Embarcadero Drive

Date: 3/12/12

	LOCATION:	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	TOTAL
T	08:00	2	1	0	1	110	4	3	0	7	10	167	3	308
I	08:15	2	0	0	0	108	6	1	0	10	2	104	0	233
M	08:30	2	0	1	0	96	5	0	0	12	6	91	1	214
E	08:45	0	0	1	2	81	2	1	0	11	8	122	5	233
Peak Hour Totals		6	1	2	3	395	17	5	0	40	26	484	9	

MORNING TOTAL PEAK HOUR VOLUME: 988

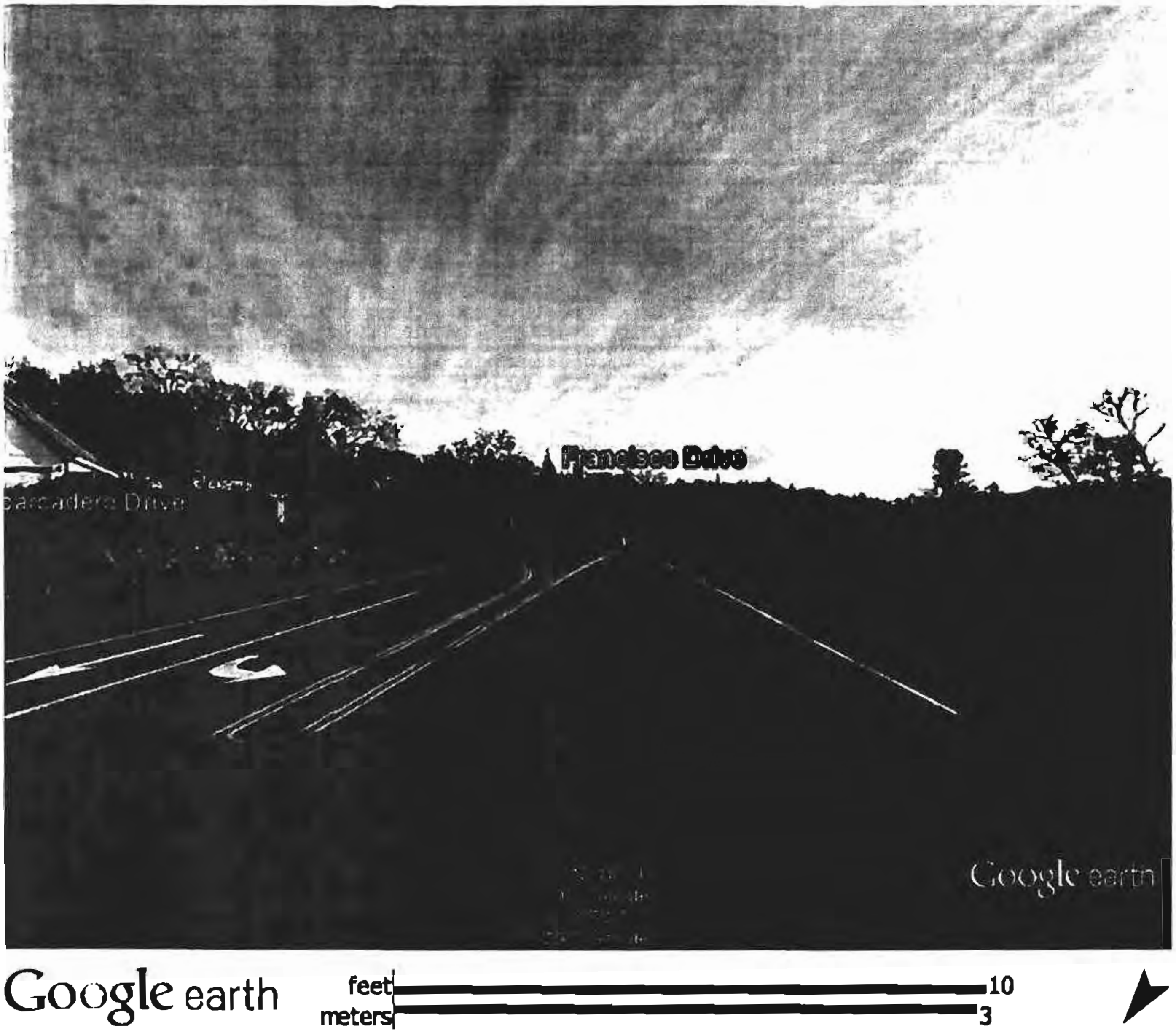
#1	E/B Cambria Way toFrancisco Drive N/B
#2	E/B Camrbria Way to Embarcadero Drive E/B
#3	E/B Camrbria Way to Fransisco Drive S/B
#4	N/B Fransisco Drive to Cambria Way W/B
#5	N/B Fransisco Drive continuing North
#6	N/B Fransisco Drive to Embarcadero Drive E/B
#7	W/B Embarcadero Drive to Fransisco Drive S/B
#8	W/B Embarcadero Drive to Cambria Way W/B
#9	W/B Embarcadero Drive to Fransisco Drive N/B
#10	S/B Fransisco Drive to Embarcadero Drive E/B
#11	S/B Fransisco Drive continuing South
#12	S/B Fransisco Drive to Cambria Way W/B



Taken 3/12/12
8:00 to 9:00 a.m.

Turned #'s in TIS


Francisco Drive
Google earth
Google earth
feet
10
meters
3


Francisco Drive
barcadero Drive
Google earth
Google earth
feet 10
meters 3

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

ACCIDENT SITE ANALYSIS SUMMARY FOR

FRANCISCO DR

For Use with Intersection Review at Embarcadero Dr

Report Date: 3/9/2012

For the period beginning January 1, 2008 and ending December 31, 2010

Beginning at Mile Post .59 and Ending at Mile Post .65 Roadway Section Length = 0.06

2010 Number of Accidents: 1 Number of Injuries: 1 Number of Fatalities: 0

Three Year Accident Total = 1 Three Year Injury Total = 1 Three Year Fatality Total = 0

Average Daily Traffic Volume: 12250

Accidents per Million Entering Vehicles: 0.07

3/15/12

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION

2010 C.H.P. ACCIDENT SUMMARY FOR FRANCISCO DR FROM MP-.59 TO MP-.65

Report Date: 3/9/2012

The following accident data is based on the C.H.P. Accident Reports for the one year period from January 1, 2010, through December 31, 2010.

The following code numbers have been used to classify the various major types of accidents:

1 = Headon
4 = Broadside
7 = Pedestrian Involved
10 = Parked Vehicle Involved
13 = Motorcycle Involved

2 = Sideswipe
5 = Hit Object
8 = Bicycle Involved
11 = Snow Removal Equip. Involved
14 = School Bus Involved

3 = Rearend
6 = Overturned
9 = Animal Involved
12 = Other

Street	Mile Post	Dist.	Dir.		Cross Street	# Veh	Injury	Fatal	Time	Cond.	Imp.	Code
FRANCISCO DR	0.62	0	AT	of	EMBARCADERO DR	2	1	0	DAY	DRY	HNBD	4

Total Number of Accidents: 1
Total Number of Injuries: 1
Total Number of Fatalities: 0

URS

August 30, 2012

Rommel "Mel" Pabalinas
Project Planner
El Dorado County Planning Services
2850 Fairlane Court
Placerville, CA 95667

Re: Green Valley Commercial Center Cumulative Air Quality Impacts

Dear Mel:

This letter is in response to our phone conversation last Friday (August 24, 2012) regarding the cumulative air quality impacts for the Green Valley Commercial Center (Center). I also spoke with Adam Baughman at the El Dorado County Air Quality Management District (EDCAQMD) on August 29, 2012 about the best approach for evaluating cumulative impacts.

This letter report evaluates the Center's cumulative air quality impacts as requested by Adam Baughman in his January 9, 2012 letter to you (SUBJECT: A 111-003, Z 11-004, PD 11-002, P 11-003 – Francisco Drive/Green Valley Road Commercial Center, APN 124-140-33 – AQMD Comments).

I have used chapters 3 and 8 of EDCAQMD's CEQA Guide to conduct this evaluation.

Ozone Precursors Cumulative Impact Evaluation

For ozone, the CEQA Guide considers a project to have a less than significant cumulative impact if it can be demonstrated that the project's reactive organic gas (ROG) and nitrogen oxide (NOx) emissions are consistent with the Sacramento Regional Ozone Air Quality Attainment Plan (AQAP). A development project is considered consistent with the AQAP if it meets each of the following four criteria:

1) If the project requires a change in the existing land use designation (a general plan amendment or rezone), then projected emissions of ROG and NOx from the proposed project must be equal to or less than the ROG and NOx emissions anticipated for the site if developed under the existing land use designation.
2) The project's emissions must be less than EDCAQMD's "project alone" significance critieria, which equal 82 pounds per day of ROG and NOx.
3) The lead agency for the project requires that the project applicant implement any applicable emission reduction measures contained in and/or derived from the AQAP; and
4) The project complies with all applicable district rules and regulations.

Each of these is evaluated below.

EXHIBIT Q– ATTACHMENT 15

The Center will require a general plan rezone. Consequently, the first criterion listed above applies to the Center project. Currently, the site is zoned for a maximum of 34 residential units. As part of the Center project, the site will be rezoned for commercial use. Using the URBEMIS2007 air quality model, the project's emissions were estimated for the existing zoning (34 units) and for the proposed rezone (to allow construction of the Center project). The URBEMIS modeling results found that the emissions from the two projects are comparable, with the rezoned project having slightly lower emissions (5.11 tons per year of ROG plus NOx) than current zoning (5.56 tons per year of ROG plus NOx). Although the Center would have higher vehicle trip emissions as compared to the 34-unit zoning, the 34-unit zoning would have higher emissions from area sources, primarily from wood stoves and fireplaces. The URBEMIS2007 modeling results for the 34-unit existing zoning and the proposed Center are included as Attachment A. Based on these modeling results, the proposed Center meets the first cumulative ozone impact criterion.

A December 16, 2010 report was prepared for the Center by URS Corporation (DRAFT Air Quality Analysis for the Green Valley Center Development Proposed for El Dorado Hills, California). Table 4 of that report shows that the project's maximum daily emissions of ROG equal 30.7 pounds per day (ppd), which is less than the EDCAQMD's 82-ppd ROG threshold. Similarly, the project's maximum daily emissions of NOx equal 37.0 ppd, which is also less than the EDCAQMD's 82-ppd NOx threshold. Therefore, the project does not exceed the EDCAQMD's "project alone" significance threshold and thus meets the second cumulative ozone impact criterion.

The January 9, 2012 letter from Adam Baughman to you identified several existing EDCAQMD rules and regulations that the project would need to comply with during project and operations. The project applicant is committing to complying with these regulations and any other applicable measures identified by El Dorado County Planning Services required by the AQAP. Consequently, the project meets the third and fourth cumulative ozone impact criterion.

Based on this evaluation, the project would not have a significant cumulative air quality impact with regard to ozone.

Carbon Monoxide Cumulative Impact Evaluation

For other pollutants, EDCAQMD has a different cumulative impact methodology. This applies to carbon monoxide (CO), PM10 (inhalable particulate matter), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and toxic air contaminants (TACs).

For CO, the project would not have a significant impact because the traffic analysis shows that, with mitigation, traffic impacts would be less than significant.

Consequently, the project would have a less than significant cumulative CO impact.

PM10, SO_2, NO_2, Cumulative Impact Evaluation

For PM10, SO_2 and NO_2, EDCAQMD has developed the following three criteria for evaluating cumulative significance:

1) The project is not significant for "project alone" emissions of these pollutants;
2) The project complies with all applicable rules and regulations of the District; and
3) The project is not cumulatively significant for ROG, NOx, or CO.

With regard to the first of these criteria, the project is not significant for "project alone" emissions of PM10, SO_2, or NO_2. As described in the December 16, 2010 report prepared for the Center by URS Corporation, the project would not generate significant "project alone" emissions of PM10, SO_2, or NO_2. Therefore, the project meets the first criterion.

In addition, the project applicant is committed to complying with all applicable rules and regulations of the EDCAQMD. Thus, the project will meet the second criterion.

Lastly, as discussed previously, the project is not cumulatively significant for ROG, NOx, or CO. Consequently, it meets the third criterion.

Based on this evaluation, the project would not result in a cumulatively significant increase in PM10, SO_2, or NO_2 emissions.

Toxic Air Contaminant Cumulative Impact Evaluation

To evaluate cumulative TAC impacts, EDCAQMD requires that a project be evaluated for the following criteria:

1) The project meets the "project alone" TAC requirements,
2) The project would comply with all applicable emission limits.

As described in the December 16, 2010 report prepared for the Center by URS Corporation, the project would not generate significant "project alone" emissions of TAC. Therefore, the project meets the first criterion. The project applicant has agreed to comply with all applicable emission limits. Therefore, the Center would comply with the second criterion.

Based on this evaluation, the project would not result in a cumulatively significant increase in TAC emissions.

Conclusion

The proposed Green Valley Center project would result in less than significant cumulative impacts of ozone precursors (ROG and NOx), CO, PM10, SO_2, NO_2, and TACs.

Please let me know if you have any questions or comments about these findings.

Sincerely,

//ss//

Tim Rimpo

cc: George Carpenter – Winn Communities
Adam Baughman – EDCAPCD

Appendix A – URBEMIS Modeling Results

URBEMIS Results for Existing Zoning – 34 Single Family Residential Units

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:_URS Projects\Green Valley\Green Valley Buildout Existing Zoning.urb924

Project Name: Existing Zoning

Project Location: Mountain Counties Air Basin

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx
TOTALS (tons/year, unmitigated)	4.26	0.20

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx
TOTALS (tons/year, unmitigated)	0.52	0.58

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx
TOTALS (tons/year, unmitigated)	4.78	0.78

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx
Natural Gas	0.01	0.13
Hearth	3.77	0.07
Landscape	0.05	0.00
Consumer Products	0.30	
Architectural Coatings	0.13	
TOTALS (tons/year, unmitigated)	4.26	0.20

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX
Single family housing	0.52	0.58
TOTALS (tons/year, unmitigated)	0.52	0.58

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2020 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	6.85	9.57	dwelling units	34.00	325.38	3,476.39
					325.38	3,476.39

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.7	0.0	99.7	0.3
Light Truck < 3750 lbs	24.3	0.0	95.1	4.9
Light Truck 3751-5750 lbs	19.8	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.2	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	76.0	24.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	39.1	60.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	0.0	85.0	15.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						

URBEMIS Results for Proposed Project – Green Valley Center

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:_URS Projects\Green Valley\Green Valley Center.urb924

Project Name: Green Valley Center

Project Location: Mountain Counties Air Basin

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx
TOTALS (tons/year, unmitigated)	0.06	0.05

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx
TOTALS (tons/year, unmitigated)	2.70	2.30

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx
TOTALS (tons/year, unmitigated)	2.76	2.35

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx
Natural Gas	0.00	0.04
Hearth	0.00	0.00
Landscape	0.03	0.01
Consumer Products	0.00	
Architectural Coatings	0.03	
TOTALS (tons/year, unmitigated)	0.06	0.05

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX
Fast food rest. w/ drive thru	1.59	1.26
General office building	0.15	0.15
Pharmacy/drugstore with drive through	0.96	0.89
TOTALS (tons/year, unmitigated)	2.70	2.30

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2020 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Fast food rest. w/ drive thru		385.50	1000 sq ft	5.50	2,120.25	5,992.66
General office building		19.20	1000 sq ft	7.00	134.40	871.73
Pharmacy/drugstore with drive through		68.70	1000 sq ft	16.50	1,133.55	4,621.75
					3,388.20	11,486.14

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.7	0.0	99.7	0.3
Light Truck < 3750 lbs	24.3	0.0	95.1	4.9
Light Truck 3751-5750 lbs	19.8	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.2	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	76.0	24.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	39.1	60.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	0.0	85.0	15.0

Travel Conditions

Residential	Commercial

	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Fast food rest. w/ drive thru				5.0	2.5	92.5
General office building				35.0	17.5	47.5
Pharmacy/drugstore with drive through				2.0	1.0	97.0

Operational Changes to Defaults

Greenhouse Analysis for the Green Valley Center Development Proposed for El Dorado Hills, California

Prepared for:
Winn Communities, Inc.
3001 I Street, Suite 300
Sacramento, California 95816
Contact: George Carpenter Jr.
Phone: (916) 930-0925

Prepared by:
URS Corporation
2870 Gateway Oaks Drive, Suite 150
Sacramento, CA 95833
Contact: Tim Rimpo
Phone: (916) 679-2332

March 2, 2012

Table of Contents

Introduction and Project Description

This report evaluates the greenhouse gas (GHG) impacts associated with the Green Valley Center project to be located southwest of the Green Valley Road/Francisco Drive intersection in El Dorado Hills, California. The project consists of a 16,500 square foot drugstore, a 5,500 square foot fast food restaurant, and a 7,000 square foot office building.

A December 16, 2010 report prepared by URS Corporation evaluated the air quality impacts associated with this project (URS, 2010). That report did not address the project's GHG emissions.

This report estimates the project's construction and operational GHG emissions. Project construction would generate GHG emissions from site grading, building construction, and by paving roads and parking lots. Construction would begin in late 2012 or early 2013.

Operations would begin in 2013. When operating, the project would generate GHG emissions from vehicle trips to and from the buildings and by area sources. Area sources include fuel combustion emissions associated with water and space heating (primarily from natural gas combustion) and from landscape maintenance equipment. Indirect GHG emissions would be generated by building electricity use and by electricity used to supply water and treat wastewater. Solid waste generated during business activities would also generate GHG emissions during decomposition in the regional landfill.

Greenhouse Gases and Climate Change

Global climate change is caused by anthropogenic emissions of GHGs released into the atmosphere through combustion of fossil fuels and other greenhouse gas-producing activities such as deforestation and land use change.

GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which could have otherwise escaped to space. Prominent GHGs contributing to this process include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and certain hydro- and fluorocarbons. This phenomenon, known as the "greenhouse effect," keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life.

Global warming potential (GWP) is a measure of how much a given mass of GHG is estimated to contribute to global warming. It is a relative scale that compares the gas in question to that of the same mass of carbon dioxide (whose GWP is by definition 1). In this analysis, CH_4 is assumed to have a GWP of 21 and N_2O has a GWP of 310

(California Climate Action Registry, 2009). Using each pollutant's GWP, emissions of CO_2, CH_4, and N_2O are converted into CO_2 equivalence, denoted as CO_2e.

Greenhouse Gas Regulatory Environment

International and National Regulation of Greenhouse Gases

International and Federal legislation has been enacted to deal with climate change issues. The Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. In October 1993, President Clinton announced his Climate Change Action Plan, which had a goal to return GHG emissions to 1990 levels by 2000. On March 21, 1994, the United States joined with several countries to sign the United Nations Framework Convention on Climate Change. Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices, and to launch national strategies for addressing GHG.

The Kyoto Protocol is a United Nations Framework Convention on Climate Change protocol designed to reduce GHGs that cause climate change. The protocol was agreed to at the third Conference of the Parties in Kyoto, Japan in December 1997. As of November 2007, 175 parties had ratified the protocol. Of these, 36 developed countries are required to reduce GHG emissions to the levels specified for each of them in the treaty (representing over 61.6% of emissions from Annex I countries). One hundred and thirty-seven (137) developing countries have ratified the protocol, including Brazil, China, and India, but have no obligation beyond monitoring and reporting emissions. The United States, although a signatory to the Kyoto Protocol, has neither ratified nor withdrawn from the Protocol. The signature alone is symbolic, as the Kyoto Protocol is non-binding on the United States unless ratified. Several subsequent international conventions have been held by the United Nations Framework Convention on Climate Change, including a 2007 conference in Bali, Indonesia, a 2008 conference in Bangkok, Thailand, a 2009 conference in Copenhagen, Denmark, a 2010 conference in Cancun, Mexico, and a 2011 conference in Durban, South Africa (United Nations Framework on Climate Change, 2011).

State Regulation of Greenhouse Gases

California Global Warming Solutions Act of 2006 (AB32)

In 2006, the California state legislature adopted the California Global Warming Solutions Act of 2006. AB32 establishes a cap on statewide GHG emissions and sets forth the regulatory framework to achieve the corresponding reduction in statewide emission levels. Under AB32, GHGs are defined as CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

AB32 requires that the California Air Resources Board (ARB):

- Adopt early action measures to reduce GHG;
- Establish a statewide GHG emissions cap for 2020 based on 1990 emissions;
- Adopt mandatory report rules for significant GHG sources;

- Adopt a scoping plan indicating how emission reductions will be achieved via regulations, market mechanisms, and other actions; and
- Adopt regulations needed to achieve the maximum technologically feasible and cost-effective reductions in GHGs.

Actions Taken by the California Air Resources Board

The California Air Resources Board has taken several actions to implement AB 32, including several early action items. In addition, ARB prepared a Climate Change Scoping Plan that outlines its strategy for reducing California's 2020 GHG levels to 1990 levels (CARB, 2008). ARB's Scoping Plan is designed to reduce 2020 business as usual GHG emissions by 30%.

In April 2009, the California ARB approved a Low Carbon Fuels Standard (LCFS). This standard requires that all motor fuels in California be reformulated to reduce fuel life-cycle carbon content by 10 percent by 2020. This will reduce direct fuel consumption carbon emissions by 7.2 percent by 2020. This standard takes effect in 2010 and will be fully ramped in by 2020.

The Pavley regulations enacted by ARB reduce GHG emissions in light duty autos and trucks, and medium duty trucks from 2009 through 2016. Pavely reduces GHG emissions (and emissions of criteria pollutants) by requiring energy efficiency improvements. Consequently, the Pavley emission reductions are only applied to a percentage of the total vehicle fleet. They do not affect other vehicles, such as heavy-duty vehicles, buses, and motorcycles.

Renewable Portfolio Standard

Established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107 and expanded in 2011 under Senate Bill 2, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020. The California Public Utilities Commission (CPUC) and the California Energy Commission jointly implement the RPS program. This program will make substantial reductions in GHG emissions from California's electricity providers. The RPS is also included as part of ARB's Scoping Plan (CARB, 2008).

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. The bill directs the California Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency certified those guidelines on December 30, 2009. The Amendments became effective on March 18, 2010. The adopted CEQA Guideline amendments require lead agencies to:

- Calculate or estimate the amount of GHGs produced by a project using either a quantitative modeling approach or a qualitative approach that includes performance standards,
- Use one or more of several approaches to determine the significance of emissions, including:
  - the amount of the project's emissions increase over existing conditions,
  - the level of emissions compared to a significance threshold, and/or
  - project compliance with an existing statewide, regional, or local plan to mitigate GHG emissions.

Actions Taken by California Attorney General's Office

The California Attorney General (AG) has filed comment letters under CEQA about a number of proposed projects. The AG has also filed several complaints and obtained settlement agreements for CEQA documents covering general plans and individual projects that the AG found either failed to analyze GHG emissions or failed to provide adequate GHG mitigation. The AG's office has prepared a report that lists measures that local agencies should consider under CEQA to offset or reduce global warming impacts. The AG's office also has prepared a chart of modeling tools to estimate GHG emission impacts of projects and plans. Information on the AG's actions can be found on the California Department of Justice website (California Department of Justice 2011).

Local Regulation of Greenhouse Gases

To date, neither the El Dorado County nor the El Dorado County Air Quality Management District has established GHG significance thresholds for projects.

GHG Impacts and Mitigation Measures

CEQA Thresholds of Significance

Using the California Environmental Quality Act checklist evaluation criteria, a project would result in significant greenhouse gas impacts if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As mentioned above, neither El Dorado County nor the El Dorado County Air Quality Management District have established GHG significance thresholds to assess project impacts under CEQA. The Sacramento Metropolitan Air Quality Management District (SMAQMD), although not specifying CEQA thresholds, has suggested that a project's construction emissions be amortized over the life of the project and added to the project's operational emissions.

The only air district in northern California that has established a GHG CEQA significance threshold is the Bay Area Air Quality Management District (BAAQMD).

BAAQMD has set the significance threshold at 1,100 metric tons CO_2e for operational emissions. BAAQMD has not established a GHG threshold for construction emissions. This analysis uses 1,100 metric tons CO_2e as the significance threshold for the Green Valley Center. The project's amortized construction emissions are added to its operational emissions to determine significance.

GHG Impacts

Table 1 shows that project construction will generate 349 metric tons of CO_2e. Construction emissions are based on the estimate of 34,619 gallons of diesel fuel that would be used during construction (URS, 2010). These 349 metric tons of CO_2e are amortized over 35 years, a conservative estimate for the project's life. The resulting value of 10 tons CO_2e per year is added to the project's operational emissions.

Table 1. Construction CO_2e Emissions

Year	CO_2e (metric tons/year)
2012	349
Amortized over 35 years	10
Notes: Based on 34,169 gallons of diesel fuel burned (URS, 2010). Emission factors based on California Climate Action Registry values of 10.15 kg CO_2/gallon, 0.58 grams CH_4/gallon, and 0.26 grams N_2O/gallon (California Climate Action Registry, 2009). Details available in Appendix A.	

Table 2 shows that the project's 2013 emissions would equal 1,068.5 metric tons CO_2e (operational emissions plus amortized construction emissions). These estimates account for the GHG emission reductions that will result from recent laws and regulations enacted to reduce such GHGs. These include reductions in transportation emissions associated with the Low Carbon Fuels Standard and the Pavley Rule and reductions in electricity use emissions resulting from California's Renewable Portfolio Standard.

Since emissions would be less than the 1,100 metric ton CO_2e threshold, the project would have a less than significant GHG impact.

Table 2. Green Valley Center's 2013 CO_2e Emissions

Emission Category	Metric Tons CO_2e/Year
Transportation	819.8
Area Source	0.7
Electricity	95.8
Natural Gas	63.4
Water & Wastewater	1.3
Solid Waste	77.5
Operational Totals	**1,058.5**
Amortized Construction Totals (from Table 1)	**10**
Grand Total	**1,068.5**
Notes: Emissions estimated using the URBEMIS2007 model and the BAAQMD's BGM model. Detailed emission estimates are included in Appendix A.	

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Appendix A

Construction Emissions

The project's construction-related GHG emissions were estimated using the amount of diesel fuel expected to be consumed during construction. This amount - 34,169 gallons diesel burned – was estimated in the air quality analysis for this project (URS, 2010).

Emission factors were based on the California Climate Action Registry's emission factors of 10.15 kg CO_2/gallon diesel, 0.58 grams CH_4/gallon diesel, and 0.26 grams N_2O/gallon diesel (California Climate Action Registry, 2009).

34,169 gallons diesel x 10.15 kilograms(kg) CO_2/gallon diesel x 2.2 pounds/kg x 2204 pounds/metric ton

= 346.2 metric tons CO_2

34,169 gallons diesel x 0.58 grams CH_4/gallon x metric ton/1,000,000 grams

= 0.02 metric tons CH_4

34,169 gallons diesel x 0.26 grams N_2O/gallon x metric ton/1,000,000 grams

= 0.0089 metric tons N_2O

Metric tons CO_2e = 346.2 metric tons CO_2 + (0.02 metric tons CH_4 x 21) + (0.0089 metric tons N_2O * 310)

= 349.38 metric tons CO_2e

Amortized over 35 years = 10 metric tons CO_2e/year (per guidance from the Sacramento Metropolitan Air Quality Management District)

Operational Emissions

Operational GHG emissions were estimated using the URBEMIS model and the Bay Area Air Quality Management District's BGM model. Both models are available at www.urbemis.com. The project's land uses were entered into the URBEMIS model. For each land use, the appropriate trip generation rates were also entered, based on information contained in the project traffic impact assessment (Kimley-Horn and Associates, Inc. 2010). The URBEMIS model results were used as inputs to the BGM model, which is described below following the URBEMIS modeling results.

URBEMIS Modeling Results

Page: 1
3/1/2012 02:33:34 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: F:\Winn Communities\GHG Report\Green Valley Center.urb924

Project Name: Green Valley Center

Project Location: Mountain Counties Air Basin

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	CO_2
TOTALS (tons/year, unmitigated)	46.71

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	951.84

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	998.55

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Natural Gas	45.95
Hearth	0.00
Landscape	0.76
Consumer Products	
Architectural Coatings	
TOTALS (tons/year, unmitigated)	46.71

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Fast food rest. w/o drive thru	453.72
General office building	113.12
Pharmacy/drugstore with drive through	385.00
TOTALS (tons/year, unmitigated)	951.84

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Fast food rest. w/o drive thru		384.00	1000 sq ft	5.50	2,112.00	2,324.21
General office building		20.00	1000 sq ft	7.00	140.00	627.59
Pharmacy/drugstore with drive through		69.00	1000 sq ft	16.50	1,138.50	2,068.93
					3,390.50	5,020.73

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.5	0.9	98.8	0.3
Light Truck < 3750 lbs	24.5	2.4	89.4	8.2
Light Truck 3751-5750 lbs	19.7	1.0	98.5	0.5
Med Truck 5751-8500 lbs	9.2	1.1	97.8	1.1

Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	41.7	58.3
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	54.7	45.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	0.0	85.0	15.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	3.5	3.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Fast food rest. w/o drive thru				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Pharmacy/drugstore with drive through				2.0	1.0	97.0

BGM Modeling Results

The BGM model stands for the BAAQMD Greenhouse Gas Model. This model is available at http://www.urbemis.com/software/download.html. BGM uses as input information developed by the URBEMIS model to generate detailed GHG emissions for a project. The individual components of BGM are described below.

BGM – Transportation

The BGM transportation component reads in the URBEMIS model transportation-related CO2 emissions. BGM first converts those emissions to metric units, increases the emissions by five percent to include total CO_2e emissions (U.S. EPA, 2005), then makes an adjustment for the Pavley Regulation and the Low Carbon Fuels Rule. The size of the adjustment for the Pavley Rule and the Low Carbon Fuels Rule depend on the target year.

Target Year:	2013
Transportation Emissions	**Project**
Operational Emissions from URBEMIS (CO_2 tons/year)	951.84
Metric Ton Adjustment (CO_2 metric tons/year)	863.74
US EPA Adjustment (CO_2e metric tons/year):	906.93
Pavley Regulation Adjustment (CO_2 metric tons/year):	825.76
Low Carbon Fuels Rule Adjustment (CO_2e metric tons/year)	819.81
Total (CO_2e metric tons/year):	819.81

BGM – Area Sources

Area sources consist of landscape maintenance CO_2 emissions estimated by URBEMIS, converted to metric tons.

Area Source Emissions

	Project
Landscaping Emissions from URBEMIS (CO_2 metric tons/year):	0.690
Hearth Emissions from URBEMIS (CO_2 metric tons/year):	0.000
Wood Burning Fireplaces (N_2O metric tons/year):	0.000
Natural Gas Fireplaces (N_2O metric tons/year):	0.000
Wood Burning Stoves (CH_4 metric tons/year):	0.000
Natural Gas Fireplaces (CH_4 metric tons/year):	0.000
Total (CO_2e metric tons/year):	0.690
Total (CO_2e metric tons/year):	0.690

BGM – Electricity

Existing land use information and energy use factors were used to estimate 2013 direct electricity use. Electricity use associated with water use and wastewater treatment was estimated separately and is discussed in the water and wastewater section.

Electricity use was estimated by multiplying, for each land use, total square footage by electricity use in kwh/square foot-yr.

Land Use Type	Square Footage (1,000)	Estimated Electricity Use/Year (kwh/sf-yr)	Estimated Electricity Use/Year (Megawatt-hours)
Fast Food	5.5	31.41	172.76
General Office	7.0	15.25	106.75
Pharmacy	16.5	12.65	208.73
Source: Itron, Inc. 2006.			

Three GHG emission rates for electricity were used for the baseline inventory as shown in the following table.

431.0 pounds CO_2/megawatt-hour	Source: PG&E 2011
0.0067 pounds CH_4/megawatt-hour	Source: California Climate Action Registry 2009
0.0037 pounds N_2O/megawatt-hour	Source: California Climate Action Registry 2009

Source: PG&E 2011; California Climate Action Registry 2009.

The CO_2 emission rate is specific to PG&E electricity use and is more accurate in this case than California-wide electricity emission rates. PG&E does not publish CH_4 or N_2O-specific emission rates. Consequently, statewide rates were used for these two pollutants.

To estimate GHG emissions, electricity use was multiplied by the emission factors shown above, and the results were converted to metric tons, which were then were multiplied by each pollutant's global warming potential and added together to obtain total electric use CO_2e emissions.

Electricity Emissions	**Project**
metric tons/year CO_2:	95.5
metric tons/year CH_4:	0.001
metric tons/year N_2O:	0.001
CO_2e metric tons/year:	95.75

BGM – Natural Gas

Existing land use information and energy use factors were used to estimate natural gas use. Natural gas use was estimated by multiplying total square footage by a natural gas use in MMBtu/square foot-yr.

Land Use Type	Square Footage (1,000)	Estimated Natural Gas Use/Year (MMBtu/ square foot)	Estimated Natural Gas Use (MMBtu/year)
Fast Food	5.5	171.08	940.94
General Office	7.0	23.28	162.98
Pharmacy	16.5	5.51	90.95
Source: Itron, Inc. 2006			

Three GHG emission rates for natural gas use were used for the baseline inventory as shown below.

53.05 kg CO_2/MMBtu
0.005 kg CH_4/MMBtu
0.0001 kg N_2O/MMBtu
Source: California Climate Action Registry 2009.

To estimate GHG emissions, the project's natural gas use was multiplied by the emission factors shown above, and the results were converted to metric tons. Then, metric tons were multiplied by each pollutant's global warming potential and added together to obtain total natural gas use CO_2e emissions, as shown in the following table.

GHG Emissions	Project
CO_2 metric tons/year	63.28
CH_4 metric tons/year:	0.01
N_2O metric tons/year:	0.00
CO_2e metric tons/year:	63.45

BGM – Water and Wastewater

A three step approach was used to estimate GHG emissions associated with water use and wastewater disposal. In the first step, the amount of water used and the amount of wastewater disposed of was estimated for the project. The amount of water used was based on gallons per capita estimates for the project's commercial land uses. The quantities of water were then divided into indoor and outdoor use. All indoor water use was assumed to be disposed of by wastewater treatment.

The equations used to estimate water use are as follows:

Commercial Uses

Million Gallons H_2O/year = (5,500 sq. ft./fast food restaurant) x (1 restaurant/ 600 sq.ft. per employee) x (85.59 gallons/employee-day) x (365 days/yr) x (million gallons /1,000,000) + (7,000 sq. ft./office) x (1 office unit/ 400 sq.ft. per employee) x (85.59 gallons/employee-day) x (365 days/yr) x (million gallons /1,000,000) + (16,500 sq. ft. pharmacy) x (1 pharmacy /900 sq.ft. per employee) x (85.59 gallons/employee-day) x (365 days/yr) x (million gallons /1,000,000)

= 1.4058 million gallons/year

% indoor water use	0.636
% outdoor water use	0.364
Total	1.00
Source: URS Corporation and Maddaeus Water Management, 2004.	

Indoor use = 0.636 x 1.4058 million gallons/year
= 0.894 million gallons/year

Outdoor use = 0.364 x 1.4058 million gallons/year
= 0.509 million gallons/year

The second step involves estimating energy use associated with this water demand. Electricity consumption associated with water use was based on a report prepared for the California Energy Commission (Navigant 2006). The table below summarizes the electricity consumption associated with water use.

	Indoor Uses		**Outdoor Uses**	
	Northern California (kWh/MG)	**Southern California (kWh/MG)**	**Northern California (kWh/MG)**	**Southern California (kWh/MG)**
Water Supply and Conveyance	2,117	9,727	2,117	9,727
Water Treatment	111	111	111	111
Water Distribution	1,272	1,272	1,272	1,272
Wastewater Treatment	1,911	1,911	0	0
Regional Total	**5,411**	**13,022**	**3,500**	**11,111**

Source: Navigant Consulting 2006.

Using the indoor and outdoor water use estimated in Step 1, electricity use associated with that water was estimated separately using the kilowatt hours per million gallon estimates shown in the table above.

Indoor Energy use

MWh/year = (5411 kwh/million gallons) x (0.894 million gallons/year) x (mwh/1000 kwh)
= 4.837 mwh/year

Outdoor Energy Use

MWh/year = (3500 kwh/million gallons) x (0.509 million gallons/year) x (mwh/1000 kwh)
= 1.782 mwh/year

Total Indoor + Outdoor Electricity Use Associated with Water Use = 4.837 mwh/year (indoor) + 1.782 mwh/year (outdoor)
= 6.619 mwh/year

Greenhouse Gas Emissions Associated with Water-Related Electricity Use

The third step involves estimating GHG emissions associated with the water- and wastewater- related electricity use estimated in Step 2.

Metric tons CO_2 = (431.00 lbs CO_2 /mwh) x (6.619 mwh/year) x (metric ton/2204 lbs)
= 1.29 metric tons CO_2/year

Metric tons CH_4 = (0.0067 lbs CH_4/mwh) x (6.619 mwh/year) x (metric ton/2204 lbs)
= 0.00002 metric tons CH_4/year

Metric tons N_2O = (0.0037 lbs N_2O /mwh) x (6.619 mwh/year) x (metric ton/2204 lbs)
= 0.00001 metric tons N_2O /year

Metric tons CO_2e = 1.29 metric tons CO_2e

(Note: global warming potential of 1 for carbon dioxide, 21 for methane, and 310 for nitrous oxide based on California Climate Action Registry General Reporting Protocol [2009]).

BGM – Solid Waste

A two-step process was used to estimate GHG emissions with solid waste disposal. In step one, the amount of solid waste generated by the project was estimated.

Solid waste generation/year = (5,500 sf fast food x 0.0009 tons solid waste/sf-yr) + (7,000 sf office x 0.0108 tons solid waste/sf-yr)+ (16,500 sf retail x 0.0024 tons solid waste/sf-yr)
= 120.15 tons solid waste/year

In the second step, emissions were estimated for hauling solid waste to the landfill and for the decomposition of that waste. The emission rates applied for solid waste handling were based on those included in the United States EPA's WARM model. EPA created the Waste Reduction Model (WARM) to help solid waste planners and organizations track and voluntarily report greenhouse gas emissions from several different waste management practices (EPA 2010). This spreadsheet model was most recently updated in August 2010.

WARM calculates and totals GHG emissions of waste management practices: source reduction, recycling, combustion, composting, and landfilling. The model calculates emissions in metric tons of carbon dioxide equivalent (MT CO_2e) across a wide range of material types commonly found in municipal solid waste (MSW). The WARM Model also includes estimates of VMT associated with waste hauling. For this analysis, WARM was used to estimate metric tons of CO_2e for the project's solid waste volumes.

Hauling Emissions

Project	Assumptions
Average Round Trip Truck Haul Distance (miles):	40.00
Solid Waste Truck Capacity (tons):	15.00
Round Trips/Year:	8.01
Miles per Year:	320.4

Year	CO_2 (grams/mile)	Methane (grams/mile)
2013	1,815.93	0.06

Metric tons CO_2/year = 320.4 miles per year x 1,815.93 grams CO_2/mile x lb/454 grams x metric ton/2204 lbs
= 0.58 metric tons CO_2

Metric tons CH_4/year = 320.4 miles per year x 0.06 grams CH_4/mile x lb/454 grams x metric ton/2204 lbs
= 0.00 metric tons CH_4

CO_2e = 0.58 metric tons CO_2e

Landfill Methane Emissions

Metric tons CO_2e/year = 120.15 tons solid waste/year x 0.64 metric tons CO_2e/ton solid waste (landfilling with flaring)
= 76.9 metric tons CO_2e/year

Total Solid Waste Emissions = 0.58 metric tons CO_2e per year (hauling) + 76.9 metric tons CO_2e per year (landfilling with flaring)
= 77.5 metric tons CO_2e/year

BGM – Total Results

Results	Project- CO_2e (metric tons/year)
Transportation:	819.81
Area Source:	0.69
Electricity:	95.75
Natural Gas:	63.45
Water & Wastewater:	1.30
Solid Waste:	77.46
Total:	1,058.46

DRAFT

Air Quality Analysis for the Green Valley Center Development Proposed for El Dorado Hills, California

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December 16, 2010

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Executive Summary

This report evaluates the air quality impacts associated with the Green Valley Center commercial development to be located southwest of the Green Valley Road/Francisco Drive intersection in El Dorado Hills, California. The project consists of a 16,500 square foot drugstore, a 5,500 square foot fast foot restaurant, and a 7,000 square foot office building.

Project construction would generate emissions from site grading, building construction, and by paving roads and parking lots. When operating, the project would generate emissions from vehicle trips to and from the buildings and by area sources. Area sources include fuel combustion emissions associated with water and space heating (primarily from natural gas combustion) and from landscape maintenance equipment.

The El Dorado County Air Quality Management District's (EDCAQMD) Guide to Air Quality Assessment document describes how to evaluate the significance of a project's construction and operational emissions and was used for this analysis. The project's significant impacts would all be associated with construction. No significant operational impacts were identified.

The project has the potential to cause significant construction-related air impacts. All construction impacts can be mitigated to below the EDCAQMD's significant thresholds, as described below:

- The project's construction-related dust impacts can be mitigated to a less than significant level by complying with the EDCAQMD's Dust Rule 223-1.
- The project's diesel exhaust emissions can be mitigated to a less than significant level by using off-road construction equipment equipped with engines of 1996 or later model year.

The project is located outside of the area likely to contain naturally occurring asbestos (NOA) as defined by the El Dorado County's Asbestos Review Map. A soil survey conducted for the site did not report any naturally occurring asbestos on the project site. Therefore, this air quality analysis assumes that the project's potential for disturbing asbestos containing soils is less than significant. As a precaution, however, we have specified mitigation that should be used if NOA is discovered during construction.

Introduction

This report evaluates the air quality impacts associated with the Green Valley Center commercial development to be located southwest of the Green Valley Road/Francisco Drive intersection in El Dorado Hills, California. The project consists of a 16,500 square foot drugstore, a 5,500 square foot fast foot restaurant, and a 7,000 square foot office building.

Project construction would generate emissions from site grading, building construction, and by paving roads and parking lots. Construction would start in March 2012 and would be finished by December 2012.

The project would begin operating in early 2013. When operating, the project would generate emissions from vehicle trips to and from the buildings and by area sources. Area sources include fuel combustion emissions associated with water and space heating (primarily from natural gas combustion) and from landscape maintenance equipment.

This air quality report is divided into a discussion of existing air quality conditions and environmental impacts. In the existing conditions section, the report describes the environmental setting followed by the regulatory setting. The environmental impacts discussion describes the significance criteria, evaluates whether the project would violate those criteria, and identifies mitigation measures to reduce or eliminate any significant air quality impacts.

Existing Air Quality Conditions

Air quality in a region is determined by existing environmental factors and the regulatory environment. The key environmental factors include topography, meteorology, and existing air pollution sources. These factors, together with the current regulatory structure that applies to the project area, are discussed below.

Environmental Setting

This section describes the meteorology and climate in the area of the proposed project, the health effects of the pollutants of most concern from the project, existing air quality in the project vicinity, and the sensitive receptors in the project area.

Meteorology and Climate

Air quality is affected by several factors, including the rate, amount, and location of pollutant emissions; meteorological conditions that influence the movement and dispersal of pollutants (i.e., wind speed, wind direction, and air temperature); and local surface topography (i.e., geographic features such as mountains and valleys).

The project is located in El Dorado County, which is located within the Mountain Counties Air Basin (MCAB). The MCAB's climate is influenced by the foothill and mountainous terrain of the region. El Dorado County is bordered by the Sacramento Valley on the west and Nevada to the east. The western portion of the County consists of rolling Sierra foothills, while the central and eastern portions form granite peaks that reach up to 10,000 feet in elevation.

Hot dry summers and cool moist winters characterize the climate of El Dorado County. The western portion of the County experiences higher temperatures and lower annual rainfall, while the central and eastern portions of the County have lower temperatures and higher annual rainfall.

Wind direction and wind speed play a major role in dispersion and subsequent dilution of air pollutants. Although site-specific wind data are not available for the project site, air moves diurnally throughout the mountainous regions of the Sierra in a characteristic fashion. Air moves from the Central Valley floor up the canyons of the western Sierra slope during morning and day and down the canyons of the western Sierra slope to the Central Valley floor during the evenings and at night.

Criteria Pollutants

National ambient air quality standards (NAAQS) have been established for several air pollutants, also called criteria pollutants (Table 1). California ambient air quality standards (CAAQS) have also been established that are equal to or more stringent than the NAAQS. The NAAQS and CAAQS are designed to protect human health and welfare, and to prevent materials soiling, visibility impacts, and crop damage. Ozone precursors, carbon monoxide, and particulate matter are the criteria pollutants that would be emitted in the greatest quantities by the proposed project.

Ozone. Ozone is not emission directly, but rather is a secondary pollutant produced in the lower atmosphere through a series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx), which are themselves directly emitted. Ozone is primarily a summer and fall pollution problem. Ozone control involves limiting ozone precursor emissions (i.e., ROG and NOx). In relatively low concentrations, ozone can damage vegetation and crack rubber. At higher concentrations, ozone can affect public health by directly damaging the lungs.

Carbon Monoxide. Carbon monoxide (CO) is generated in all forms of organic combustion (e.g., vehicles, natural gas combustion). CO is a colorless, odorless, non-reactive pollutant. Ambient CO concentrations generally follow the spatial and temporal distributions of vehicle traffic and are influenced by meteorological factors, such as wind speed and atmospheric mixing. When strong surface inversions that form on winter nights are coupled with near-calm winds, CO from automobile exhaust can become concentrated. CO can interfere with oxygen transport in the blood. It may cause dizziness and fatigue and can impair central nervous system function.

Table 1. California and National Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [1,5]	Secondary [1,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15.0 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3) (see footnote 8)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3) (see footnote 8)	None	
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	—	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method) [9]
	3 Hour	—		—	0.5 ppm (1300 µg/m^3) (see footnote 9)	
	1 Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3) (see footnote 9)	—	
Lead [10]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average [11]	—		0.15 µg/m^3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [10]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

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California Air Resources Board (09/08/10)

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.

9. On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

11. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

r more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (09/08/10)

Particulate Matter. Inhalable particulate matter (PM10) consists of particles less than 10 microns in diameter. Fine particulate matter (PM2.5) consists of particles less than 2.5 microns in diameter. These airborne particles are small enough to be inhaled deeply within the lungs, potentially causing lung irritation and associated health impacts. Particles within the atmosphere result from many kinds of dust and fume-producing industrial and agricultural operations, combustion, and atmospheric photochemical reactions. Very small particles of certain substances can cause direct lung damage or can contain absorbed gases that may be injurious. PM10 and PM2.5 can also be comprised of liquids in the form of aerosols or mists.

Major components of particulate matter emissions include compounds that create ozone, specifically ROG and NOx. These ozone precursors can react in the air to form inhalable aerosols. Particulate matter can remain the atmosphere for up to 7 days. The exact residence time of particulates in the air depends on many factors, including particle size, mass, and atmospheric conditions. Particles are removed by gravitational settling, rainout, and washout.

Non-Criteria Pollutants

Non-criteria pollutants, also known as toxic air contaminants (TACs), include substances that can cause short- or long-term health effects, but for which no federal or state ambient air quality standards have been set. The TACs of most concern from the proposed project are diesel exhaust and asbestos.

Diesel Exhaust. The particulate component of diesel exhaust has been classified as a TAC by the California Air Resources Board (ARB). The EDCAQMD has established screening levels for diesel fuel use projects. Those screening levels are evaluated in this air quality report.

Asbestos. Asbestos is listed as a TAC by ARB and a hazardous air pollutant (HAP) by the U.S. Environmental Protection Agency (EPA). Asbestos is of special concern in El Dorado County because it occurs in surface deposits of several types of ultramafic minerals.

Existing Air Quality

This section summarizes criteria pollutant concentrations for monitoring sites located near the project. No monitoring data are available in the project vicinity for the PM10 fraction of diesel exhaust or asbestos.

EDCAQMD collects ambient air quality data through a network of monitoring stations. These data are summarized annually and published on ARB's website: http://www.arb.ca.gov/adam/. Table 2 provides a three year summary of the highest annual concentrations observed in the project area for ozone and PM10 for the years 2007 through 2009. Data were collected at the monitoring sites in Folsom, at the Sacramento County Branch Center, and in Placerville.

CO monitoring results are not shown because CO is no longer monitored at any sites located near the proposed project.

The data show that the 8-hour state and federal ozone standards and 1-hour state ozone standards were exceeded several times during each of the past three years at both the Folsom and Placerville monitoring stations. PM10 monitoring data for the Sacramento County Branch Center shows exceedances of the 24-hour state standard during each of the most recent three years of monitoring, while PM10 monitoring data at the Placerville Gold Nugget Way station shows one exceedance during the three year period.

Table 2. Air Quality Monitoring Data Summary (2007-2009) for the Project Area

Pollutant	2007	2008	2009
Ozone			
Folsom – Natomas Street			
Highest 1-hour average, ppm	0.129	0.166	0.120
Highest 8-hour average, ppm	**0.122**	**0.123**	**0.104**
Days > State 1-hour standard	13	38	24
Days > Federal 8-hour standard	21	50	35
Percent of Year Covered	94	97	94
Placerville – Gold Nugget Way			
Highest 1-hour average, ppm	0.115	0.139	0.113
Highest 8-hour average, ppm	**0.106**	**0.118**	**0.094**
Days > State 1-hour standard	4	16	6
Days > Federal 8-hour standard	9	36	20
Percent of Year Covered	81	96	99
Particulate Matter (PM10)			
Sacramento – Branch Center			
Highest 24-hour average, µg/m^3	**60.0**	**89.0**	**76.0**
Days > State standard	5	11	2
Percent of Year Covered	98	99	100
Placerville – Gold Nugget Way			
Highest 24-hour average, µg/m^3	36.0	**51.4**	14.8
Days > State standard	0	1	0
Percent of Year Covered	99	100	10

Note: Underlined values represent those in excess of the National Ambient Air Quality Standards. **Bolded values** represent those in excess of the applicable California Ambient Air Quality Standards.
ppm = parts per million, µg/m^3 = micrograms per cubic meter
Source: CARB – http://www.arb.ca.gov/adam

Sensitive Receptors

Some land uses are considered more sensitive to air pollution and odors than others because of the types of population groups or activities involved. Land uses such as schools, hospitals, and convalescent homes are considered sensitive to poor air quality because the young, the old, and the sick are more susceptible to respiratory infections and other air quality-related health problems than the public. Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods, resulting in sustained exposure to pollutants that may be present.

Regulatory Setting

Air quality within California is regulated by an overlapping array of federal, state, and local laws and regulations. The Federal Clean Air Act amendments (FCAA) of 1990 delegated certain clean air responsibilities to the states. In California, CARB has delegated several responsibilities to individual air districts. The roles and responsibilities of the federal, state, and local governments as they apply to the proposed project are discussed below.

Federal Air Quality Responsibilities

As required by the FCAA, the EPA has established and continues to update the NAAQS for the original six "criteria" air pollutants: ozone, CO, nitrogen dioxide (NO), PM10, PM2.5, and lead (Pb). Standards for these pollutants (listed in Table 1) represent the levels of air quality necessary, with an adequate margin of safety, to protect the public health and welfare.

The FCAA requires states to classify air basins (or portions thereof) as either "attainment" or "non-attainment" with respect to criteria air pollutants, based on whether the NAAQS have been achieved, and to prepare air quality plans containing emission reduction strategies for those areas designated as "non-attainment." The El Dorado County portion of the Mountain Counties Air Basin in which the proposed project is located is designated as a serious non-attainment area for federal 8-hour ozone and 24-hour PM2.5 NAAQS.

California Air Quality Responsibilities

The California Air Resources Board (CARB) has been delegated responsibility by the EPA for implementing many air quality responsibilities described in the FCAA. In addition, CARB has the primary responsibility for successful implementation of the California Clean Air Act (CCAA), which established the CAAQS. In 1988, California passed the CCAA, which like its federal counterpart, called for designations of areas as attainment or non-attainment (but in reference to CAAQS rather than NAAQS). El

Dorado County has been designated as nonattainment for the 1-hour ozone and 24-hour PM10 CAAQS.

The CCAA distinguishes between criteria air pollutants and TACs. Criteria air pollutants are those for which health-based concentration standards were first promulgated under the 1970 Amendments to the FCAA. Regulation of criteria air pollutants is achieved through federal and state ambient air quality (concentration) standards (CAAQS) and emission limits for individual sources. TACs are airborne substances capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness) but for which CAAQS have not been set.

El Dorado County Air Quality Management District Responsibilities

The EDCAQMD has several air quality responsibilities delegated to it under the FCAA and the CCAA. The EDCAQMD establishes rules and regulations to limit emissions from individual emission sources, conducts its own air quality monitoring program, issues permits for stationary sources, and prepares air quality plans for attaining the state and federal ambient standards. The project applicant would be required to comply with EDCAQMD Rule 223-1– Fugitive Dust: Construction, Bulk Material Handling, Other Earthmoving Activities and Carryout and Trackout Prevention. Rule 223-1 limits dust emissions from construction activities and was most recently amended on October 18, 2005. The EDCAQMD has also prepared air quality guidelines to facilitate the review of air quality impacts for projects in El Dorado County (El Dorado County Air Pollution Control District, 2002). In addition, the EDCAQMD is responsible for evaluating the health risks for projects as required by the Air Toxics "Hot Spots" Information and Assessment Act of 1987.

In July 2001, CARB adopted airborne toxics control measures (ATCM) [17 CCR §93105] limiting emissions of asbestos from construction, grading, quarrying, and surface mining in areas with ultramafic rock. Unless replaced by an EDCAQMD regulation, these ATCMs must be enforced by the EDCAQMD. However, on July 19, 2005, the adopted Rule 223-2 for asbestos regulation, which was subsequently amended on October 18, 2005. For projects in El Dorado County, project applicants must demonstrate either that no naturally occurring asbestos (NOA) occurs on the site or they must comply with Rule 223-2.

Air Quality Impacts

CEQA Thresholds of Significance

Using the California Environmental Quality Act checklist evaluation criteria (http://ceres.ca.gov/topic/env_law/ceqa/rev/appg_102698.pdf), the project would result in significant air quality impacts if it would:

- conflict with or obstruct implementation of the applicable air quality plan;

- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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 that exceed quantitative thresholds for ozone precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people.

Because the CEQA thresholds shown above are qualitative, several air districts, including the EDCAQMD, have developed their own quantitative thresholds. The EDCAQMD's thresholds can be grouped into two categories: construction and operational (El Dorado County Air Pollution Control District, 2002). These two categories are discussed separately below.

El Dorado County Construction Thresholds of Significance

For construction projects, the EDCAQMD has established four separate thresholds that apply to this project. They include:

- construction dust,
- asbestos,
- criteria pollutant emissions, and
- TAC emissions from diesel exhaust.

Each of these construction thresholds is described below.

Construction Dust Threshold

Construction-related emissions are generally short term in duration, but may still cause adverse air quality impacts. PM10 is the pollutant of greatest concern with respect to construction activities. PM10 emissions can result from a variety of construction activities, including excavation, grading, paving, vehicle travel on paved and unpaved surfaces, and vehicle equipment and exhaust.

Because PM2.5 air quality standards are relatively recent, the EDCAQMD's Guide to Air Quality Assessment (El Dorado County Air Pollution Control District 2002) focuses on PM10 rather than PM2.5. According to the guide, mass emissions of PM10 fugitive dust need not be quantified, and may be assumed not significant, if the project includes mitigation measures that will prevent visible dust beyond the property lines. However, without mitigation, uncontrolled fugitive dust would be considered a significant impact. Mitigation measures can reduce fugitive dust emissions by approximately 50-75%. Because the proposed project does not include the implementation of PM10 construction mitigation measures, construction emissions could have a potentially significant temporary air quality impact. Implementation of the following mitigation measure will reduce emissions to a less than significant level.

Impacts and Mitigation Measures: Construction Dust

IMPACT AIR -1. DUST EMISSIONS. The construction activities associated with site construction would generate PM10 dust emissions that could exceed either the state or federal ambient air quality standards for PM10. This would be a potentially significant impact during construction.

> **Mitigation Measure: Dust Emissions.** The applicant shall comply with the EDCAQMD's Rule 223-1, designed to control emissions associated with construction activities. Compliance with Rule 223-1 will ensure that this impact is reduced to a less than significant level (El Dorado County Air Quality Management District, 2005).

Construction-Related Asbestos Dust Threshold

Several areas of El Dorado County contain ultramafic rocks and faults where serpentine rock and naturally occurring asbestos (NOA) can occur. Any project that is located in an area that includes ultramafic rock, which often contains NOA, could potentially release asbestos during construction. When this rock is broken or crushed, asbestos may be released and become airborne, causing a potential health hazard. Consequently, any project located in an area of known ultramafic rock is considered potentially significant with respect to the release of asbestos during construction.

Impacts and Mitigation Measures –Naturally Occurring Asbestos

IMPACT AIR-2. ASBESTOS EMISSIONS. Construction of the proposed project would involve grading, excavating, and trenching. The proposed project is located outside of areas designated as potentially having NOA according to the Asbestos Review Map of El Dorado County Western Slope. In addition, Youngdahl & Associates Consulting Group conducted soil sampling at the proposed project site. Youngdahl & Associates does not report any NOA on the project site (Youngdahl & Associates, 1989). Since surveys did not report NOA on the project site, impacts are considered less than significant. However, the following mitigation measure should be implemented if NOA is found on the project site during construction.

Mitigation Measure – Asbestos Emissions. The applicant shall comply with EDCAQMD's Rule 223-2. Compliance with that rule will reduce the exposure of workers and residents living in the project vicinity to a less than significant level.

Construction-Related Criteria Pollutant Thresholds

The EDCAQMD has established maximum daily and construction period diesel fuel use thresholds designed to ensure that criteria pollutant emissions are less than the mass emission significance thresholds. A project's emissions of all criteria pollutants are deemed to be less than significant if its maximum daily fuel use is less than 337 gallons diesel fuel used for all equipment of 1995 model year or earlier or 402 gallons per day for all equipment of model year 1996 or later.

Table 3 shows estimates of the quantity of diesel fuel that would be consumed during project construction. First, the numbers and types of construction equipment that would be used were estimated. Horsepower and load factors for each type of equipment were identified. A typical 8-hour construction workday was assumed. The load factor identifies the percentage of total rated horsepower that each equipment type operates. For example, a load factor of 100% assumes that a construction vehicle operates at 100% load for 8 hours per day. The typical load factor is generally lower than 100% because equipment is typically not operated 100% of the time and, when it is operated, it does not always operate at 100% of its rated horsepower.

Impacts and Mitigation Measures: Combustion-Related Criteria Pollutant Emissions

IMPACT AIR -3. COMBUSTION-RELATED CRITERIA POLLUTANT EMISSIONS. The project would increase diesel fuel use by a maximum of 373 gallons per day (during site grading) and 34,619 gallons over the construction period (see Table 3). This increase in diesel combustion would result in the generation of ROG, NOx, CO, and PM10 combustion emissions that exceed the significance thresholds. This is significant impact. Implementation of the following mitigation measure will reduce impacts to a less than significant level.

Mitigation Measure – Combustion Related Criteria Pollutant Emissions: All contractors using diesel powered construction equipment must ensure that all equipment is 1996 model year or later. With this newer equipment, the threshold of 402 gallons of diesel fuel per day would not be exceeded. This newer equipment will ensure that emissions of all criteria pollutants are reduced to a less than significant level.

Construction-Related Diesel Combustion Toxic Air Contaminant Emissions

Over the entire construction phase, project impacts are considered less than significant if diesel fuel consumption is less than 37,000 gallons if toxics best available control technology (T-BACT) is applied, or 3,700 gallons if T-BACT is not applied. T-BACT is defined as the use of 1996 or later model year engines in all diesel construction equipment. The EDCAQMD has determined that keeping construction-related fuel use under the gallons per day limits will result in a less than significant health risk from diesel fuel related PM10.

Table 3. Green Valley Center Construction Equipment Diesel Fuel Use Estimates

Phase 1 - Site Grading		Horsepower	Load Factor	Hours/day	Total daily hp-hrs
2	Rubber Tired Dozer	352	0.59	8	3,323
2	Tractors/Loaders/Backhoes	79	0.47	8	594
1	Scraper	330	0.66	8	1,742
1	Compactor	220	0.50	8	880
1	Water Truck	189	0.50	8	756
	Diesel Fuel	Daily			7,295
Btu/hp-hr	7,000	51,067,520	<- total btus		
Btu/gallon	137,000	373	<- total gallons		
Phase 2 - Building Construction		Horsepower	Load Factor	Hours/day	Total daily hp-hrs
2	Forklifts	94	0.48	8	722
2	Other Miscellaneous Equip	130	0.62	8	1,290
2	Generator Sets	120	0.74	8	1,421
2	Air Compressors	106	0.65	8	1,102
	Diesel Fuel	Daily			4,535
Btu/hp-hr	7,000	31,743,040	<- total btus		
Btu/gallon	137,000	232	<- total gallons		
Phase 3 - Asphalt		Horsepower	Load Factor	Hours/day	Total daily hp-hrs
1	Pavers	132	0.59	8	623
1	Rollers	114	0.43	8	392
1	Grader	174	0.58	8	807
	Diesel Fuel	Daily			1,823
Btu/hp-hr	7,000	12,757,920	<- total btus		
Btu/gallon	137,000	93	<- total gallons		
Total Gallons	Maximum Gallons/day	Days	Total Gallons/ Construction Period		
Phase 1	373	22	8,201		
Phase 2	232	110	25,487		
Phase 3	93	10	931		
All Phases	373	142	34,619		

Impacts and Mitigation Measures: Diesel Fuel Combustion Toxic Air Contaminant Emissions

IMPACT AIR-4. DIESEL FUEL COMBUSTION TOXIC AIR CONTAMINANT EMISSIONS. The project would increase diesel fuel use by a maximum of 34,619 gallons over the construction period (Table 3). This increase in diesel combustion would result in the generation of PM10 emissions that exceed the EDCAQMD's significance thresholds of 3,700 gallons over the construction period if T-BACT is not applied. This is considered a significant impact.

Mitigation Measure: T-BACT for Toxic Air Contaminants. The project applicant shall ensure that T-BACT is applied to reduce emissions of TAC from off-road diesel equipment used during project construction. T-BACT is defined as the use of 1996 or later model year engines in all diesel equipment. Consequently, the project applicant must ensure that all diesel-powered equipment used on-site during construction is equipped with engines of 1996 or later model year. Implementation of this mitigation measure will reduce diesel fuel combustion-related TAC emissions to a less than significant level.

El Dorado County Operational Thresholds of Significance

The EDCAQMD has established three operational significance thresholds that apply to this project. They include:

- ozone precursor thresholds,
- other criteria pollutant thresholds, and
- toxic air contaminant (TAC) thresholds.

Each of these is discussed separately below.

Operational Ozone Precursor Thresholds

The EDCAQMD has established significance thresholds of 82 pounds per day for ROG and NOx associated with project operation. Emissions from sources that are below these levels are considered less than significant. The URBEMIS2007 model was used to estimate the increase in ROG and NOx emissions.

Table 4 shows the estimated increase in ROG and NOx associated with project operations for the summer and winter periods. On-road operational emissions are based on the trip generation rates provided by Kimley-Horn and Associates, Inc (2010). Winter emissions are higher because of area source emissions, especially those associated with fuel combustion from wood stoves and fireplaces. Detailed URBEMIS2007 results are included in the appendix.

Table 4. ROG and NOx Emissions Associated with the Project (lbs/day)

	ROG	NOx
Summer	24.2	25.0
Winter	30.7	37.0
Maximum	30.7	37.0
EDCAQMD Significance Thresholds	82	82

Notes: Vehicle trip emissions are based on the trip generation rates associated with the project study (Kimley- Horn and Associates, Inc, 2010). Area source emissions include natural gas used for space and water heating, as well as landscape maintenance equipment emissions. Emissions estimated using URBEMIS2007. Detailed modeling results in the appendix.

Impacts and Mitigation Measures: Ozone Precursors

IMPACT AIR – 5. INCREASE IN ROG AND NOx EMISSIONS. Project operations will generate vehicle trips traveling to and from the proposed project along with area source emissions associated with water and space heating, landscape maintenance, and consumer products. These emission sources will generate emissions of the ozone precursors, ROG and NOx. However, as shown in Table 4, the emissions of ROG and NOx would be less than the significance thresholds established by the EDCAQMD. Therefore, this impact is less than significant.

Mitigation: No mitigation is required.

Operational Criteria Pollutant Thresholds (CO, SO_2, NO_2, and PM10)

For the other criteria pollutants, CO, SO_2, NO_2, and PM10, significance is based on whether a project would cause or contribute to violations of the California or federal ambient air quality standards. However, if a project's ROG or NOx emissions are below the 82 pounds per day thresholds, then the project's emission impacts of CO, SO_2, NO_2, and PM10 are also considered less than significant. For PM10 and SO_2, projects smaller than the threshold size must also be shown not to generate heavy-duty truck trips in a greater percentage than occurs on public roadways.

Impacts and Mitigation Measures: Criteria Pollutants (CO, SO_2, NO_2, and PM10)

IMPACT AIR – 6. INCREASE IN CO, SO_2, NO_2, AND PM10 CONCENTRATIONS. Since the individual and combined project emissions of ROG and NOx are substantially less than the 82 pounds per day significance threshold, the emissions and associated concentrations of CO, , SO_2, NO_2, and PM10 are considered less than significant. In addition, because the project is commercial, it is not expected to generate heavy-duty truck trips in a greater percentage than occurs on public roadways. Consequently, the project's contribution to ambient concentrations of CO2, SO_2, NO_2, and PM10 is considered less than significant.

Mitigation: No mitigation is required.

Operational Toxic Air Contaminant (TAC) Thresholds

The EDCAQMD has identified the following criteria to be used in determining whether a land use project has a potentially significant TAC impact:

- the project generates heavy duty truck trips (from project operations) of 10 or more per day;
- the project uses more than 3,700 gallons of diesel fuel during construction if toxic-best available control technology (T-BACT) is not applied or 37,000 gallons if T-BACT is applied.

Impacts and Mitigation Measures – Toxic Air Contaminants

IMPACT AIR-7. INCREASE IN TOXIC AIR CONTAMINANT EMISSIONS. The project's proposed residences, when fully occupied, are unlikely to generate heavy-duty truck trips of 10 or more per day. The evaluation of construction related TAC emissions found that, with T-BACT, construction emissions of TAC would be less than significant.

Mitigation: No additional mitigation is required.

References

El Dorado County Air Pollution Control District, 2002. Guide to Air Quality Assessment, Determining Significance of Air Quality Impacts Under the California Environmental Quality Act. Placerville, CA.

El Dorado County Air Quality Management District. 2005. October 12, 2005 Workshop on the Guide to Air Quality Assessment. Placerville, CA.

Kimley-Horn and Associates, Inc. 2010. Green Valley Center (WO#39) El Dorado Hills, California, Draft. December 13. Prepared for El Dorado County, California.

Youngdahl Consulting Group, Inc. 1989. Francisco Oaks Geotechnical Engineering Study. Rancho Cordova, CA.

Air Quality Appendix

URBEMIS – Summer Operational Emissions

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Users\Tim_Rimpo\AppData\Roaming\Urbemis\Version9a\Projects\Green Valley Center.urb924

Project Name: Green Valley Center

Project Location: Mountain Counties Air Basin

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.56	0.27	4.82	0.00	0.02	0.02	260.23

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	23.67	24.75	233.01	0.15	25.89	5.02	15,247.94

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2

TOTALS (lbs/day, unmitigated)	24.23	25.02	237.83	0.15	25.91	5.04	15,508.17

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.21	0.18	0.00	0.00	0.00	251.80
Hearth - No Summer Emissions							
Landscape	0.37	0.06	4.64	0.00	0.02	0.02	8.43
Consumer Products	0.00						
Architectural Coatings	0.17						
TOTALS (lbs/day, unmitigated)	0.56	0.27	4.82	0.00	0.02	0.02	260.23

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Fast food rest. w/ drive thru	14.72	15.65	147.23	0.09	16.41	3.18	9,657.67
General office building	1.25	1.36	13.23	0.01	1.50	0.29	884.69
Pharmacy/drugstore with drive through	7.70	7.74	72.55	0.05	7.98	1.55	4,705.58
TOTALS (lbs/day, unmitigated)	23.67	24.75	233.01	0.15	25.89	5.02	15,247.94

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Fast food rest. w/ drive thru		385.50	1000 sq ft	5.50	2,120.25	9,502.87
General office building		19.20	1000 sq ft	7.00	134.40	871.73
Pharmacy/drugstore with drive through		68.70	1000 sq ft	16.50	1,133.55	4,621.75
					3,388.20	14,996.35

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.5	0.9	98.8	0.3
Light Truck < 3750 lbs	24.5	2.4	89.4	8.2
Light Truck 3751-5750 lbs	19.7	1.0	98.5	0.5
Med Truck 5751-8500 lbs	9.2	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	41.7	58.3
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000	0.9	0.0	0.0	100.0

lbs				
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	54.7	45.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	0.0	85.0	15.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Fast food rest. w/ drive thru				5.0	2.5	92.5
General office building				35.0	17.5	47.5
Pharmacy/drugstore with drive through				2.0	1.0	97.0

URBEMIS – Winter Operational Emissions

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Users\Tim_Rimpo\AppData\Roaming\Urbemis\Version9a\Projects\Green Valley Center.urb924

Project Name: Green Valley Center

Project Location: Mountain Counties Air Basin

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.19	0.21	0.18	0.00	0.00	0.00	251.80

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	30.55	36.77	282.69	0.14	25.89	5.02	13,402.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	30.74	36.98	282.87	0.14	25.89	5.02	13,653.82

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.21	0.18	0.00	0.00	0.00	251.80
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.17						
TOTALS (lbs/day, unmitigated)	0.19	0.21	0.18	0.00	0.00	0.00	251.80

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Fast food rest. w/ drive thru	19.20	23.25	178.36	0.09	16.41	3.18	8,487.95
General office building	1.46	2.04	15.02	0.01	1.50	0.29	777.39
Pharmacy/drugstore with drive through	9.89	11.48	89.31	0.04	7.98	1.55	4,136.68
TOTALS (lbs/day, unmitigated)	30.55	36.77	282.69	0.14	25.89	5.02	13,402.02

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Fast food rest. w/ drive thru		385.50	1000 sq ft	5.50	2,120.25	9,502.87
General office building		19.20	1000 sq ft	7.00	134.40	871.73
Pharmacy/drugstore with drive through		68.70	1000 sq ft	16.50	1,133.55	4,621.75
					3,388.20	14,996.35

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.5	0.9	98.8	0.3
Light Truck < 3750 lbs	24.5	2.4	89.4	8.2
Light Truck 3751-5750 lbs	19.7	1.0	98.5	0.5
Med Truck 5751-8500 lbs	9.2	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	41.7	58.3
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0

Motorcycle	6.4	54.7	45.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	0.0	85.0	15.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Fast food rest. w/ drive thru				5.0	2.5	92.5
General office building				35.0	17.5	47.5
Pharmacy/drugstore with drive through				2.0	1.0	97.0

Biological Resources Assessment

±7-Acre Francisco Oaks Property
El Dorado County, California

Prepared for: Winn Communities

June 12, 2007

Submitted by:
FOOTHILL ASSOCIATES

EXHIBIT Q– ATTACHMENT 16

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1.0 EXECUTIVE SUMMARY

Foothill Associates biologists conducted a biological resources assessment on March 1 and March 21, 2007 on the Francisco Oaks site that occurs within El Dorado County, California. The site is located immediately southwest of the intersection of Green Valley Road and Francisco Drive. The purpose of this document is to summarize the general biological resources on the site, to assess the suitability of the site to support special-status species and sensitive habitat types, and to provide recommendations for regulatory permitting or further analysis that may be required prior to development occurring on the site.

The site consists of ±7 acres of land that is currently oak woodland and annual grassland. Land uses surrounding the site include single-family housing and commercial developments. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status plant species;
- Protected trees;
- Potential nesting habitat and foraging habitat for raptors and other bird species protected by the MBTA; and
- Sensitive habitats (wetlands including seasonal wetland swales, and oak woodland).

2.0 INTRODUCTION

This report summarizes the findings of a biological resources assessment and a delineation of waters of the U.S. completed for the ±7-acre Francisco Oaks site, located within El Dorado County, California. This document addresses the onsite physical features, as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring on the site. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are provided for any regulatory permitting or further analysis required prior to development activities occurring on the site.

3.0 REGULATORY FRAMEWORK

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

3.1 Federal Endangered Species Act

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

FESA prohibits the "take" of endangered or threatened wildlife species. "The term "take" means to harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). "*Harass* in the definition of "take" in the Act means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such the extent as to significantly disrupt normal behavioral patterns which include but are not limited to, breeding, feeding, or sheltering" (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

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

3.2 Migratory Bird Treaty Act

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

3.3 California Endangered Species Act

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

3.4 CDFG Species of Concern

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

3.5 California Native Plant Society

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

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

3.6 Jurisdictional Waters of the United States

3.6.1 Federal Jurisdiction

The Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U. S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

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

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

3.6.2 State Jurisdiction

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

3.7 CEQA Significance Criteria

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

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

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

3.8 El Dorado County General Plan

The project is also subject to all applicable regulations within the El Dorado County General Plan. Specifically, the project must comply with policy 7.3.3.4 regarding setbacks from streams and wetland features. This policy requires a 100-foot setback from all perennial streams, rivers, and lakes and a 50-foot setback from intermittent streams and seasonal wetland habitats unless a justification can be made for a reduction in this setback.

4.0 METHODS

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

- California Department of Fish and Game. 2007. *California Natural Diversity Data Base* (CNDDB). Sacramento, CA.;
- Natural Resources Conservation Service. 1974. *Soil Survey of El Dorado Area, California.* U.S. Department of Agriculture;
- U.S. Fish and Wildlife Service. 2007. "Federal Endangered and Threatened Species that may be affected by Projects in the Clarksville 7.5 minute series quadrangle." Sacramento, CA.; and
- U.S. Geological Survey. 1953. Photorevised 1980. "Clarksville, California. 7.5-minute series topographic quadrangle." United States Department of Interior.

Foothill Associates biologists conducted field surveys on the site on March 1 and March 21, 2007. The site was systematically surveyed on foot to ensure total search coverage, with special attention given to identifying those portions of the site with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed and characterized biological communities present onsite.

5.0 RESULTS

5.1 Site Location and Description

The site consists of ±20 acres of land that is currently composed primarily of annual grassland and oak woodland. Land uses surrounding the site include single-family residential areas and commercial property. The site is located in El Dorado County immediately southwest of the intersection of Green Valley Road and Francisco Drive. The site is located within Township 10 North, Range 8 East, Section 22 of the USGS 7.5-minute series Clarksville quadrangle (**Figure 1**).

5.2 Physical Features

5.2.1 Topography and Drainage

Topography on the site is relatively level to moderately sloped near drainage features. Elevations on the site range from approximately 575 to 625 feet above mean sea level (MSL). Surface runoff flows towards and exits the site via wetland swales that exit to the west of the site. The wetland swales run roughly east to west across the site and exit the site on the western boundary.

5.2.2 Soils

The Natural Resources Conservation Service has mapped two soil units on the site (**Figure 2**). The soil units present onsite include the following: **Auburn silt loam, 2 to 30 percent slopes** and **Auburn very rocky silt loam, 2 to 30 percent slopes**. General characteristics associated with these soils types are described below.

- **Auburn silt loam, 2 to 30 percent slopes:** These soils occur on undulating to very steep foothills, typically located between 500 to 1,800 feet above MSL. Bedrock outcroppings occur on the surface of this soil type at a frequency of less than five percent. The Auburn series consists of well-drained soils underlain by hard metamorphic rocks at a depth of 12 to 26 inches. Permeability is moderate and surface run-off is slow to medium. Auburn soils are typically used for livestock range and irrigated pasture. Occasionally, crops such as hay or grain and irrigated pasture are grown. Vegetation typically consists of annual grasses and herbaceous species. Areas of oaks, grey pine and shrub-dominated communities also occur. The hydric soils list for the El Dorado Area does not identify any hydric soil inclusions occurring within this soil type.

- **Auburn very rocky silt loam, 2 to 30 percent slopes:** These soils occur on the more prominent steep to very steep foothills and slopes descending into creek channels and drainageways, typically located between 500 to 1,800 feet above MSL. Bedrock outcroppings occur on the surface of this soil type at a frequency of five to 25 percent. The Auburn series consists of well-drained soils underlain by hard metamorphic rocks at a depth of 12 to 26 inches. Permeability is moderate and surface run-off is slow to medium. Auburn soils are typically used for livestock range and irrigated pasture. Occasionally, crops such as hay or grain and irrigated pasture are grown. Vegetation typically consists of annual grasses and herbaceous species. Areas of oaks, grey pine and shrub-dominated communities also occur. The hydric soils list for the El Dorado Area does not identify any hydric soil inclusions occurring within this soil type.

5.3 Biological Communities

Two primary biological communities occur on the Francisco Oaks site including annual grassland and blue oak woodland (**Figure 4**). Within these two primary communities are various wetland swales. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. Each of the biological communities including associated common plant and wildlife species observed, or that are expected to occur within these communities are described below.

5.3.1 Annual Grassland

Annual grassland is present in small areas of the site where blue oak woodland does not dominate. Annual grassland species are also present in the understory of oak woodland habitats. Annual grassland is characterized primarily by an assemblage of non-native grasses and forbs. Much of the vegetation in these communities is common to the Central Valley. Dominant grass species consists of soft chess (*Bromus hordeaceous*), ripgut brome (*Bromus diandrus*), foxtail fescue (*Vulpia myuros*), and wild oat (*Avena fatua*). Common dominant herbaceous non-natives include yellow star thistle (*Centaurea solstitialis*), woolly mullein (*Verbascum thapsus*), vinegarweed (*Trichostema lanceolatum*), and Italian thistle (*Carduus pycnocephalus*).

Annual grassland habitat supports breeding, foraging, and shelter habitat for several species of wildlife. Species observed or expected to occur in this habitat include savannah sparrow (*Passerculus sandwichensis*), California quail (*Callipepla californica*), western meadowlark (*Sturnella neglecta*), black-tailed jackrabbit (*Lepus californicus*), and coyote (*Canis latrans*).

5.3.2 Blue Oak Woodland

Blue oak woodland is the dominant plant community on the site. Blue oak woodlands are defined as woodlands with blue oak (*Quercus douglasii*) being the sole or dominating species in the tree canopy along with foothill pine (*Pinus sabiniana*), interior live oak (*Quercus wislizeni*), and valley oak (*Quercus lobata*). Typically, blue oak woodland exhibits a continuous, intermittent, or savannah-like canopy that is one or two-tiered; shrubs are infrequent or common; and ground cover is grassy (Sawyer and Keeler-Wolf 1995). The oak woodland on the site have a woodland canopy with periodic dense and overlapping tree canopy.

Oak woodlands provide breeding, foraging, and cover habitat to a variety of wildlife species. Species observed onsite or expected to occur within this habitat type include acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttalli*), oak titmouse (*Baeolophus inornatus*), and northern flicker (*Colaptes auratus*).

5.3.3 Wetlands and other waters of the U.S.

Seasonal wetland swale

A total of **0.15** acre of wetland swales have been delineated within the site (**Figure 4**). Seasonal wetland features typically have a hydrologic regime dominated by saturation rather than inundation. These seasonal swales have plant communities adapted to this type of hydrologic regime. Swales have a unidirectional flow of water during and for a limited period after storm events. Seasonal wetland swales are located in the northern and southern portions of the site (**Figure 4**).

5.4 Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- CDFG Species of Special Concern;
- Listed as species of concern by CNPS or USFWS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB for the areas within a five-mile radius of the site, the USFWS Online Species List for the Clarksville quadrangle, CNPS literature, and field survey results. **Figure 3** depicts the locations of special-status species recorded in the CNDDB within five miles of the site, including a ten-mile radius query for Swainson's hawk locations.

Table 1 includes the common name and scientific name for each species, regulatory status (federal, state, local, CNPS), habitat descriptions, species identification period and potential for occurrence on the project site. The following set of criteria has been used to determine each species' potential for occurrence on the site:

- **Present**: Species is known to occur on the site, based on CNDDB records, and/or was observed onsite during the field survey(s).
- **High**: Species is known to occur on or near the site (based on CNDDB records within 5 miles, and/or based on professional expertise specific to the site or species) and there is suitable habitat onsite.

- **Low**: Species is known to occur in the vicinity of the site, and there is marginal habitat onsite.-OR-Species is not known to occur in the vicinity of the site, however there is suitable habitat onsite.
- **None**: Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species onsite.-OR-Species was surveyed for during the appropriate season with negative results.

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

Table 1 — Listed and Special-Status Species Potentially Occurring on the Site or in the Vicinity

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Plants			
Ahart's dwarf rush *Juncus leiospermus var. ahartii*	--;--;--;4	Found on margins of vernal pools.	**None**; there is no habitat for this species onsite.
Big-scale balsamroot *Balsamorhiza macrolepis macrolepis*	--;--;--;1B	Valley and foothill grasslands.	**Low**; suitable habitat exists on the site, however, there are no records in the CNDDB in the vicinity of the site.
Bisbee Peak rush-rose *Helianthemum suffrutescens*	--;--;--;3	Rocky hillsides in chaparral areas. Often associated with gabbro soil types.	**None**; there is no potential habitat for this species onsite.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	--;CE;--;1B	Shallow ponds and margins of vernal pools.	**None**; there is no potential habitat for this species on the site.
Brandegee's clarkia *Clarkia biloba* ssp *brandegeae*	--;--;--;1B	Foothill woodlands and conifer habitats. Usually in dry areas.	**High**; there is habitat for this species onsite and this species is known from the immediate vicinity.
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE; --; SLC; 1B	Open pine forests and oak woodlands between 300 and 2,000 feet above mean sea level associated with gabbro soils.	**None**; there are no gabbro soils mapped on the site.
El Dorado mule-ears *Wyethia reticulata*	FSC;--;--;1B	Wooded slopes and chaparral between 1,000-1,500 feet above mean sea level. Usually associated with gabbro soils.	**None**; there are no gabbro soils mapped on the site.
Layne's ragwort *Senecio layneae*	FT;--;--;1B	Dry pine woodlands, oak woodlands, or chaparral areas associated with serpentine soils.	**None**; there are no gabbro or serpentine soils mapped on the site.
Legenere *Legenere limosa*	--;--;--;1B	Moist areas and vernal pools.	**None**; there is no potential habitat for this species on the site.
Pine Hill ceanothus *Ceanothus roderickii*	FE; --; --; 1B	Dry, stony soils in chaparral areas. Often associated with serpentine or gabbro soil types.	**None**; there is no habitat for this species onsite.
Pine Hill flannelbush *Fremontodendron californicum* ssp. *decumbens*	FE; --; -- 1B	Chaparral and oak and pine woodlands. Typically, but not always, found on gabbro soils.	**Low**; there is marginal habitat for this species onsite.

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Red Hills soaproot *Chlorogalum grandiflorum*	FSC;--;--;1B	Open hillsides in chaparral or woodland communities. Typically, but not always, found on gabbro soils.	**Low**; there is suitable habitat for this species onsite. However, no gabbro soils are mapped.
Wildlife			
Invertebrates			
California linderiella *Linderiella occidentalis*	FSC;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	**None**; there is no potential habitat for this species on the site.
Midvalley fairy shrimp *Branchinecta mesovallensis*	FSC;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	**None**; there is no potential habitat for this species on the site.
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	FSC;--;--;--	Permanent ponds and other freshwater habitat.	**None**; there is no potential habitat for this species on the site.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT;--;--;--	Blue elderberry shrubs usually associated with riparian areas.	**None**; there is no potential habitat for this species on the site.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**None**; there is no potential habitat for this species on the site.
Amphibians/Reptiles			
California red-legged frog *Rana aurora draytonii*	FT; CSC; --; --	Requires a permanent water source and is typically found along quiet slow moving streams, ponds, or marsh communities with emergent vegetation.	**None**; there is no potential habitat for this species on the site.
California horned lizard *Phrynosoma coronatum frontale*	FSC;CSC;--;--	Found in open oak and conifer woodlands, grasslands, and riparian areas. Most often found in areas with sandy soil types.	**Low**; the annual grassland and open oak woodlands onsite provides marginal habitat for the species and there is a record in the CNDDB within 5 miles of the site.
California tiger salamander *Ambystoma californiense*	FPT;CSC;--;--	Ponded water required for breeding. Adults spend summer in small mammal burrows.	**None**; there is no potential breeding habitat for this species on the site and the site is outside the known range of this species.
Foothill yellow-legged frog *Bufo boreas*	FSC;CSC;--;--	Typically found in slow-moving streams or channels with rocky or muddy bottoms.	**None**; there is no habitat onsite for this species.

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Giant garter snake *Thamnophis gigas*	FT; CT; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**None**; there is no habitat onsite for this species.
Northwestern pond turtle *Emmys marmorata marmorata*	FSC;CSC;--;--	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**None**; there is no potential breeding habitat for this species on the site.
Western spadefoot toad *Spea hammondii*	FSC;CSC;--;--	Open grasslands and woodlands. Requires vernal pools or seasonal wetlands for breeding.	**None**; there is no potential breeding habitat for this species on the site.
Fish			
Central Valley fall/late fall-run Chinook salmon *Oncorhynchus tshawytscha*	FC; CSC; --; --	Sacramento and San Joaquin Rivers and their tributaries.	**None**; there is no habitat onsite for this species.
Central Valley winter run Chinook salmon *Oncorhynchus tshawytscha*	FE;CE;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**None**; there is no habitat onsite for this species.
Central Valley steelhead *Oncorhynchus mykiss*	FT;--;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**None**; there is no habitat onsite for this species.
Delta smelt *Hypomesus transpacificus*	FT;CT;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**None**; there is no habitat onsite for this species.
Green sturgeon *Acipenser medirostris*	--;CSC;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**None**; there is no habitat onsite for this species.
Longfin smelt *Spirinchus thaleichthys*	FSC;CSC;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**None**; there is no habitat onsite for this species.
Sacramento spittail *Pogonichthys macrolepidotus*	FSC;CSC;--;--	Sacramento and San Joaquin Rivers and their tributaries.	**None**; there is no habitat onsite for this species.
Birds			
Aleutian cackling goose *Branta canadensis leucopareia*	FD (FSC); CSC; -- (Wintering)	Winter resident of agricultural lands.	**None**; there is no habitat onsite for this species.
American peregrine falcon *Falco peregrinus anatum*	FD(FSC);CE;--;--	Nests on high cliffs, banks, dunes, or mounds in woodland, forest, and coastal habitats near permanent water sources.	**None**; there is no suitable nesting habitat for this species on the site.

Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
Bald eagle *Haliaeetus leucocephalus*	FT;CE;--;--	Nesting restricted to the mountainous habitats near permanent water sources in the northernmost counties of California, the Central Coast Region, and on Santa Catalina Island. Winters throughout most of California at lakes, reservoirs, river systems, and coastal wetlands.	**None**; there is no suitable nesting habitat for this species on the site.
Bank swallow *Riparia riparia*	FSC; CT;--;--	Nests in riverbanks and forages over riparian areas and adjacent uplands.	**None**; there is no suitable breeding habitat for this species on the site.
Black swift *Cypseloides niger*	FSC;CSC;--;--	Nests on cliffs near water sources.	**None**; there is no suitable breeding habitat for this species on the site.
California thrasher *Toxostoma redivivum*	FSC;--;--;--	Found in dense chaparral or thickets in riparian corridors.	**None**; there is no habitat onsite for this species.
Cooper's hawk *Accipiter cooperii*	--;CSC;--;--	Nests in riparian corridors. Forages in woodlands and riparian areas.	**High**; there is suitable nesting habitat on the site.
Ferruginous hawk *Buteo regalis*	FSC;CSC;--;--	A winter resident of open habitats in California including grasslands, shrubsteppes, sagebrush, deserts, saltbush-greasewood shrublands, and outer edges of pinyon-pine and other forests.	**None**; there is no suitable wintering habitat onsite for this species.
Lawrence's goldfinch *Carduelis lawrencei*	FSC;--;--;--	Nests in open oak or other arid woodland and chaparral habitats near water.	**Low**; there is limited nesting habitat on the site.
Lewis' woodpecker *Melanerpes lewis*	FSC;--;--;--	Coniferous forests and oak woodlands.	**Low**; there is a low potential for this species to winter on the site.
Little willow flycatcher *Empidonax traillii brewsteri*	FSC;CE;--;--	Nests in dense riparian vegetation such as willows, alders, up to 18 feet.	**None**; there is no potential habitat for this species on the site.
Loggerhead shrike *Lanius ludovicianus*	FSC; CSC;--;--	Found in a variety of woodland and grassland habitats throughout California.	**Low**; site contains suitable foraging habitat for the species but limited nesting habitat.
Long-billed curlew *Numenius americanus*	FSC;CSC;--;-- (nesting)	Mudflats and shallow marsh areas.	**None**; there is no potential habitat for this species on the site.
Mountain plover *Charadrius montanus*	FSC;CSC;--;--	Winters in California in agricultural fields and grasslands.	**None**; there is no potential wintering habitat for this species on the site.

Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
Nuttall's woodpecker *Picoides nuttallii*	FSC;--;--;--	Permanent resident of low-elevation riparian deciduous and oak habitats.	**Present**; observed onsite during biological assessment
Oak titmouse *Baeolophus inornatus*	FSC;--;--;--	Oak savannah and oak woodlands.	**Present**; observed onsite during biological assessment.
Rufous hummingbird *Selasphorus rufus*	--;CSC;--;--	Nests within berry tangles, shrubs, and conifers in areas north of California and in the Trinity Mountains of Trinity and Humboldt County.	**None**; site is outside the known breeding area for the species.
Swainson's hawk *Buteo Swainsoni*	FSC; CT; -- (Nesting)	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands, etc.).	**None**; this species is typically restricted to Central Valley sites.
Tricolored blackbird *Agelaius tricolor*	FSC;CSC;--;--	Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands throughout the Central Valley and foothills surrounding the valley.	**None**; there is no potential nesting habitat for this species on the site.
Vaux's swift *Chaetura vauxi*	FSC;CSC(nesting);--;--	Nests within large hollow trees and snags in redwood and Douglas-fir habitats.	**None**; there is no potential nesting habitat for this species on the site.
Western burrowing owl *Athene cunicularia hypugaea*	FSC;CSC; (burrow sites);--;--	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat.	**None**; there is no potential nesting habitat for this species on the site.
White-faced ibis *Plegadis chihi*	FSC;CSC;--;--	Nests colonially in riparian areas with large trees.	**None**; there is no potential nesting habitat for this species on the site.
White-tailed kite *Elanus leucurus*	FSC;CFP;--;--	Nests in isolated trees or woodland areas with suitable open foraging habitat.	**High**; site contains suitable foraging and nesting habitat for this species.
Yellow-breasted chat *Icteria virens*	--;CSC;--;-- (nesting)	Nests in riparian woodlands.	**None**; there is no potential nesting habitat for this species on the site.
Other Raptors (Hawks, Owls and Vultures)	MBTA and §3503.5 Department of Fish and Game Code	Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, and urban communities.	**High**; site contains suitable foraging habitat and some suitable nesting sites for raptors in scattered oak trees onsite.
Mammals			

Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
Fringed myotis bat *Myotis thysanodes*	FSC;--;--;--	Found in a variety of habitats in California except in the Central Valley and desert areas. Roosts in caves, buildings, and rock crevices.	**None**; no suitable roosting habitat for this species occurs on the site.
Greater western mastiff bat *Eumops perotis californicus*	FSC;CSC;--;--	Found in grasslands and open woodlands and conifer habitats. Roosts in cliff faces, buildings, tunnels, and caves.	**None**; no suitable roosting habitat for this species occurs on the site.
Long-legged myotis bat *Myotis volans*	FSC; --; --; --	Roosts in a wide variety of habitats (i.e., riparian, scrub, woodland), in abandoned buildings, and bridges.	**None**; no suitable roosting habitat for this species occurs on the site.
Long-eared myotis bat *Myotis evotis*	FSC;--;--;--	Found throughout California except for the Central Valley and desert areas. Roosts in buildings, snags, and rock crevices.	**None**; no suitable roosting habitat for this species occurs on the site.
Pacific western big-eared bat *Corynorhinus townsendii townsendii*	FSC;CSC;--;--	Roosts in a wide variety of habitats (i.e., riparian, scrub, woodland), in abandoned buildings, and bridges.	**None**; no suitable roosting habitat for this species occurs on the site.
Small-footed myotis bat *Myotis ciliolabrum*	FSC;--;--;--	Roosts in a wide variety of habitats (i.e., riparian, scrub, woodland), in abandoned buildings, and bridges.	**None**; no suitable roosting habitat for this species occurs on the site.
Spotted bat *Euderma maculatum*	FSC;CSC;--;--	Roosts in rock crevices and occasional buildings of foothills and desert areas.	**None**; no suitable roosting habitat for these species occurs on the site.
Yuma myotis bat *Myotis yumanensis*	FSC;--; --; --	Reside in open forests and woodland habitats with sources of water over which to feed. Roost in buildings, mines, caves, and crevices.	**None**; no suitable roosting habitat for this species occurs on the site.

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Federally Listed Species:		**California State Listed Species:**	**CNPS* List Categories:**
FE = federal endangered	FC = candidate	CE = California state endangered	1A = plants presumed extinct in California
FT = federal threatened	PT = proposed threatened	CT = California state threatened	1B = plants rare, threatened, or endangered in California and elsewhere
FSC = federal species of concern	FPD = proposed for delisting	CR = California state rare	2 = plants rare, threatened, or endangered in California, but common elsewhere
	FD = delisted	CSC = California Species of Special Concern	3 = plants about which we need more information
		CFP=California Fully Protected	4 = plants of limited distribution
			Other Special-status Listing:
Source: Foothill Associates			SLC = species of local or regional concern or conservation significance

5.4.1 Listed and Special-Status Plants

Based on a records search of the CNDDB and the USFWS list, special-status plant species have the potential to occur onsite or in the vicinity of the site. Based on field observations and literature review specific to the special-status plants listed in **Table 1**, the potential for occurrence has been determined for each species. Species that are known to be present or that are considered to have a high potential to occur onsite include the following: Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*). The species that are considered to have a low potential onsite include the following: big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Pine Hill flannelbush (*Fremontodendron californicum* ssp. *decumbens*), and Red Hills soaproot (*Chlorogallum grandiflorum*). A focused special-status plant survey was conducted on the site in May of 2007. None of the above mentioned plant species were found on the site.

Species with a High Potential for Occurrence

Brandegee's clarkia

Brandegee's clarkia is typically found in foothill woodlands and low elevation conifer forests. This species typically flowers from May through June. This species was not observed on the site during the biological assessment. There are two records of this species in the CNDDB occurring within five miles of the site (CNDDB 2006) including one record within the shopping center development across Green Valley Parkway from the site. Based on the vegetation communities found on the site and the proximity of the project site to known locations for this species, the potential for this species to occur onsite was high. However, this species was not found during a May 2007 focused special-status plant survey.

Species with a Low Potential for Occurrence

Big-scale balsamroot

Big-scale balsamroot is typically found in foothill grassland, woodland, and chaparral below 2,500 feet above MSL. It is typically associated with serpentine soils. This species typically flowers from March to June. This species was not observed on the site during the biological assessment. There are no records in the CNDDB for this species within five miles of the site. Based on the absence of mapped gabbro soil types and CNDDB records in the vicinity, the potential for this species to occur onsite was low. However, this species was not found during a May 2007 focused special-status plant survey.

Pine Hill flannelbush

Pine Hill flannelbush is typically found in rocky areas associated with gabbro soils. This species typically flowers from April though July. This species was not observed on the site during the biological assessment. There are two records of this species occurring in the CNDDB within five miles of the site (CNDDB 2006). Based on the absence of mapped gabbro soil types within the project site, the potential for this species to occur onsite was considered to be low. However, this species was not found during a May 2007 focused special-status plant survey.

Red Hills soaproot

Red Hills soaproot is typically found in chaparral areas and occasionally in woodland areas and is most often associated with serpentine or gabbro soils. This species typically flowers from May through June. This species was not observed on the site during the biological assessment. There are two records of this species occurring within five miles of the site. Based on the absence of mapped gabbro soil types and chaparral communities within the project site, the potential for this species to occur onsite was considered to be low. However, this species was not found during a May 2007 focused special-status plant survey.

5.4.2 Listed and Special-Status Animals

Based on a records search of the CNDDB and the USFWS list, special-status animal species have the potential to occur onsite or in the vicinity. Based on field observations and literature review specific to the special-status animals listed in **Table 1**, the potential for occurrence has been determined for each species. Species that are known to be present or that are considered to have a high potential to occur onsite include the following: Cooper's hawk (*Accipiter cooperii*), Nuttall's woodpecker (*Picoides nuttallii*), oak titmouse (*Baeolophus inornatus*), white-tailed kite (*Elanus leucurus*), as well as other protected raptor species. The species that are considered to have a low potential to occur onsite include the following: California horned lizard (*Phrynosoma coronatum frontale*), Lawrence's goldfinch (*Carduelis lawrencei*), Lewis' woodpecker (*Melanerpes lewis*), and loggerhead shrike (*Lanius ludovicianus*).

Species with a High Potential for Occurrence

Cooper's hawk

Cooper's hawks are usually found in riparian woodlands near streamcourses or other water. Cooper's hawks are a state species of special concern. The breeding season for this species is typically between March and August (Zeiner et. al. 1990). Nests are typically built in woodlands or riparian areas and consist of a platform of sticks. Cooper's hawks will also sometimes uses abandoned corvid nests (Ehrlich et. al. 1988). Cooper's hawks feed primarily on small birds and mammals. There are no records in the CNDDB for this species within five miles of the site (CNDDB 2006) and this species was not observed onsite during the biological assessment. However, this species is more widespread in California than CNDDB records would indicate. Given the suitable oak woodland habitat on the site with suitable nesting sites, this species has a high potential to occur on the site.

Nuttall's woodpecker

The Nuttall's woodpecker is a year-round resident in oak woodlands and riparian woodlands throughout the Central Valley, Coast Ranges, and lower elevations of the

Sierra Nevada and Cascades. Nuttall's woodpeckers can be found in a variety of habitats including urban environments, landscaped areas, and riparian areas but are most often associated with oak woodlands. It is a cavity nester in snags or dead limbs of willow, cottonwood, alder and sycamore trees, but rarely oak trees. Breeding typically occurs between March and July (Zeiner et. al. 1990). There are no records in the CNDDB for this species within five miles of the site. However, this species is more widespread in California than CNDDB records would indicate. This species was observed on the site during the field assessment. Therefore, this species is considered present on the site and has a high potential to nest on the site.

Oak titmouse

Formerly the plain titmouse, the genus *Baeolophus* was recently split into juniper titmouse and oak titmouse. The oak titmouse is a year-round resident in northern California of a variety of habitats but is most often associated with oaks, but also occurs in montane hardwood, blue, coastal and valley oak woodlands, and mixed conifer habitats. It occurs in cismontane California from Humboldt County south to the Mexican border. It nests in tree cavities or old woodpecker holes, natural cavities or nest boxes. Breeding typically occurs between March and July (Zeiner et. al. 1990). There are no records in the CNDDB for this species within five miles of the site. However, this species is more widespread in California than CNDDB records would indicate. This species was observed on the site during the field assessment. Therefore, this species is considered present on the site and has a high potential to nest on the site.

White-tailed kite

The white-tailed kite is widespread throughout California where there is suitable habitat. Their population scatters widely throughout California during the non-breeding season. They occur in low elevation grassland, agricultural areas, wetlands, oak woodland, and oak-savannah habitats, and riparian areas adjacent to open areas (Small 1994). Nests are placed in trees and large shrubs. This species is considered both a California State Species of Special Concern and a Fully Protected Species (CDFG 2005). In recent years, this species has become increasingly less common in southern California. Suitable foraging habitat occurs throughout the site and suitable nesting habitat occurs in the oak trees on the site. Therefore, this species has a high potential to occur on the site.

Other Raptor Species

Other raptor species forage and nest in a variety of habitats throughout El Dorado County. Raptor nests are protected under the MBTA and Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. The site contains suitable foraging and nesting habitat for several raptor species and a red-tailed hawk was observed on the site during the site assessment. Therefore, raptor species have a high potential to occur on the site.

Species with a Low Potential for Occurrence

California horned lizard

The California horned lizard is a large lizard with five head spines projected toward the posterior. The species, *P. coronatum*, is known to occur in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper, and annual grassland habitats. This subspecies ranges in the central valley from southern Tehama County south, in the Sierra foothills from Butte County in the mountains of southern California exclusive of desert regions; throughout the Coast Ranges south from Sonoma County. California horned lizards typically breed during April and hatchlings first appear during July and August. This species is associated with habitats that contain a sandy substrate that they can burrow into and supports their prey base of ants and beetles. California lowland populations are in decline primarily due to urban and agricultural expansion. There are no records in the CNDDB for this species within five miles of the site. This species was not observed on the site during the field assessment. Given the lack of records in the vicinity of the site and unfavorable soil conditions, this species has a low potential to occur on the site. Mitigation that would be required for impacts to individual oaks and oak woodland would provide mitigation for any potential impacts to this species, so specific mitigation for this species should not be necessary.

Lawrence's goldfinch

Lawrence's goldfinches are found in open woodlands, chaparral, and grassland habitats throughout central and southern California. This species winters from southern California east to Texas (Zeiner et. al. 1990). This species typically nests from May through August. There are no CNDDB records for this species within five miles of the project site (CNDDB 2006). However, this species is rarely reported in the CNDDB. Based on the available woodland and grassland habitat available within the project area, there is a low potential for this species to occur.

Lewis' woodpecker

Lewis' woodpeckers are associated with open canopied, pine forests and riparian woodlands dominated by cottonwoods (*Populus* spp.). In the Central Valley, they can be found within oak-pine woodlands in the foothills throughout the year although most commonly in the winter. Habitats are typically open woodlands or recently burned forests. They breed in the Sierra Nevada and migrate to lower foothill and valley elevations during winter months; they often appear in eruptive patterns as they are flushed from higher elevations to lower valleys after winter snow storms. They winter in the Central Valley and Transverse Ranges in southern California; they are known to breed along the eastern slopes of the Coast Ranges, Sierra Nevada, Klamath Mountains and Cascade Range. They breed in open forests of pine, oak or cottonwood riparian areas with groundcover, snags, and insects. There are no records in the CNDDB for this species within five miles of the site and it was not observed on the site during the field assessment. This species has a low potential to winter on the site. Since it would only be expected to winter on the site, it would not be expected to be impacted since initial construction activity would not be expected to occur during the rainy season. Therefore, no impacts to this species are expected and no mitigation is expected to be necessary.

Loggerhead shrike

Loggerhead shrikes are common residents and winter visitors of valleys and foothills throughout California. The loggerhead shrike utilizes open habitats with scattered shrubs and trees, posts, fences, utility lines, and occurs often in cropland (Zeiner et. al. 1990). The highest density of shrikes occurs in open valley foothill grassland areas with occasional shrubs and available perch sites. Shrikes are predators and are often observed at a fixed perch site; they hunt from perches for lizards, large insects and small mammals where often they spear prey on fence posts or thorns. This species nests from March to May, building twig nests within the dense foliage of shrubs or trees that conceal the nest. There are no records in the CNDDB for this species within five miles of the site (CNDDB 2006). However, this species is more widespread in California than CNDDB records would indicate. This species was not observed on the site during the field assessment. Given the relative lack of suitable nesting habitat on the site, this species has a low potential to occur on the site.

5.5 Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the El Dorado General Plan. Sensitive habitats known to occur onsite, which include wetlands/waters of the U.S., are seasonal wetland swales and blue oak woodland (**Figure 4**).

5.5.1 Potential Jurisdictional Waters of the U.S.

Potential jurisdictional waters of the U.S. located on the site total approximately 0.15 acre composed of seasonal wetland swales (**Figure 4**). To date, potential wetland areas on the site have been formally delineated. However, the Corps has not verified these acreages as of the date of this biological assessment.

Jurisdictional waters of the U.S. include jurisdictional wetlands as well as all other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Corps 1987). The majority of jurisdictional wetlands in the United States meet three wetland assessment criteria: hydrophilic vegetation, hydric soils, and wetland hydrology, Jurisdictional waters of the U.S. can also be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). As discussed in Regulatory Framework, jurisdictional waters of the U.S. are subject to Section 404 of CWA and are regulated by the Corps.

The preserved wetland features are also subject to setback requirements in policy 7.3.3.4 of the El Dorado County General Plan as previously mentioned. The wetland swales onsite are intermittent and would generally be subject to a 50-foot setback under this policy. The proposed site plan is generally in compliance with this policy. However, the project proponent is requesting a reduction in the setback for one feature on the site to 20 feet based on existing site conditions and project element requirements.

Implementing a 20-foot buffer between the drainage and proposed development is still expected to protect the existing riparian habitat values and quality of the drainage in an open space corridor given the current proximity of the drainage to existing development including Green Valley Road and an El Dorado Irrigation District (EID) maintenance road that is currently within 20 feet of the margins of the seasonal feature in question with no apparent detrimental effect on the feature. Therefore, the proposed setback adjustment would appear to sufficiently protect the feature in question. However, the authorized buffer from development activities will ultimately be decided during CEQA review and any wetland permitting that may be necessary for the project.

5.5.2 Wildlife Migration Corridors

Wildlife movement zones are important for the movement of migratory wildlife populations. Corridors provide foraging opportunities and shelter during migration. Generally, wildlife movement zones are established migration routes for many species of wildlife. Movement corridors often occur in open areas or riverine habitats that provide a clear route for migration in addition to supporting ample food and water sources during movement.

The site does not contain habitat that would make it suitable as a significant wildlife migration corridor. Various wildlife species may utilize and move across the site as they would on any other parcels in the vicinity with similar on-site land uses and surrounding land uses.

6.0 CONCLUSION AND RECOMMENDATIONS

As discussed, the Francisco Oaks site consists of land that supports primarily annual grassland and blue oak woodland. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status plant species;
- Protected trees;
- Potential nesting habitat and foraging habitat for raptors and other bird species protected by the MBTA; and
- Sensitive habitats (wetlands including seasonal wetland swales, and oak woodland).

6.1 Special-status Plants

As discussed, the vegetation communities onsite provide potential habitat for several special-status plant species including Brandegee's clarkia, big-scale balsamroot, Pine Hill flannelbush, and Red Hills soaproot. Based on this information, a focused plant survey focusing on these species was conducted on the site in May of 2007. The results of this survey are contained in a botanical survey report under separate cover from this document. In general, no special-status plant species were found on the site. Therefore, additional mitigation measures for special-status plant species are not expected to be necessary.

6.2 Protected Trees

The site contains native oak trees that are protected under the El Dorado County General Plan and CEQA. A tree report prepared by a certified arborist will be required by El Dorado County to document anticipated impacts to native oaks. El Dorado County will also likely require a tree mitigation plan for impacted trees and a tree avoidance plan to adequately preserve and maintain those trees that will be preserved on the site. Tree mitigation measures within El Dorado County are based on existing oak tree canopy coverage on a site and the estimated remaining tree canopy coverage after development occurs on the site.

6.3 Raptors

As discussed earlier, several species of raptors forage and may nest on the site. A red-tailed hawk was observed foraging at the site. Active raptor nests are protected by the California Fish and Game code Section 3503.5 and the MBTA. For this reason, if construction is expected to occur during the nesting season (February 1-August 31), a pre-construction raptor survey is recommended to determine if active raptor nests are present on the site. The survey should be conducted by a qualified biologist no more than 30 days prior to the start of construction activity. If nests are found and considered to be active, construction activities should not occur within 500 feet of an active nest until the young have fledged or until the biologist determines that the nest is no longer active. If construction activities are proposed to occur during non-breeding season (September 1-January 31), a survey is not required and no further studies are necessary.

6.4 Other Bird Species Protected by the MBTA

The trees, shrubs, and grasslands on the site provide suitable nesting habitat for a number of common and special-status birds protected solely by the MBTA. As discussed, the MBTA prohibits the killing of migratory birds. Therefore, if any vegetation removal occurs during the typical avian nesting season (February 1-August 31), a pre-construction survey is recommended to determine if active nests are present on the site. The survey should be conducted by a qualified biologist no more than two weeks prior to the onset of vegetation removal. If active nests are found on the site, disturbance or removal of the nest should be avoided until the young have fledged and the nest is no longer active. Extensive buffers, such as those recommended for nesting raptors, are not necessary for nesting avian species protected solely by the MBTA. However, depending on the species, site conditions, and the proposed construction activities near the active nest, a small buffer may be prescribed, as determined by the biologist. Alternatively, vegetation removal could be scheduled to avoid all potential impacts. Vegetation removal conducted between September 1 and January 31 will prevent impacts to nesting birds or unfledged young.

6.5 Sensitive Habitats

The site supports a total of 0.15 acre of potentially jurisdictional waters of the U.S composed of seasonal wetland swales. These areas are potentially regulated by the Corps and/or CDFG. Additionally, these areas are protected under the El Dorado County General Plan as specified in the regulatory framework section of this document. Consequently, it is recommended that prior to disturbing any of these wetland features, the jurisdictional assessment for the project site should be submitted to the Corps and the appropriate Section 404 permit should be acquired. Additionally, it is also likely that a Section 401 permit from the California Regional Water Quality Control Board will also be required prior to disturbance. Any waters of the U.S. that would be lost or disturbed should be replaced or rehabilitated on a "no-net-loss" basis in accordance with the Corps' mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the Corps.

It is also recommended that a Streambed Alteration Agreement be obtained from CDFG, pursuant to Section 1600 of the CDFG Code, for each stream crossing and any other activities affecting the bed, bank or associated riparian vegetation of the wetland swales if determined to be necessary by CDFG. If required, the project applicant should coordinate with CDFG in developing appropriate mitigation, and should abide by the conditions of any executed permits.

The site also contains several native oak tree species that are protected under the El Dorado County general plan and CEQA guidelines.

7.0 REFERENCES

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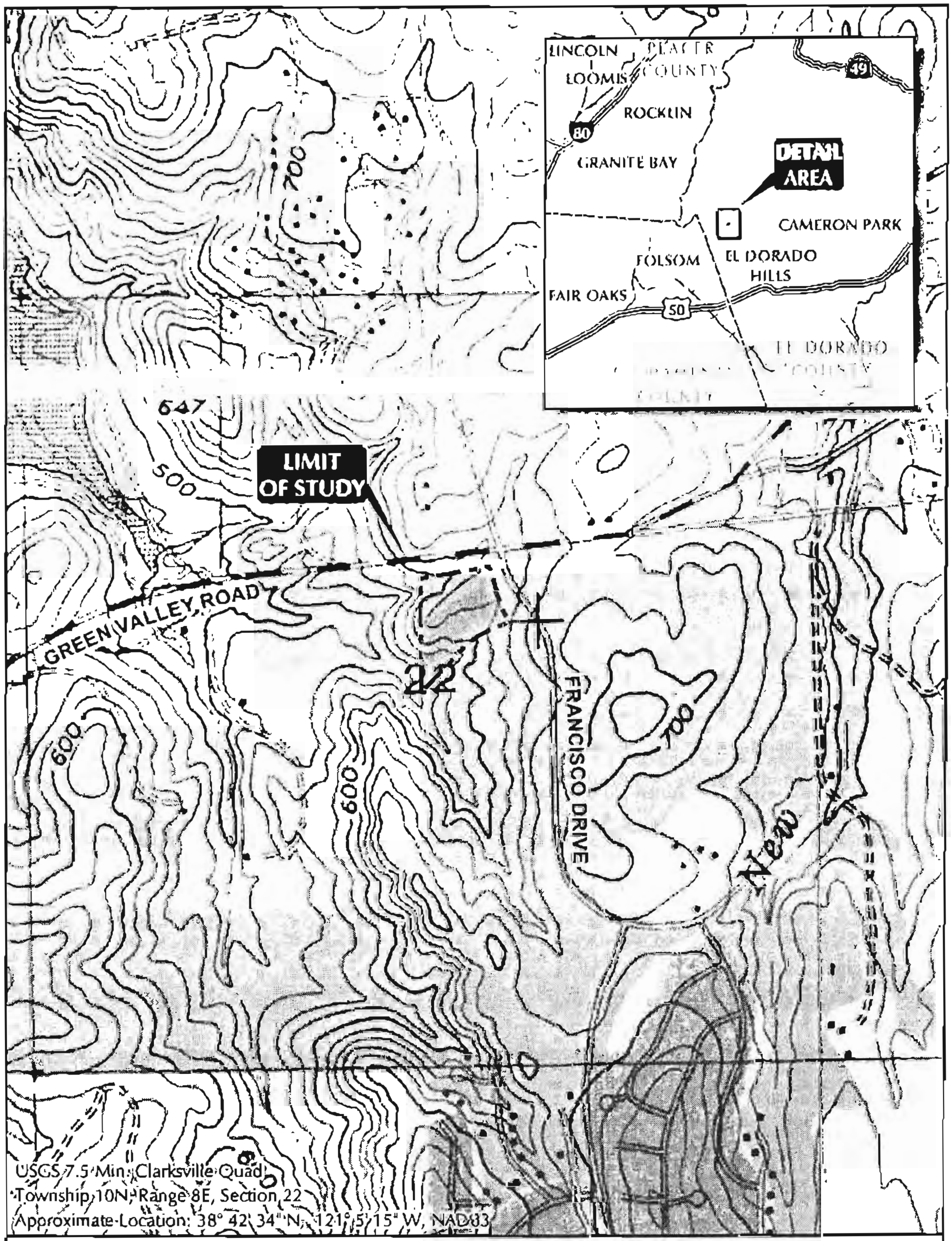


USGS 7.5 Min. Clarksville Quad
Township 10N, Range 8E, Section 22
Approximate Location: 38° 42' 34" N, 121° 5' 15" W, NAD83

SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

N

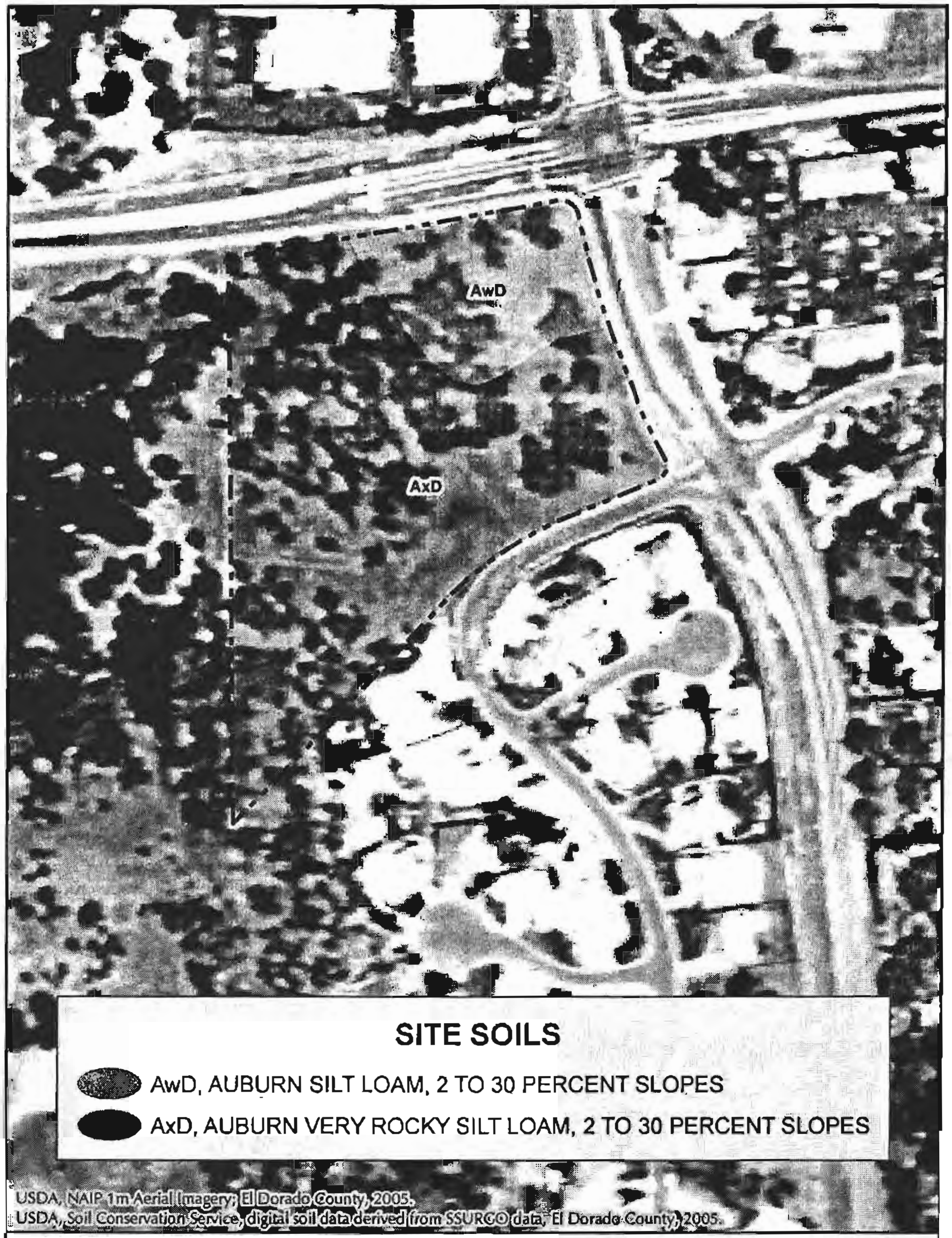
0 500 1000
SCALE IN FEET

Drawn By: RJM
Date: 04/12/07

FIGURE 1

FRANCISCO OAKS

site_and_vicinity.mxd
© 2007



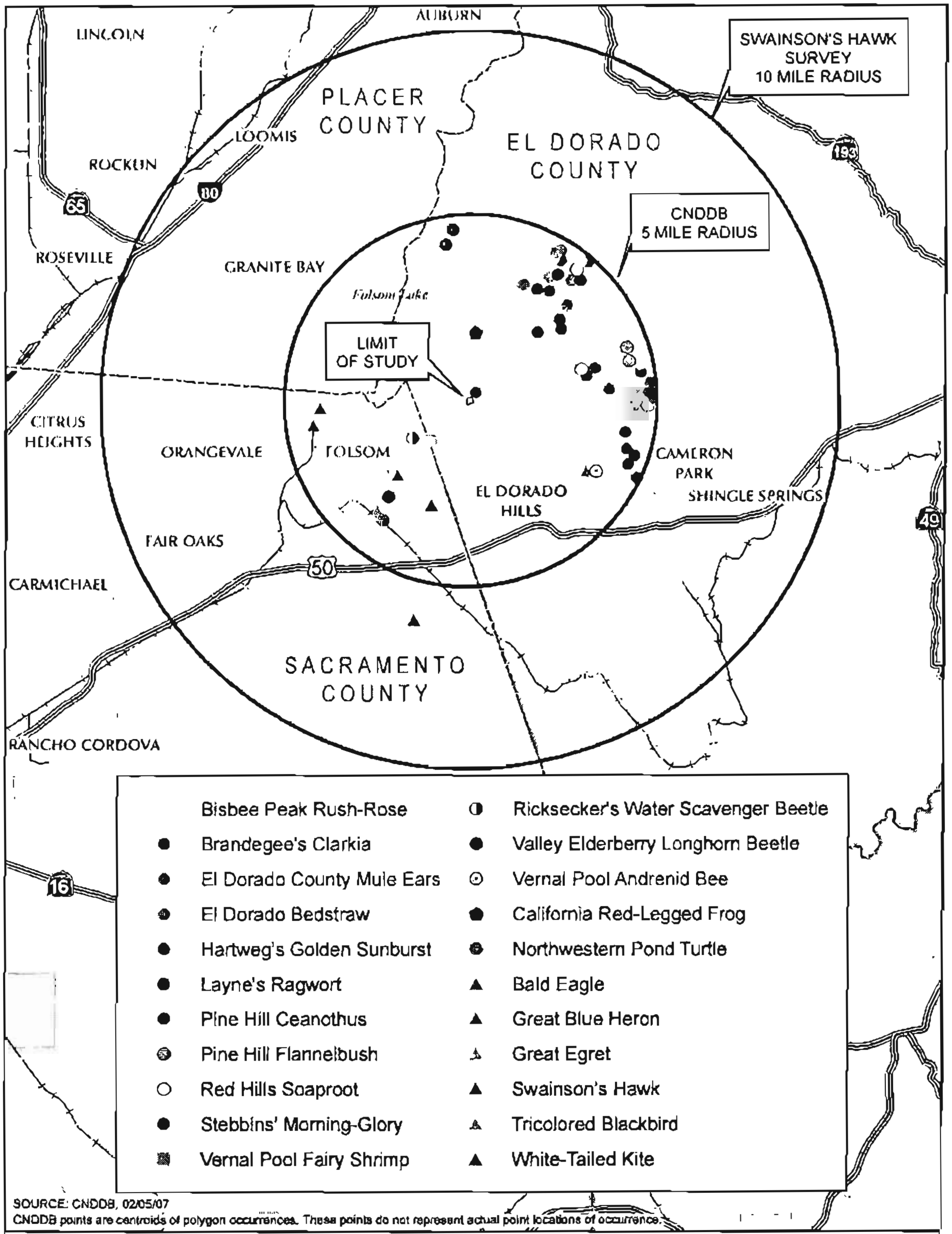
USDA, NAIP 1m Aerial Imagery; El Dorado County, 2005.
USDA, Soil Conservation Service, digital soil data derived from SSURGO data, El Dorado County, 2005.

SOILS

FOOTHILL ASSOCIATES ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE	N	0 90 180 SCALE IN FEET	Drawn By: RJM Date: 04/12/07	FIGURE 2

FRANCISCO OAKS

soils.mxd
© 2007



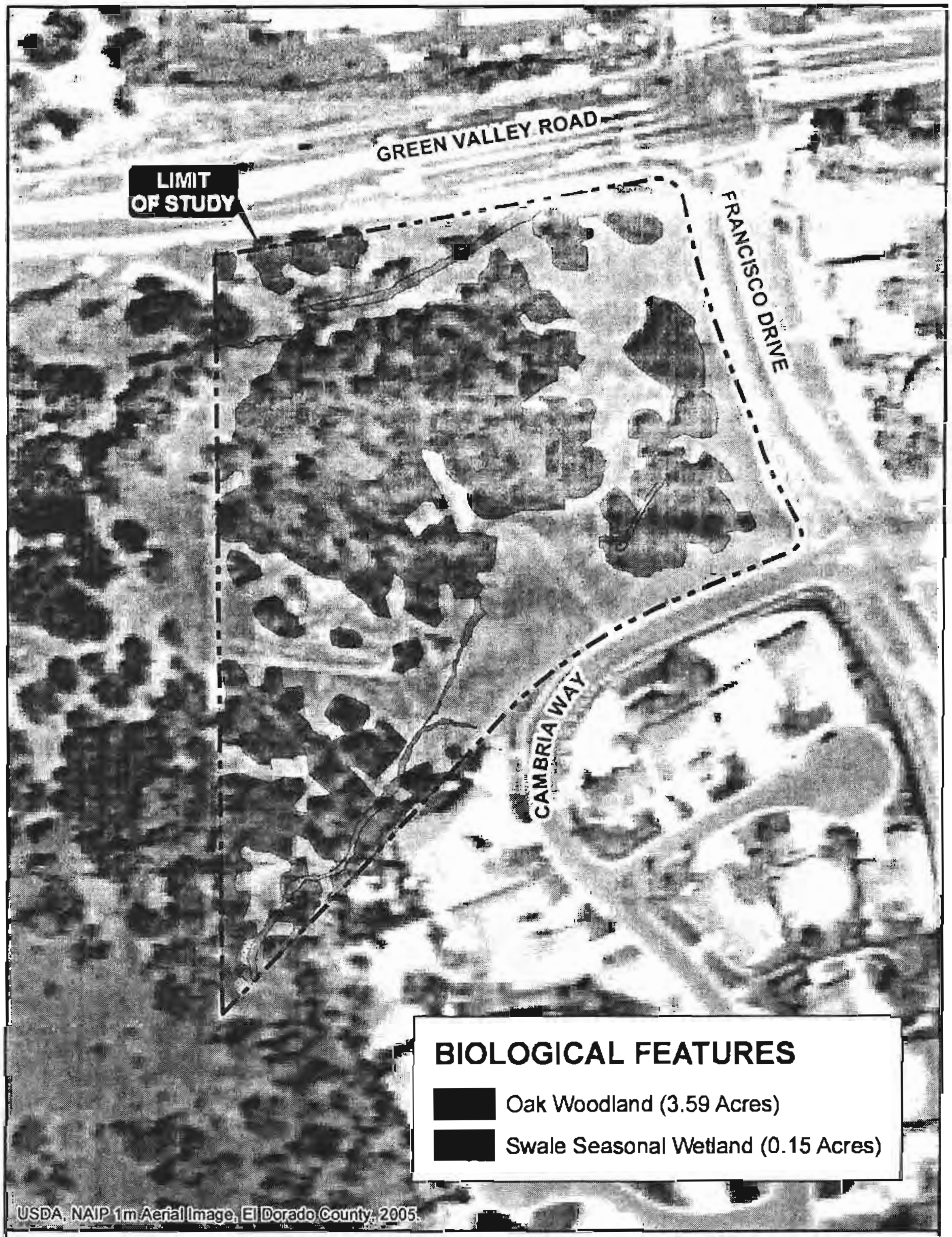
SOURCE: CNDDB, 02/05/07
CNDDB points are centroids of polygon occurrences. These points do not represent actual point locations of occurrence.

CNDDB

FOOTHILL ASSOCIATES ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE	N	0 2 4 SCALE IN MILES	Drawn By: RJM Date: 04/17/07	FIGURE 3

FRANCISCO OAKS

cnddb.mxd
© 2007



USDA, NAIP 1m Aerial Image, El Dorado County, 2005.

BIOLOGICAL CONSTRAINTS

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

N

0 75 150
SCALE IN FEET

Drawn By: RJM
Date: 04/12/07

FIGURE 4

FRANCISCO OAKS

bio_constraints.mxd
© 2007

Kimley-Horn
and Associates, Inc.

Suite 200
11919 Foundation Place
Gold River, California
95670

January 6, 2012

Mr. George Carpenter
Vice President
Winn Communities, Inc.
3001 I Street, Suite 300
Sacramento, California 95816

Re: Supplemental Traffic Evaluation
Green Valley Center (WO#39)
El Dorado Hills, California

Dear Mr. Carpenter:

As requested, I am writing to summarize our supplemental traffic evaluation efforts for the above referenced project. The following sections address each of the general topics as outlined in our previous discussions:

Green Valley Road @ Francisco Drive Intersection

The purpose of this assessment is to consider the likelihood of eastbound Green Valley Road traffic "cutting through" the project site to reach destinations to the south along Francisco Drive and El Dorado Hills Boulevard.

As discussed on Page 20 of the previous traffic study for the proposed project[1], "LOS for County-maintained roads and State highways within the unincorporated areas of the County shall not be worse than LOS E in the Community Regions." (El Dorado County General Plan Policy TC-Xd) Tables 3-8 of the previous traffic study demonstrate that the Green Valley Road intersection with Francisco Drive is anticipated to operate at acceptable level of service (LOS) E or better for all analysis scenarios, both without and with the addition of the project. These results are summarized in Table 1 below.

Additionally, we have also prepared a summary of the anticipated operations (including 95th percentile queuing) for the eastbound through and right-turn movements at the Green Valley Road intersection with Francisco Drive. As depicted in Table 2 below, the eastbound through and right-turn lane groups are anticipated to operate at LOS C or better for all analysis scenarios, both without and with the proposed project. Furthermore, queuing associated with these lanes is not anticipated to extend back to block access to the Green Valley Road right-turn lane to Francisco Drive.

---

[1] *Final Traffic Impact Analysis, Green Valley Center (WO#39),* Kimley-Horn and Associates, Inc., March 3, 2011.

EXHIBIT Q– ATTACHMENT 17

Table 1 – Summary of Intersection Operations

Intersection	Analysis Scenario	AM Peak-Hour		PM Peak-Hour	
		Delay (seconds)	LOS	Delay (seconds)	LOS
Green Valley Rd @ Francisco Dr	Existing (2010)	38.1	D	28.4	C
	Existing + Project	40.6	D	30.3	C
	EPAP (2015)	45.6	D	37.7	D
	EPAP + Project	48.1	D	40.2	D
	Cumulative (2025)	68.7	E	40.0	D
	Cumulative + Project	72.0	E	42.8	D
Source: *Final Traffic Impact Analysis, Green Valley Center (WO#39),* Kimley-Horn and Associates, Inc., March 3, 2011.					

Table 2 – Green Valley Road @ Francisco Drive Eastbound Approach Operations

Green Valley/Francisco Lane Group	Analysis Scenario	AM Peak-Hour		PM Peak-Hour	
		Delay (sec) / 95% Queue (ft)	LOS	Delay (sec) / 95% Queue (ft)	LOS
EB Through	Existing (2010)	29.4 / 101	C	19.6 / 280	B
	Existing + Project	20.9 / 104	C	21.1 / 286	C
	EPAP (2015)	21.3 / 108	C	20.7 / 302	C
	EPAP + Project	21.3 / 112	C	22.0 / 309	C
	Cumulative (2025)	25.7 / 147	C	26.1 / 417	C
	Cumulative + Project	26.0 / 151	C	28.1 / 425	C
EB Right	Existing (2010)	19.8 / 44	B	15.7 / 57	B
	Existing + Project	19.8 / 44	B	16.7 / 57	B
	EPAP (2015)	20.1 / 45	C	16.1 / 56	B
	EPAP + Project	20.1 / 45	C	16.8 / 56	B
	Cumulative (2025)	24.4 / 49	C	18.8 / 81	B
	Cumulative + Project	24.5 / 49	C	19.8 / 89	B
Source: *Final Traffic Impact Analysis, Green Valley Center (WO#39),* Kimley-Horn and Associates, Inc., March 3, 2011.					

Based on the results summarized in Table 1 and Table 2 above, it is reasonable to conclude that eastbound traffic along Green Valley Road approaching the Francisco Drive intersection is not anticipated to experience excessive delay or queuing. As such, it is also considered reasonable to conclude that the level of delay and queuing anticipated would not result in conditions from which a reasonable driver would perceive cutting through the project site as being necessary or as an effective alternative route. Furthermore, due to the alignment of the internal site roadways, in particular the two nearly right-angle intersections, additional friction would be anticipated interior to the site that would further reduce or eliminate any perceived attractiveness of eastbound traffic cutting through the project site as a means by which to avoid congestion at the Green Valley Road intersection with Francisco Drive.

We have also explored the feasibility of the addition of an eastbound u-turn movement at the Green Valley Road intersection with Francisco Drive. Currently, eastbound to westbound u-turns are prohibited at this intersection. The addition of said movement would be anticipated to reduce the number of site trips that are required to utilize Cambria Way exiting the project site and destined for points to the west. Based on coordination with the County[2], the existing geometric conditions are adequate to support the removal of the u-turn restriction.

Francisco Drive @ Cambria Way Traffic Control & Pedestrians

As depicted in Table 12 of the previous study[1], the peak-hour traffic signal warrant is not satisfied at the Francisco Drive intersection with Cambria Way for any of the analysis scenarios, both without and with the proposed project. A thorough review of the peak-hour warrant analysis sheets (Appendix J of the previous study) has confirmed that the mix of volumes at the subject intersection, in particular the higher minor street approach (eastbound), are not great enough to trigger this "indicator" of an unsignalized intersection warranting a traffic signal in the future.

In an effort to better quantify the anticipated operations along the eastbound Cambria Way approach to Francisco Drive, we have summarized the delay and LOS for the eastbound left, through, and right movements. Table 3 below provides a summary of the operational results as presented in Appendices B-I of the previous traffic study. As shown in Table 3, all movements operate at acceptable LOS E or better for all scenarios (including mitigated conditions), both without and with the project.

As is to be expected, the eastbound left-turn movement from Cambria Way to Francisco Drive experiences the greatest increase in delay with the addition of the proposed project. However, each eastbound approach movement, and the intersection as a whole, operate at acceptable LOS both without and with the proposed project. It is important to note that these results are for worst-case, peak-hour conditions in which it is reasonable to anticipate a heightened level of delay.

---

[2] Telephone conversation with Eileen Crawford, El Dorado County Department of Transportation, January 5, 2012.

Table 3 – Francisco Drive @ Cambria Way Eastbound Approach Operations

Francisco/Cambria Lane Group	Analysis Scenario	AM Peak-Hour		PM Peak-Hour	
		Delay (seconds)	LOS	Delay (seconds)	LOS
EB Left	Existing (2010)	19.2	C	29.2	D
	Existing + Project	28.4	D	43.4	E
	EPAP (2015)	19.2	C	30.0	D
	EPAP + Project	28.5	D	45.2	E
	Cumulative (2025)	19.2	C	31.5	D
	Cumulative + Project	28.5	D	50.8	F
	Cum + PP (Mitigated)	24.6	C	43.3	E
EB Through	Existing (2010)	12.5	B	16.0	C
	Existing + Project	13.9	B	17.6	C
	EPAP (2015)	12.5	B	16.1	C
	EPAP + Project	13.9	B	17.8	C
	Cumulative (2025)	12.5	B	16.4	C
	Cumulative + Project	13.9	B	18.4	C
	Cum + PP (Mitigated)	13.8	B	18.1	C
EB Right	Existing (2010)	8.4	A	8.2	A
	Existing + Project	8.7	A	8.4	A
	EPAP (2015)	8.4	A	8.2	A
	EPAP + Project	8.7	A	8.4	A
	Cumulative (2025)	8.4	A	8.3	A
	Cumulative + Project	8.7	A	8.5	A
	Cum + PP (Mitigated)	8.7	A	8.5	A

Source: *Final Traffic Impact Analysis, Green Valley Center (WO#39),* Kimley-Horn and Associates, Inc., March 3, 2011.

To more thoroughly assess conditions for eastbound Cambria Way traffic at Francisco Drive, we completed an evaluation of sight distance for this intersection approach based on observed horizontal and vertical geometric conditions. This evaluation was performed in accordance with the guidelines presented in the *Geometric Design of Highways and Streets, 2004,* published by the American Association of State Highway and Transportation Officials (AASHTO). According to AASHTO, an assumed 45 mph design speed (40 mph posted speed limit) requires a minimum of 360-feet of Stopping Sight Distance (SSD). Adequate AASHTO SSD was documented along the Francisco Drive approaches to Cambria Way.

It should be noted that the observed site line was reduced by approximately 25-feet due to the over-grown roadside vegetation along the west side of Francisco Drive, south of Cambria Way. This vegetation should be maintained to maximize the sight line for vehicles exiting Cambria Way.

Currently, there are no pedestrian facilities (sidewalks) along Cambria Way or along the Francisco Drive project frontage. There is a sidewalk along the Green Valley Road project frontage which terminates in the southwest corner of the Green Valley Road intersection with Francisco Drive. More broadly speaking, there are existing sidewalks along the east side of Francisco Drive, north of Green Valley Road, along the north side of Green Valley Road, east of Francisco Drive, and along the east side of Francisco Drive between Green Valley Road and Cambria Way.

According to Chapter 5 of the *El Dorado County Bicycle Transportation Plan*, Class II Bike Lanes either exist or are proposed for Green Valley Road, Francisco Drive, and El Dorado Hills Boulevard in the vicinity of the project site. In addition, Class III Bike Routes are proposed for Francisco Drive and Salmon Falls Road/Lakehills Drive north of Green Valley Road. A Class I Bike Path is also proposed for El Dorado Hills Boulevard, south of Francisco Drive.

Project Francisco Drive and Cambria Way frontage improvements are anticipated to include the addition of sidewalks. A Class II bike lane will also be included along the Francisco Drive frontage. Due to the two-way stop traffic control at the Francisco Drive intersection with Cambria Way, pedestrians originating from or destined for the Francisco Oaks residential community west of the project site are anticipated to utilize the project frontage along the west side of Francisco Drive to reach Green Valley Road and points to the north. This north-south crossing of Cambria Way at Francisco Drive should be the focus of off-site pedestrian enhancements to facilitate the broader connectivity envisioned by the community. As such, due to the geometric complexity of the eastbound Cambria Way approach to Francisco Drive (offset southbound right-turn lane, limit line extended into intersection area, etc.) and the addition of the sidewalk along the project's Cambrian Way frontage, all Cambria Way pedestrian traffic should be confined to the north side of the road, eliminating the need to cross Cambria Way at the Francisco Drive intersection or at the site driveway. The sidewalk along the project's Cambria Way frontage will connect well with the anticipated Francisco Drive frontage improvements, and would provide connectivity for the residential area with Francisco Drive and Green Valley Road.

Furthermore, locating the sidewalk along the north side of Cambria Way would position pedestrians in a highly visible location at the project site driveway. As depicted in Attachment A, the profile of the proposed site access driveway is such that pedestrian visibility will be enhanced by their location along the north side of Cambria Way, as opposed to the south side where they would likely not be as visible to vehicles exiting the project site due to the difference in grades.

Cambria Way Residential Gate Operations

Approximately one-half (30 of the 60) of the Francisco Oaks gated residential neighborhood units are reasonably anticipated to currently or eventually utilize the Cambria Way access gate. This volume of traffic is generally supported by the existing traffic count data presented in the previous traffic study[1] (Figure 6).

Due to the absence of traffic signal control at the Francisco Drive intersection with Cambria Way, traffic entering the residential neighborhood are reasonably assumed to arrive at a uniform rate at which one (1) trip is assumed to arrive per minute (30 trips per hour = 0.5 trips per minute, rounded-up to 1 trip per minute). For the purposes of this analysis, the entry gate is assumed to have a service rate of 4 vehicles per minute (30 seconds and 2 vehicles per gate actuation). Given the conservative arrival and service rates, the likelihood of the neighborhood gate operations queuing entering vehicles back to or past the proposed project site access driveway is extremely low. The approximately 130-feet of storage space (between the gate and project site driveway) could easily accommodate up to 5 vehicles, far more than the anticipated arrival rate would produce.

Green Valley Road Capacity

According to the County[3], Green Valley Road between El Dorado Hills Boulevard and Silva Valley Parkway carries approximately 15,000 vehicles per day (vpd) with a peak-hour volume of approximately 760 vehicles per hour (vph). The proposed project is anticipated to add approximately 25 vph to this segment during the peak-hours. According to the *El Dorado County General Plan EIR,* this peak roadway segment volume (785 vph) equates to LOS C.

Although this segment LOS is currently acceptable, the County recognizes the need to extend the four-lane segment east of Francisco Drive at some point in the future. The "Green Valley Road Widening – Francisco to Salmon Falls Road" and "Green Valley Road Widening from Salmon Falls Road to Deer Valley Road" projects are identified in the current County Capital Improvement Program (CIP)

---

[3] El Dorado County Department of Transportation, July 13, 2010.

as "Future" projects, not funded between County fiscal years 2000/2010 through 2018/2019[4].

Francisco Drive Site Access Feasibility

The current project site plan depicts secondary site access from Cambria Way. It is our understanding that the project team desires to understand the feasibility of relocating this secondary access from Cambria Way to Francisco Drive (between Green Valley Road and Cambria Way).

Qualitatively speaking, said access location would be anticipated to be restricted to right-turns in and out, with both entering and exiting left-turns physically restricted with the existing center median. Additionally, it would be desirable to maximize spacing from both Green Valley Road and Cambria Way. If constructed, this driveway would likely require the addition of an auxiliary lane along the project's Francisco Drive frontage to maximize the deceleration and acceleration distances. According to County standards[5], a Francisco Drive right-in/right-out driveway would likely be required to be located at least 150-feet south of the Green Valley Road curb return.

Considering the existing and future traffic volumes along this segment of Francisco Drive, as well as the anticipated origins and destinations of project related traffic (right-in/right-out access would necessitate additional u-turn movements), the relocation of the project's secondary access from Cambria Way to Francisco Drive is not desirable.

Please contact me at (916) 859-3617 if you have any questions or require additional information.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.

Matthew Weir

Matthew D. Weir, PE, TE, PTOE
PE No. C70216 & TR2424

Attachment: Cambria Way Site Driveway Profile

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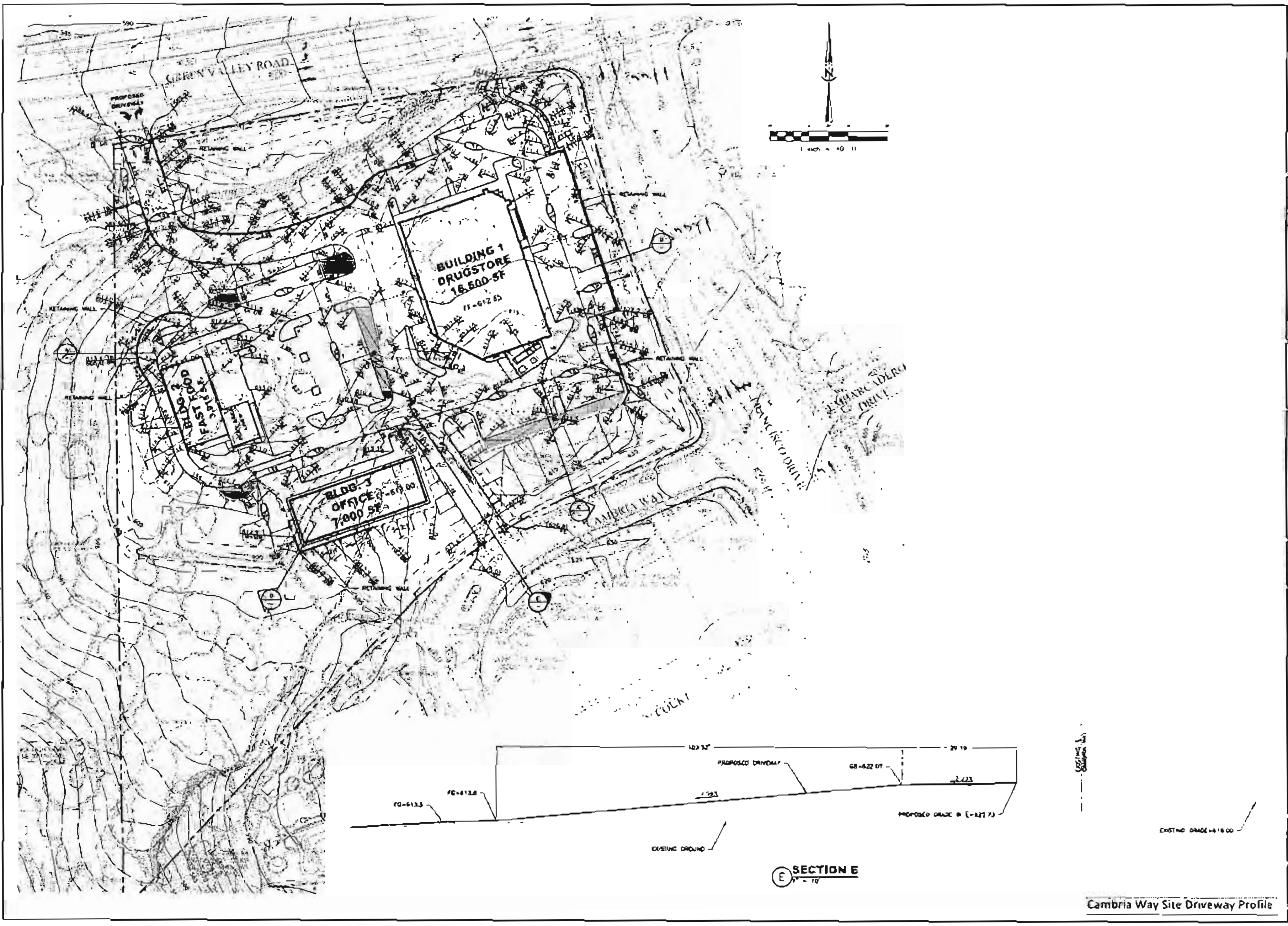
[4] *Adopted 2010 Capital Improvement Program (CIP)*, El Dorado County Department of Transportation, April 27, 2010.

[5] Standard Plan 109, El Dorado County Department of Transportation Design Standards.



Cambria Way Site Driveway Profile

WINN COMMUNITIES

RSC ENGINEERING

PRELIMINARY PLANS
GREEN VALLEY CENTER
GREEN VALLEY RD. & FRANCISCO DR.
EL DORADO COUNTY, CALIFORNIA

SHEET TITLE
PRELIMINARY
GRADING
PLAN

SHEET NO
G-0.1
OF 1

Traffic Impact Analysis

Green Valley Center (WO#39)
El Dorado Hills, California

FINAL
March 3, 2011

Prepared for:

El Dorado County, California

Prepared by:

Kimley-Horn
and Associates, Inc.
11919 Foundation Place, Suite 200
Gold River, California 95670

Phone: (916) 858-5800
Fax: (916) 608-0885

EXECUTIVE SUMMARY

This report documents the results of a traffic impact analysis completed for Green Valley Center, a 6.85-acre, mixed-use retail/office development project proposed to be located in the southwest corner of the Green Valley Road intersection with Francisco Drive in El Dorado Hills, California (the "proposed project" or "project"). The purpose of this impact analysis is to identify potential environmental impacts to transportation facilities as required by the California Environmental Quality Act (CEQA). This study was performed in accordance with the El Dorado County Department of Transportation's *Traffic Impact Study Protocols and Procedures*, and the scope of work provided by a representative of the County.

The 6.85-acre project site is proposed to be developed with up to 29,000-square feet of retail and office uses. Access to the site will be provided via one full access driveway along Cambria Way, and one right-in/right-out driveway along Green Valley Road. The following intersections are included in this evaluation:

1. Green Valley Road at Silva Valley Parkway/Allegheny Road
2. Green Valley Road at El Dorado Hills Boulevard/Salmon Falls Road
3. Francisco Drive at Village Center Drive
4. Green Valley Road at Francisco Drive
5. Francisco Drive at Embarcadero Drive
6. El Dorado Hills Boulevard at Francisco Drive
7. *Green Valley Road at Project Site Access Driveway (Project Only)*
8. *Cambria Way at Project Site Access Driveway (Project Only)*

Based on the County's requirements, this LOS analysis was conducted for the above facilities for the following scenarios:

A. Existing (2010) Conditions
B. Existing (2010) plus Proposed Project Conditions
C. Existing plus Approved Projects (2015) Conditions
D. Existing plus Approved Projects (2015) plus Proposed Project Conditions
E. Cumulative (2025) Conditions
F. Cumulative (2025) plus Proposed Project Conditions

Significant findings of this study include:

- The proposed project is estimated to generate 3,388 total new daily trips, with 176 new trips occurring during the AM peak-hour, and 180 new trips occurring during the PM peak-hour.

- The proposed project (Commercial) is not consistent with the *2004 General Plan* land use designation and zoning density for the site (High Density Residential (1-5 DU/acre)). Therefore, a new Cumulative (2025) analysis is required in addition to the analysis already completed for the County's *General Plan*.

- As defined by the County, the addition of the proposed project to the Existing (2010), Existing plus Approved Projects (2015), and Cumulative (2025) scenarios significantly worsens conditions at multiple study intersections. However, these impacts can be mitigated to be ***less than significant***.

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INTRODUCTION

This report documents the results of a traffic impact analysis completed for Green Valley Center, a 6.85-acre, mixed-use retail/office development project proposed to be located in the southwest corner of the Green Valley Road intersection with Francisco Drive in El Dorado Hills, California (the "proposed project" or "project"). The purpose of this impact analysis is to identify potential environmental impacts to transportation facilities as required by the California Environmental Quality Act (CEQA). This study was performed in accordance with the El Dorado County Department of Transportation's *Traffic Impact Study Protocols and Procedures*, and the scope of work provided by a representative of the County[1].

The remaining sections of this report document the proposed project, analysis methodologies, impacts and mitigation, and general study conclusions.

PROJECT DESCRIPTION

The 6.85-acre project site is proposed to be developed with up to 29,000-square feet of retail and office uses. Access to the site will be provided via one full access driveway along Cambria Way, and one right-in/right-out driveway along Green Valley Road. The project location is shown in Figure 1, and the proposed project site plan is shown in Figure 2. The following intersections are included in this evaluation:

1. Green Valley Road at Silva Valley Parkway/Allegheny Road
2. Green Valley Road at El Dorado Hills Boulevard/Salmon Falls Road
3. Francisco Drive at Village Center Drive
4. Green Valley Road at Francisco Drive
5. Francisco Drive at Embarcadero Drive
6. El Dorado Hills Boulevard at Francisco Drive
7. *Green Valley Road at Project Site Access Driveway (Project Only)*
8. *Cambria Way at Project Site Access Driveway (Project Only)*

Figure 3 illustrates the study facilities, existing traffic control, and existing lane configurations.

PROJECT AREA ROADWAYS

The following are descriptions of the primary roadways in the vicinity of the project.

US Route 50 (US-50) is an east-west freeway located south of the project site. Generally, US-50 serves all of El Dorado County's major population centers and provides connections to Sacramento County to the west and the State of Nevada to the east. Primary access to the project site from US-50 is provided at the El Dorado Hills Boulevard/Latrobe Road interchange. Within the general project area, US-50 currently serves approximately 95,000 vehicles per day[2] (vpd) with three travel lanes in each direction, west of El Dorado Hills Boulevard/Latrobe Road.

Green Valley Road is an east-west arterial roadway that connects Placerville with western portions of El Dorado County and eastern Sacramento County, south of Folsom Lake. Through the project area, Green Valley Road provides two travel lanes in each direction and serves approximately 13,000 vehicles per day[3].

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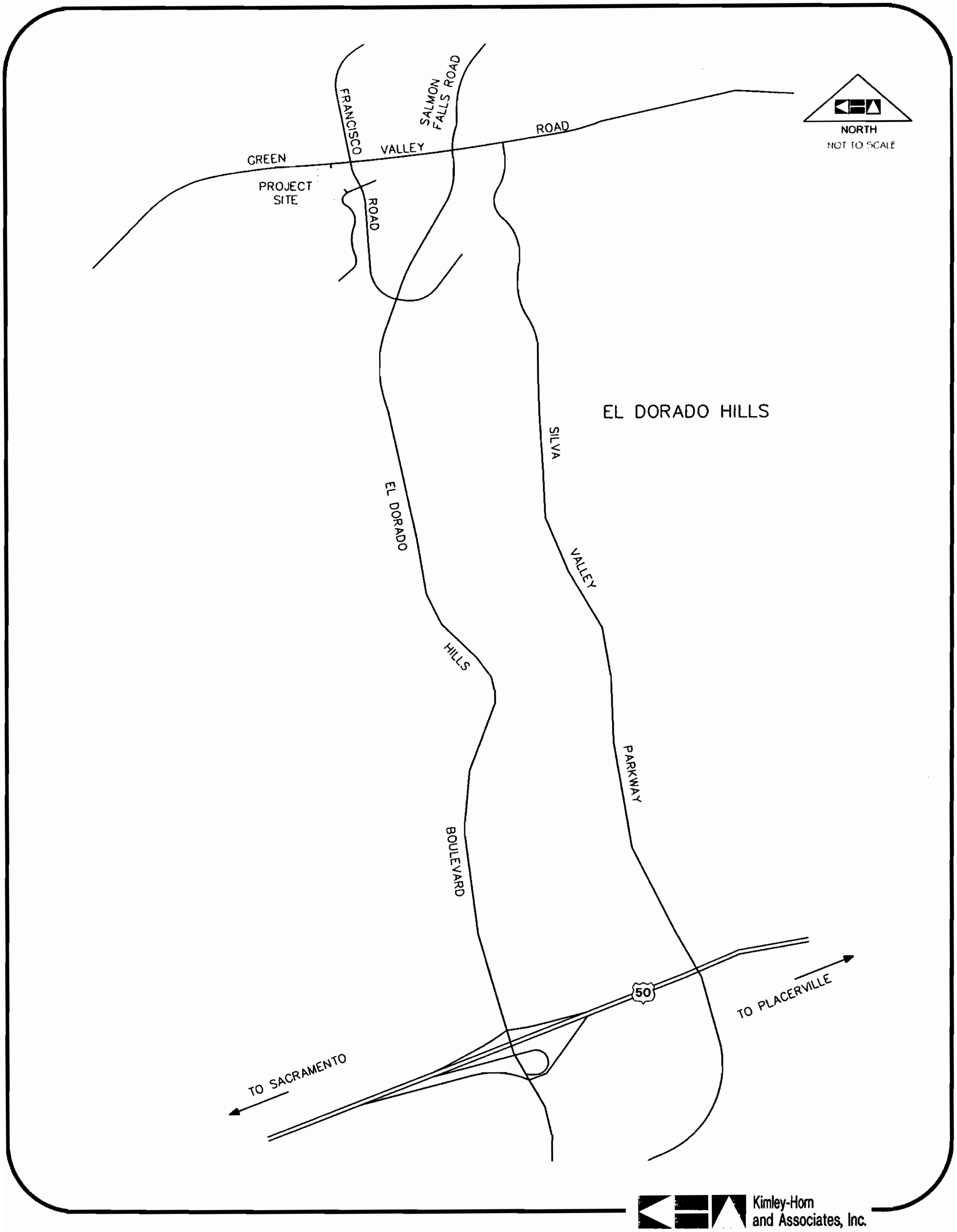
[1] Memorandum from Carol Saucedo, Dowling Associates, Inc., to Eileen Crawford, El Dorado County DOT, November 22, 2010.
[2] Caltrans Traffic and Vehicle Data Systems Unit, http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2009all/2009TrafficVolumes.htm
[3] El Dorado County Department of Transportation, 2009.



Kimley-Horn and Associates, Inc.

FIGURE 1

PROJECT VICINITY MAP

GREEN VALLEY CENTER
EL DORADO HILLS, CA

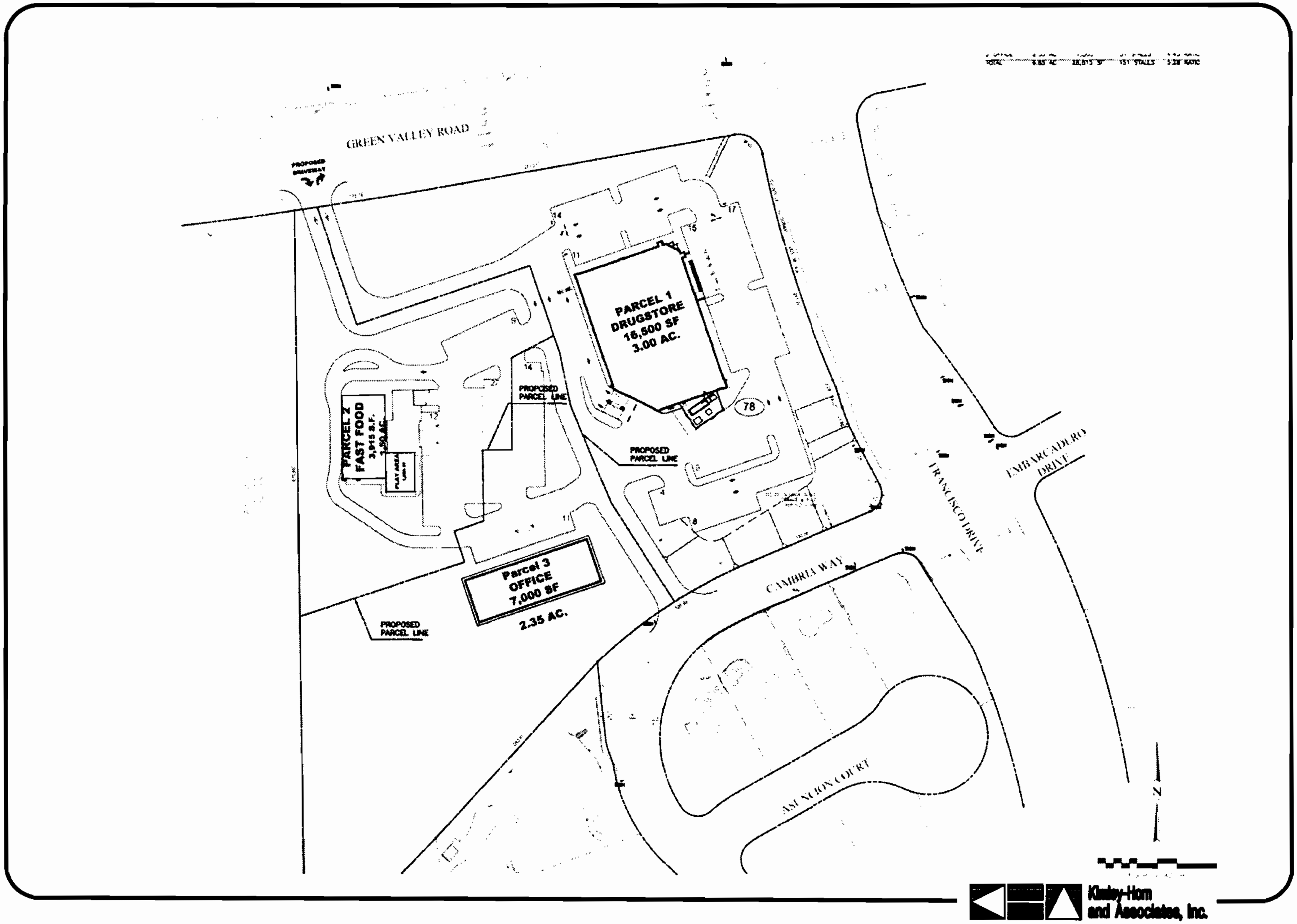


FIGURE 2

PROPOSED PROJECT SITE PLAN

GREEN VALLEY CENTER
EL DORADO HILLS, CA

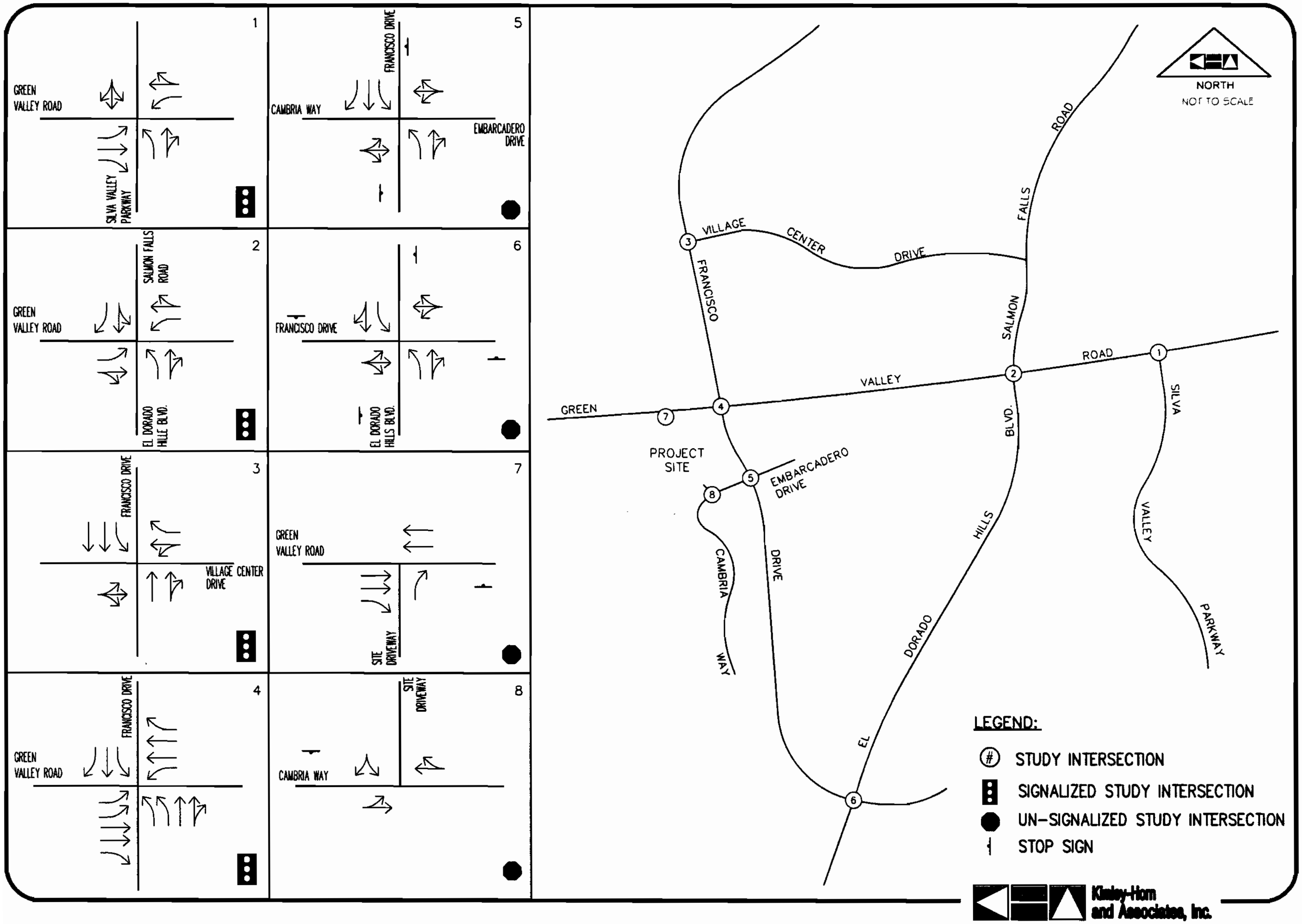


FIGURE 3

STUDY INTERSECTIONS, TRAFFIC CONTROL, AND LANE GEOMETRIES

GREEN VALLEY CENTER
EL DORADO HILLS, CA

Salmon Falls Road is a north-south arterial roadway that serves as a primary connection for areas located along the eastern border of Folsom Lake, and provides a connect to SR-49 to the north. Through the project area, this roadway serves approximately 7,300 vpd[3] with one travel lane in each direction. South of Green Valley Road, Salmon Falls Road becomes El Dorado Hills Boulevard. **El Dorado Hills Boulevard** provides a primary connection to US-50 for western El Dorado County. Just north of US-50 this roadway carries approximately 31,000 vpd[3] with two travel lanes in each direction.

Francisco Drive is a north-south collector roadway that provides access to residential areas north of Green Valley Road and connects with El Dorado Hills Boulevard to the south. Francisco Drive has one travel lane in each direction and serves as a primary southern connection between El Dorado Hills Boulevard and Green Valley Road for vehicles destined for, and coming from points to the west.

Cambria Way and **Embarcadero Drive** are two-lane local roadways that provide access to residential areas surrounding Francisco Drive. The proposed project has direct access to Cambria Way.

ASSESSMENT OF PROPOSED PROJECT

Proposed Project Trip Generation

The number of trips anticipated to be generated by the proposed project were derived using data included in *Trip Generation, 8th Edition,* published by the Institute of Transportation Engineers (ITE). The anticipated trip generation for this project, as provided by a representative of the County[1], is shown in Table 1.

Table 1 – Proposed Project Trip Generation

Land Use (ITE Code)	Size (ksf)			Daily Trips	AM Peak-Hour					PM Peak-Hour				
					Total Trips	IN		OUT		Total Trips	IN		OUT	
						%	Trips	%	Trips		%	Trips	%	Trips
General Office Building (710)	7			174	22	88%	20	12%	3	87	17%	15	83%	72
Pharmacy/Drugstore w/ Drive-Through Window (881)	16.5			1,456	44	57%	25	43%	19	171	50%	86	50%	86
Fast-Food Restaurant w/ Drive-Through (934)	5.5			2,730	271	51%	138	49%	133	186	52%	97	48%	89
Internal Trip Reduction[1] (Daily, AM, PM):	22%	9%	19%	-972	-29		-15		-14	-87		-43		-47
Subtotal New Trips:				*3,388*	*308*		*168*		*141*	*358*		*155*		*203*
Pass-by Trip Reduction[1] (LU 881) (PM):			49%							-84		-42		-42
Pass-by Trip Reduction[1] (LU 934) (AM, PM):		49%	50%		-132		-66		-66	-94		-47		-47
Net New External Trips:				***3,388***	***176***		***102***		***75***	***180***		***66***		***114***

Source: Dowling Associates, Inc. & *Trip Generation, 8th Edition*, ITE.
[1] Per *Trip Generation Handbook, Second Edition*, ITE.

As shown in Table 1, the proposed project is estimated to generate 3,388 total new daily trips, with 176 new trips occurring during the AM peak-hour, and 180 new trips occurring during the PM peak-hour.

Proposed Project Trip Distribution

The distribution of project traffic was based on information approved and provided by a representative of the County[1]. The project trip distribution percentages are illustrated in Figure 4. The resulting AM and PM peak-hour traffic volumes attributed to the proposed project are illustrated in Figure 5.

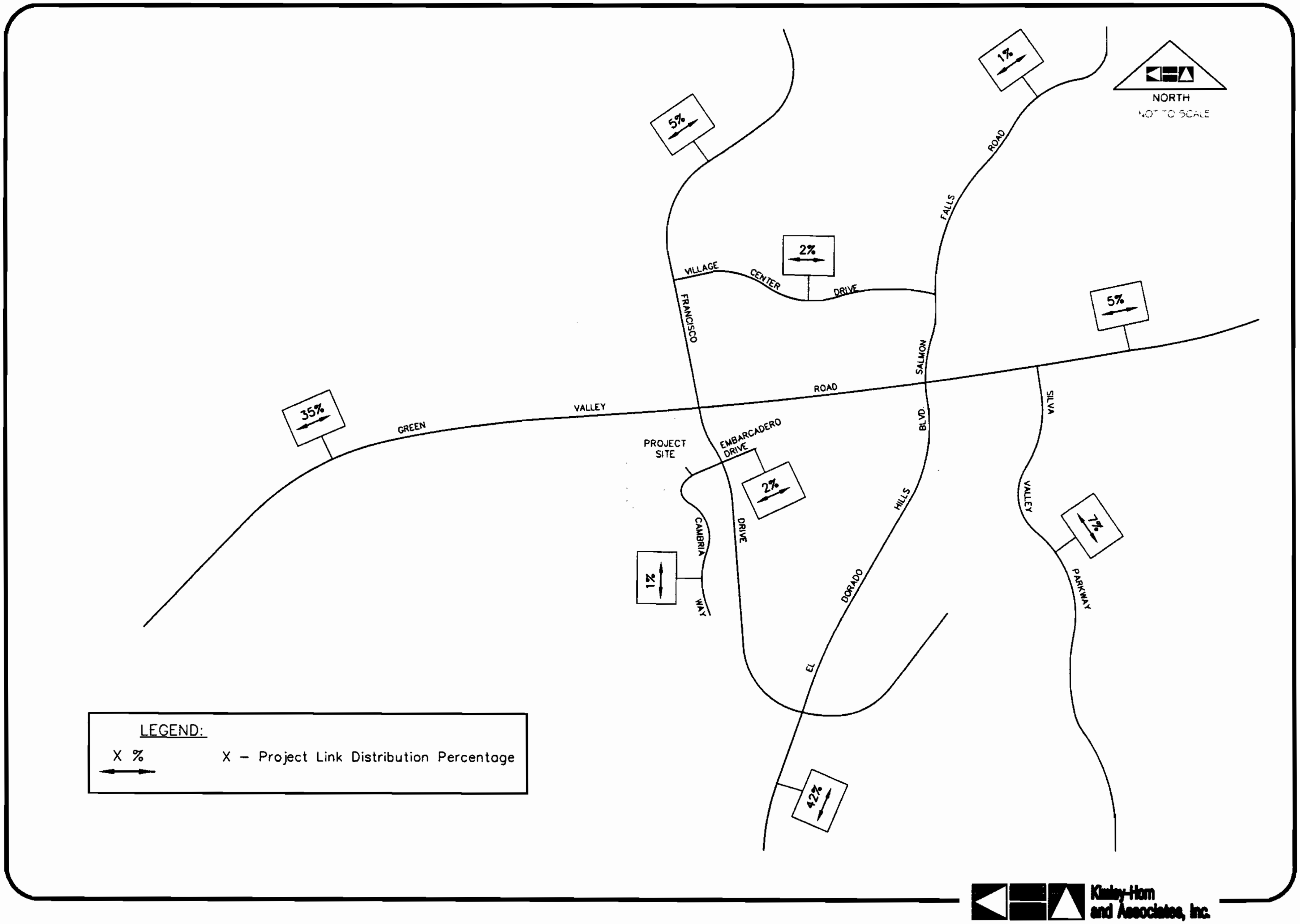


FIGURE 4

PROPOSED PROJECT TRIP DISTRIBUTION

GREEN VALLEY CENTER
EL DORADO HILLS, CA

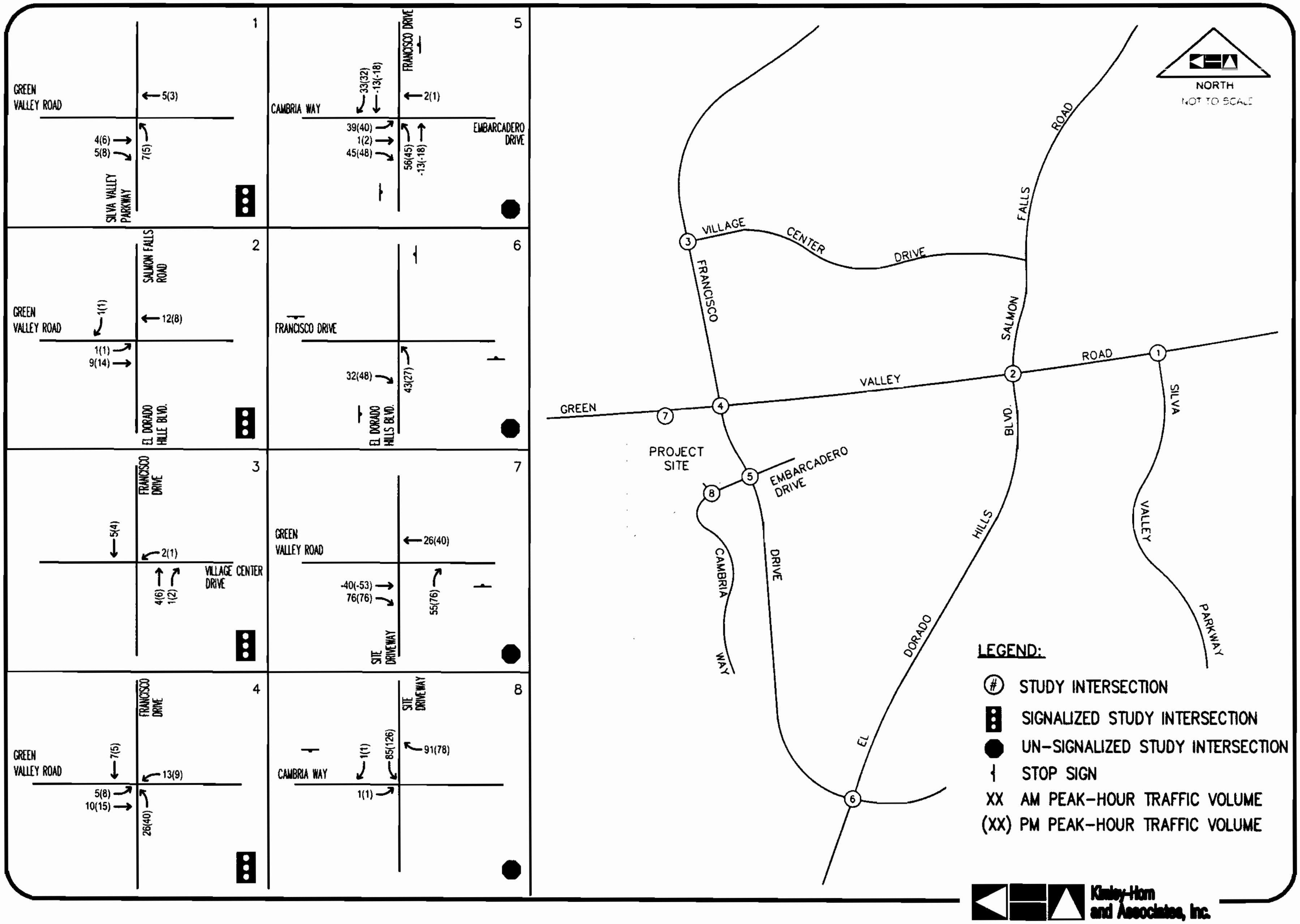


FIGURE 5

PROPOSED PROJECT TRIP ASSIGNMENT

GREEN VALLEY CENTER
EL DORADO HILLS, CA

TRAFFIC IMPACT ANALYSIS METHODOLOGY

Analysis of transportation facility significant environmental impacts is based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual, 2000* (HCM) and appropriate traffic analysis software

The HCM includes procedures for analyzing two-way stop controlled (TWSC), all-way stop controlled (AWSC), and signalized intersections. The TWSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. Table 2 presents intersection LOS definitions as defined in the HCM.

Table 2 – Intersection Level of Service Criteria

Level of Service (LOS)	**Un-Signalized**	**Signalized**
	Average Control Delay* (sec/veh)	**Control Delay per Vehicle (sec/veh)**
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

Source: Highway Capacity Manual, 2000
* Applied to the worst lane/lane group(s) for TWSC

Consistency with General Plan Land Use Designation

According to the County's *Protocols*:

> "[A] Each traffic impact study must provide a review of a proposed project's consistency with the land use designations and zoning densities of the 2004 County General Plan to determine if the project is consistent with such designation(s) as applicable within the proposed project area...[B] If a proposed project is of a magnitude that is clearly within the amount of development which was anticipated in the traffic study conducted for the General Plan, then the General Plan's traffic analysis will serve as the basis for the cumulative traffic analysis of the project."

The proposed project (Commercial) is not consistent with the *2004 General Plan* land use designation and zoning density for the site (High Density Residential (1-5 DU/acre))[4]. Therefore, the proposed project satisfies the first criterion [A] for determining if a new cumulative 2025 analysis is required in addition to the analysis already completed for the County's *General Plan.*

According to information provided by a representative of the County[1], "The proposed project land use is not consistent with the *2004 General Plan.* Therefore, cumulative analysis is required."

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[4] *2004 General Plan Land Use Diagram*, El Dorado County Planning Department.

Based on the above criteria and the County's requirements, this LOS analysis was conducted for the study facilities for the following scenarios:

A. Existing (2010) Conditions
B. Existing (2010) plus Proposed Project Conditions
C. Existing plus Approved Projects (2015) Conditions
D. Existing plus Approved Projects (2015) plus Proposed Project Conditions
E. Cumulative (2025) Conditions
F. Cumulative (2025) plus Proposed Project Conditions

The following is a discussion of the analyses for these scenarios:

EXISTING (2010) CONDITIONS

Recent peak-hour traffic volumes for the majority of the study intersections were obtained from a representative of the County[5]. For these intersections, existing counts that were collected in 2005-2007 were increased to represent current year (2010) conditions using a 2 percent annual growth rate to conservatively approximate existing conditions[6]. Two (2) new weekday AM and PM peak period intersection turning movement traffic counts were conducted in November 2010, for the Francisco Drive intersections with Village Center Drive and El Dorado Hills Boulevard. These counts were conducted between the hours of 6:30 a.m. and 9:30 a.m. and 3:30 p.m. and 6:30 p.m. It is worth noting that a peak-hour factor (PHF) of 0.92 and a two percent heavy vehicle factor were utilized for this, and all subsequent analysis scenarios.

Existing (2010) peak-hour turn movement volumes are presented in Figure 6, and the traffic count data sheets are provided in Appendix A. Table 3 presents the peak-hour intersection operating conditions for this analysis scenario.

Table 3 – Existing (2010) Intersection Levels of Service

#	Intersection	Traffic Control	AM Peak-Hour		PM Peak-Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Green Valley Road @ Silva Valley Parkway/Allegheny Road	Signal	15.8	B	16.2	B
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	Signal	**83.2**	**F**	46.9	D
3	Francisco Drive @ Village Center Drive	Signal	6.0	A	14.2	B
4	Green Valley Road @ Francisco Drive	Signal	38.1	D	28.4	C
5	Francisco Drive @ Cambria Way/Embarcadero Drive	TWSC*	19.2 (EB)	C	29.2 (EB)	D
6	El Dorado Hills Boulevard @ Francisco Drive	AWSC	**92.7**	**F**	49.9	E
7	Green Valley Road @ Project Site Access Driveway	TWSC*	*Plus Project Analysis Scenarios Only*			
8	Cambria Way @ Project Site Access Driveway	TWSC*				

* Control delay for worst minor approach (worst minor movement) for TWSC. **Bold = Substandard per County**

As indicated in Table 3, the study intersections operate from LOS A to LOS F during the AM and PM peak-hours. Analysis worksheets for this scenario are provided in Appendix B.

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[5] Dowling Associates, Inc., ftp://ftp.dowlinginc.com.
[6] Methodology per email from Abhi Parikh, Dowling Associates, Inc., November 11, 2010.

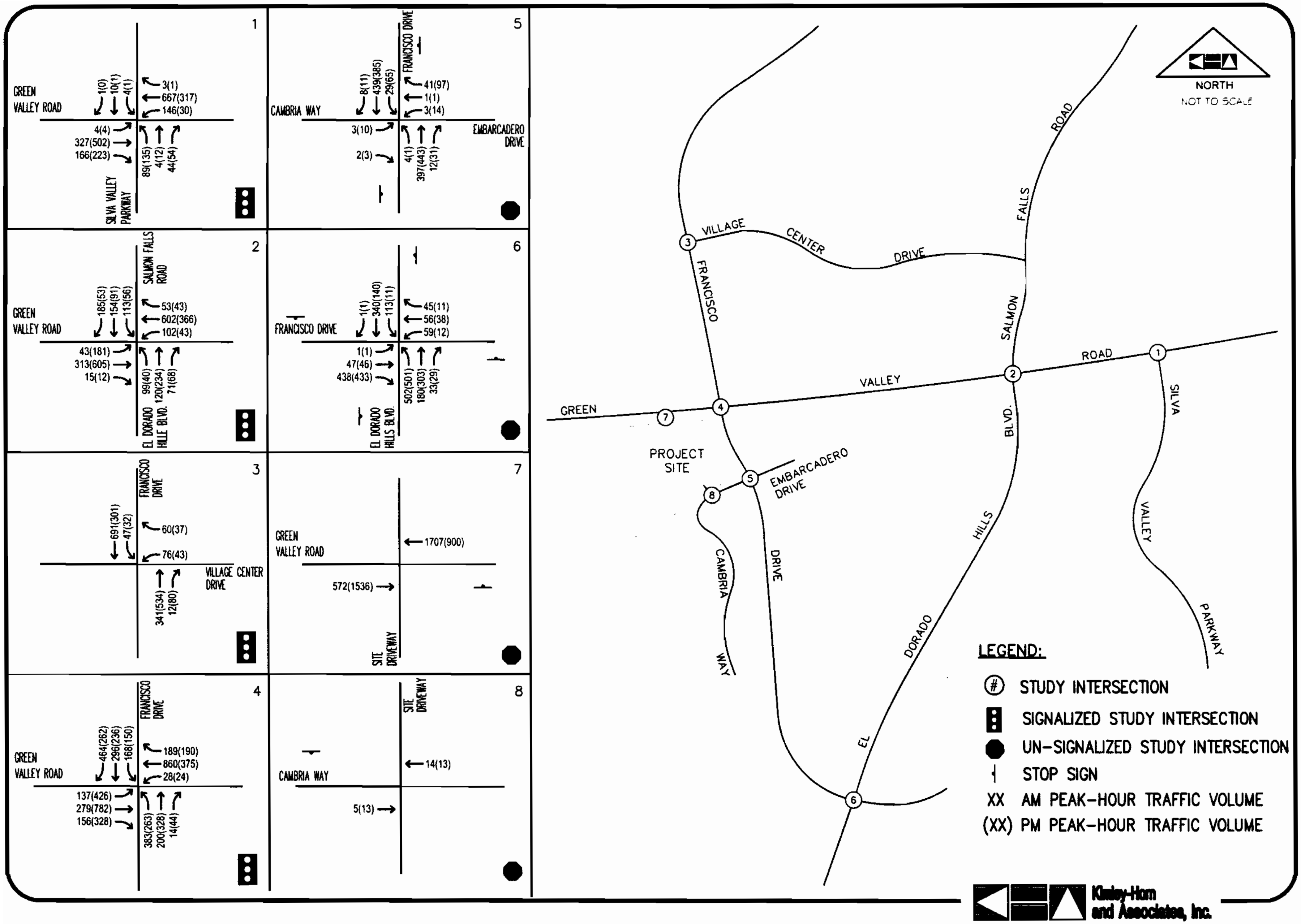

FIGURE 6

EXISTING (2010) PEAK-HOUR TRAFFIC VOLUMES

GREEN VALLEY CENTER
EL DORADO HILLS, CA

EXISTING (2010) PLUS PROPOSED PROJECT CONDITIONS

Peak-hour traffic associated with the proposed project was added to the existing traffic volumes and levels of service were determined at the study intersections. Table 4 provides a summary of the intersection analysis and Figure 7 provides the AM and PM peak-hour traffic volumes at the study intersections for this analysis scenario.

Table 4 – Existing (2010) and Existing (2010) Plus Proposed Project Intersection Levels of Service

#	Intersection	Analysis Scenario+	Traffic Control	AM Peak-Hour		PM Peak-Hour	
				Delay (seconds)	LOS	Delay (seconds)	LOS
1	Green Valley Road @ Silva Valley Parkway/Allegheny Road	Exist.	Signal	15.8	B	16.2	B
		Exist.+PP		16.1	B	16.3	B
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	Exist.	Signal	**83.2**	**F**	46.9	D
		Exist.+PP		**86.8**	**F**	48.4	D
3	Francisco Drive @ Village Center Drive	Exist.	Signal	6.0	A	14.2	B
		Exist.+PP		5.8	A	14.1	B
4	Green Valley Road @ Francisco Drive	Exist.	Signal	38.1	D	28.4	C
		Exist.+PP		40.6	D	30.3	C
5	Francisco Drive @ Cambria Way/Embarcadero Drive	Exist.	TWSC•	19.2 (EB)	C	29.2 (EB)	D
		Exist.+PP		28.4 (EB)	D	43.4 (EB)	E
6	El Dorado Hills Boulevard @ Francisco Drive	Exist.	AWSC	**92.7**	**F**	49.9	E
		Exist.+PP		**115.4**	**F**	**66.1**	**F**
7	Green Valley Road @ Project Site Access Driveway	Exist.	*Plus Project Analysis Scenarios Only*				
		Exist.+PP	TWSC•	10.6 (NB)	B	19.8 (NB)	C
8	Cambria Way @ Project Site Access Driveway	Exist.	*Plus Project Analysis Scenarios Only*				
		Exist.+PP	TWSC•	9.3 (SB)	A	9.5 (SB)	A

+ Exist. = Existing (2010), Exist. + PP = Existing (2010) plus Proposed Project
• Control delay for worst minor approach (worst minor movement) for TWSC. **Bold = Substandard per County**

As indicated in Table 4, the study intersections operate from LOS A to LOS F with the addition of project traffic during the AM and PM peak-hours. The analysis worksheets for this scenario are provided in Appendix C.

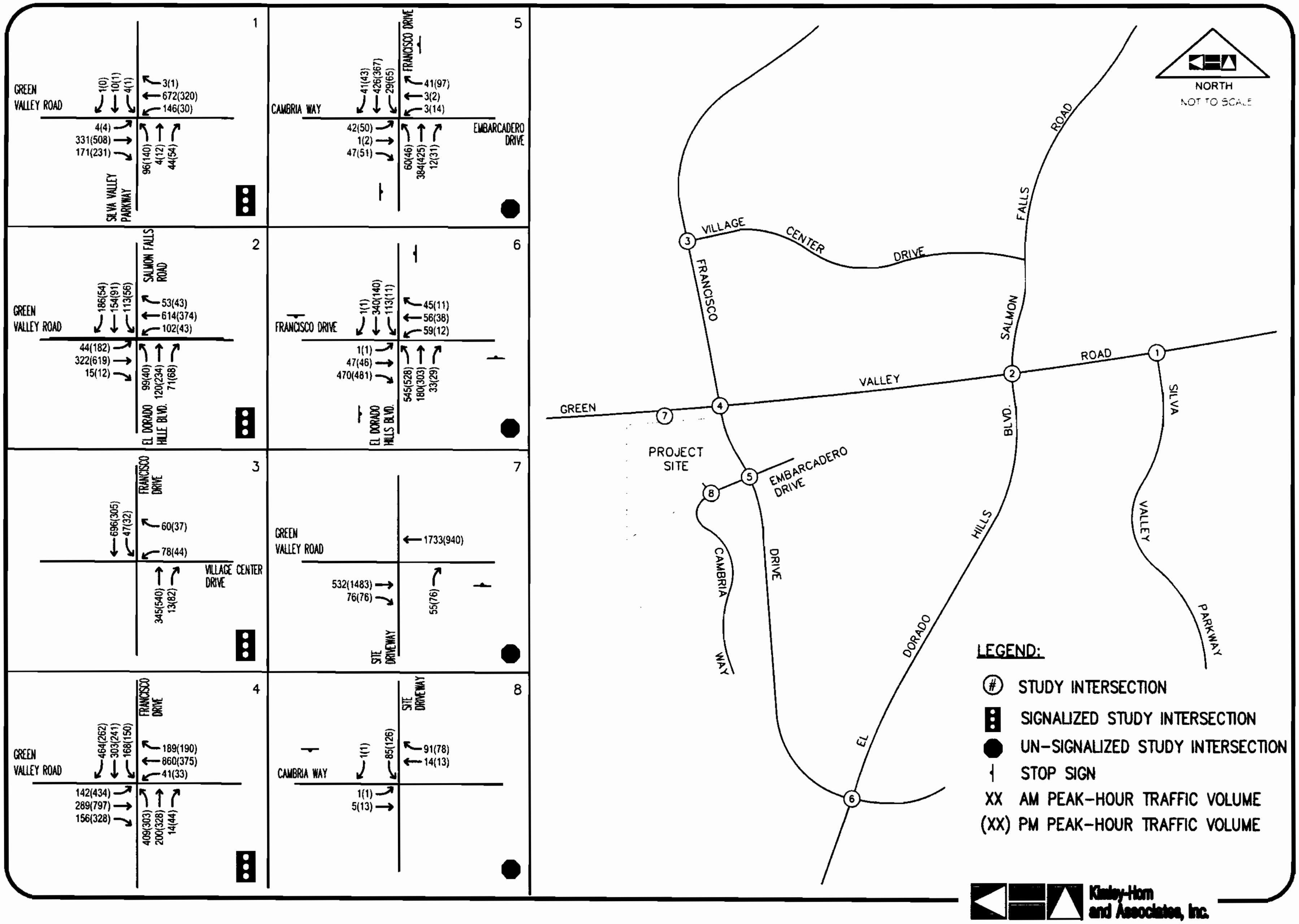

FIGURE 7

EXISTING (2010) PLUS PROPOSED PROJECT PEAK-HOUR TRAFFIC VOLUMES

GREEN VALLEY CENTER
EL DORADO HILLS, CA

EXISTING PLUS APPROVED PROJECTS (2015) CONDITIONS

As required by the County, two scenarios were evaluated to determine the worst case approximation of near-term study area roadway traffic volumes. First, traffic associated with approved projects in the vicinity of the proposed project as documented in a previous study[7], as well as project traffic associated with three additional projects (Parkes Property - WO#101, Diamante Estates - WO #16, and Wilson Estates – WO#38) were combined and added to the Existing (2010) traffic conditions. Second, five years of projected growth as derived from the County's travel demand model output was applied to the Existing (2010) traffic conditions. For this second scenario, peak-hour traffic volumes for the study area roadway segments were obtained from a representative of the County for the years 1998 and 2025[5]. Using the 1998 and 2025 model data, percent annual peak growth rates were determined for each roadway segment direction and were then extended to five-year growth rates. The study intersections' Existing (2010) peak-hour traffic volumes were then increased by these five year growth rates (by direction) to obtain forecasted (year 2015) traffic conditions.

These two volume scenarios were compared and it was determined that the second scenario, the addition of five years of projected growth as derived from the County's travel demand model output, yields the worst case traffic conditions for the majority of the study intersections' movements. A list of approved projects and details regarding the comparison of year 2015 traffic conditions are presented in Appendix D.

Table 5 provides a summary of the intersection analysis and Figure 8 provides the AM and PM traffic volumes for this analysis scenario.

Table 5 – Existing plus Approved Projects (2015) Intersection Levels of Service

#	Intersection	Traffic Control	AM Peak-Hour		PM Peak-Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Green Valley Road @ Silva Valley Parkway/Allegheny Road	Signal	18.3	B	18.5	B
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	Signal	60.3	E	57.0	E
3	Francisco Drive @ Village Center Drive	Signal	5.9	A	12.1	B
4	Green Valley Road @ Francisco Drive	Signal	45.6	D	37.7	D
5	Francisco Drive @ Cambria Way/Embarcadero Drive	TWSC*	19.2 (EB)	C	30.0 (EB)	D
6	El Dorado Hills Boulevard @ Francisco Drive	AWSC	**93.9**	**F**	**51.5**	**F**
7	Green Valley Road @ Project Site Access Driveway	TWSC*	*Plus Project Analysis Scenarios Only*			
8	Cambria Way @ Project Site Access Driveway	TWSC*				

* Control delay for worst minor approach (worst minor movement) for TWSC. **Bold = Substandard per County**

As indicated in Table 5, the study intersections operate from LOS A to LOS F during the AM and PM peak-hours. The analysis worksheets for this scenario are provided in Appendix E.

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[7] *Parkes Property Traffic Impact Analysis (WO #101)*, Kimley-Horn and Associates, Inc., January 24, 2008.

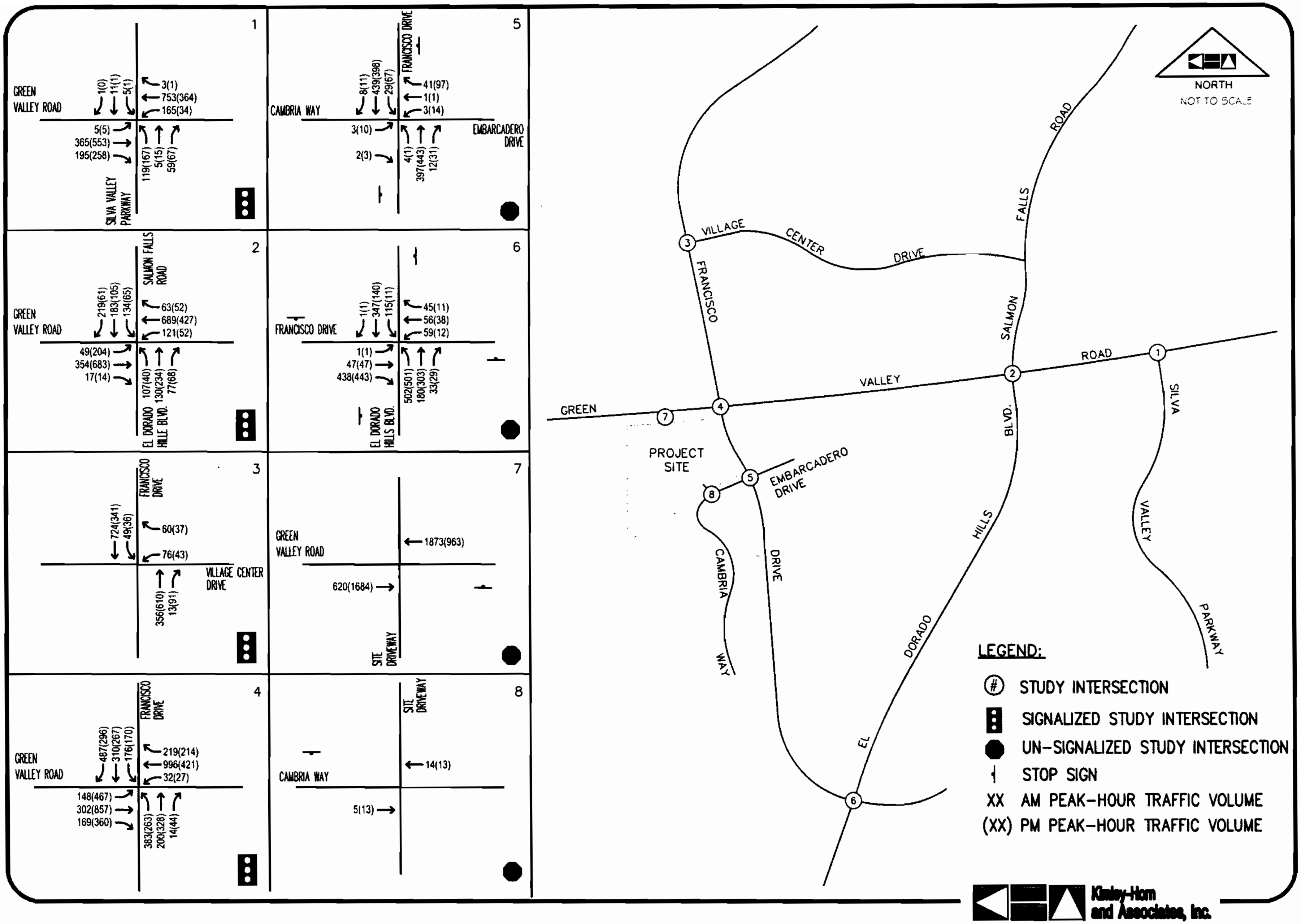

FIGURE 8

EXISTING PLUS APPROVED PROJECTS (2015) PLUS PROPOSED PROJECT PEAK-HOUR TRAFFIC VOLUMES

GREEN VALLEY CENTER
EL DORADO HILLS, CA

EXISTING PLUS APPROVED PROJECTS (2015) PLUS PROPOSED PROJECT CONDITIONS

Peak-hour traffic associated with the proposed project was added to the Existing plus Approved Projects (2015) traffic volumes, and levels of service were determined at the study facilities. Table 6 provides a summary of the intersection operating conditions for this analysis scenario. Figure 9 provides the AM and PM traffic volumes for this analysis scenario.

Table 6 – Existing plus Approved Projects (2015) and Existing plus Approved Projects (2015) plus Proposed Project Intersection Levels of Service

#	**Intersection**	**Analysis Scenario[+]**	**Traffic Control**	**AM Peak-Hour**		**PM Peak-Hour**	
				Delay (seconds)	**LOS**	**Delay (seconds)**	**LOS**
1	Green Valley Road @ Silva Valley Parkway/Allegheny Road	EPAP	Signal	18.3	B	18.5	B
		EPAP+PP		18.8	B	18.7	B
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	EPAP	Signal	60.3	E	57.0	E
		EPAP+PP		62.6	E	58.7	E
3	Francisco Drive @ Village Center Drive	EPAP	Signal	5.9	A	12.1	B
		EPAP+PP		6.0	A	12.6	B
4	Green Valley Road @ Francisco Drive	EPAP	Signal	45.6	D	37.7	D
		EPAP+PP		48.1	D	40.2	D
5	Francisco Drive @ Cambria Way/Embarcadero Drive	EPAP	TWSC[•]	19.2 (EB)	C	30.0 (EB)	D
		EPAP+PP		28.5 (EB)	D	45.2 (EB)	E
6	El Dorado Hills Boulevard @ Francisco Drive	EPAP	AWSC	**93.9**	**F**	**51.5**	**F**
		EPAP+PP		**116.6**	**F**	**68.4**	**F**
7	Green Valley Road @ Project Site Access Driveway	EPAP	*Plus Project Analysis Scenarios Only*				
		EPAP+PP	TWSC[•]	10.8 (NB)	B	22.5	C
8	Cambria Way @ Project Site Access Driveway	EPAP	*Plus Project Analysis Scenarios Only*				
		EPAP+PP	TWSC[•]	9.3 (SB)	A	9.5 (SB)	A

[+] EPAP = Existing plus Approved Projects (2015), EPAP + PP = EPAP (2015) plus Proposed Project
[•] Control delay for worst minor approach (worst minor movement) for TWSC. **Bold = Substandard per County**

As indicated in Table 6, the study intersections operate from LOS A to LOS F during the AM and PM peak-hours. The analysis worksheets for this scenario are provided in Appendix F.

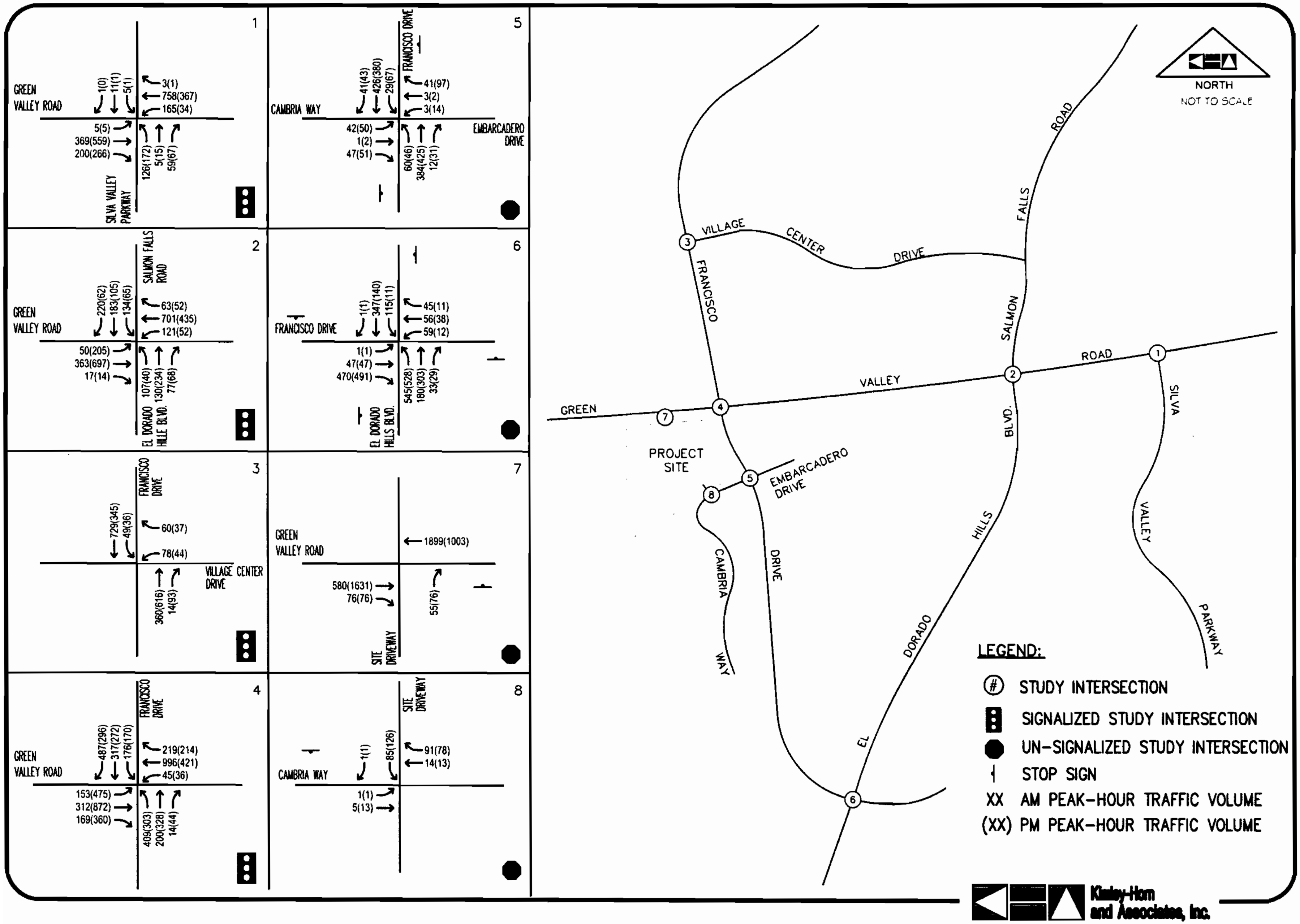

FIGURE 9

EXISTING PLUS APPROVED PROJECTS (2015) PLUS PROPOSED PROJECT PEAK-HOUR TRAFFIC VOLUMES

GREEN VALLEY CENTER
EL DORADO HILLS, CA

CUMULATIVE (2025) CONDITIONS

For all study intersections, growth rates were derived from the County's travel demand model output and applied to the Existing (2010) traffic volumes to represent Cumulative (2025) conditions volumes. The peak-hour traffic volumes for the study area roadway segments for the year 2025 were obtained from a representative of the County[8]. Using the 1998 and 2025 model data, percent annual peak growth rates were determined for each roadway segment direction and were then extended to fifteen-year growth rates. The study intersections' existing (2010) peak-hour traffic volumes were then grown by these growth rates (by direction) to obtain cumulative traffic conditions for this analysis scenario.

Table 7 provides a summary of the intersection analysis and Figure 10 provides the AM and PM traffic volumes for this analysis scenario.

Table 7 – Cumulative (2025) Intersection Levels of Service

#	Intersection	Traffic Control	AM Peak-Hour		PM Peak-Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Green Valley Road @ Silva Valley Parkway/Allegheny Road	Signal	30.2	C	23.5	C
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	Signal	**113.7**	**F**	71.9	E
3	Francisco Drive @ Village Center Drive	Signal	6.5	A	7.7	A
4	Green Valley Road @ Francisco Drive	Signal	68.7	E	40.0	D
5	Francisco Drive @ Cambria Way/Embarcadero Drive	TWSC[•]	19.2 (EB)	C	31.5	D
6	El Dorado Hills Boulevard @ Francisco Drive	AWSC	**97.4**	**F**	**55.4**	**F**
7	Green Valley Road @ Project Site Access Driveway	TWSC[•]	*Plus Project Analysis Scenarios Only*			
8	Cambria Way @ Project Site Access Driveway	TWSC[•]				
[•] Control delay for worst minor approach (worst minor movement) for TWSC. **Bold = Substandard per County**						

As indicated in Table 7, the study intersections operate from LOS A to LOS F during the AM and PM peak-hours. The analysis worksheets for this scenario are provided in Appendix G.

CUMULATIVE (2025) PLUS PROPOSED PROJECT CONDITIONS

Peak-hour traffic associated with the proposed project was added to the cumulative traffic volumes and levels of service were determined at the study intersections. Table 8 provides a summary of the intersection analysis and Figure 11 provides the AM and PM traffic volumes for this analysis scenario.

As indicated in Table 8, the study intersections operate from LOS A to LOS F during the AM and PM peak-hours. The analysis worksheets for this scenario are provided in Appendix H.

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[8] Dowling Associates, Inc., ftp://ftp.dowlinginc.com.

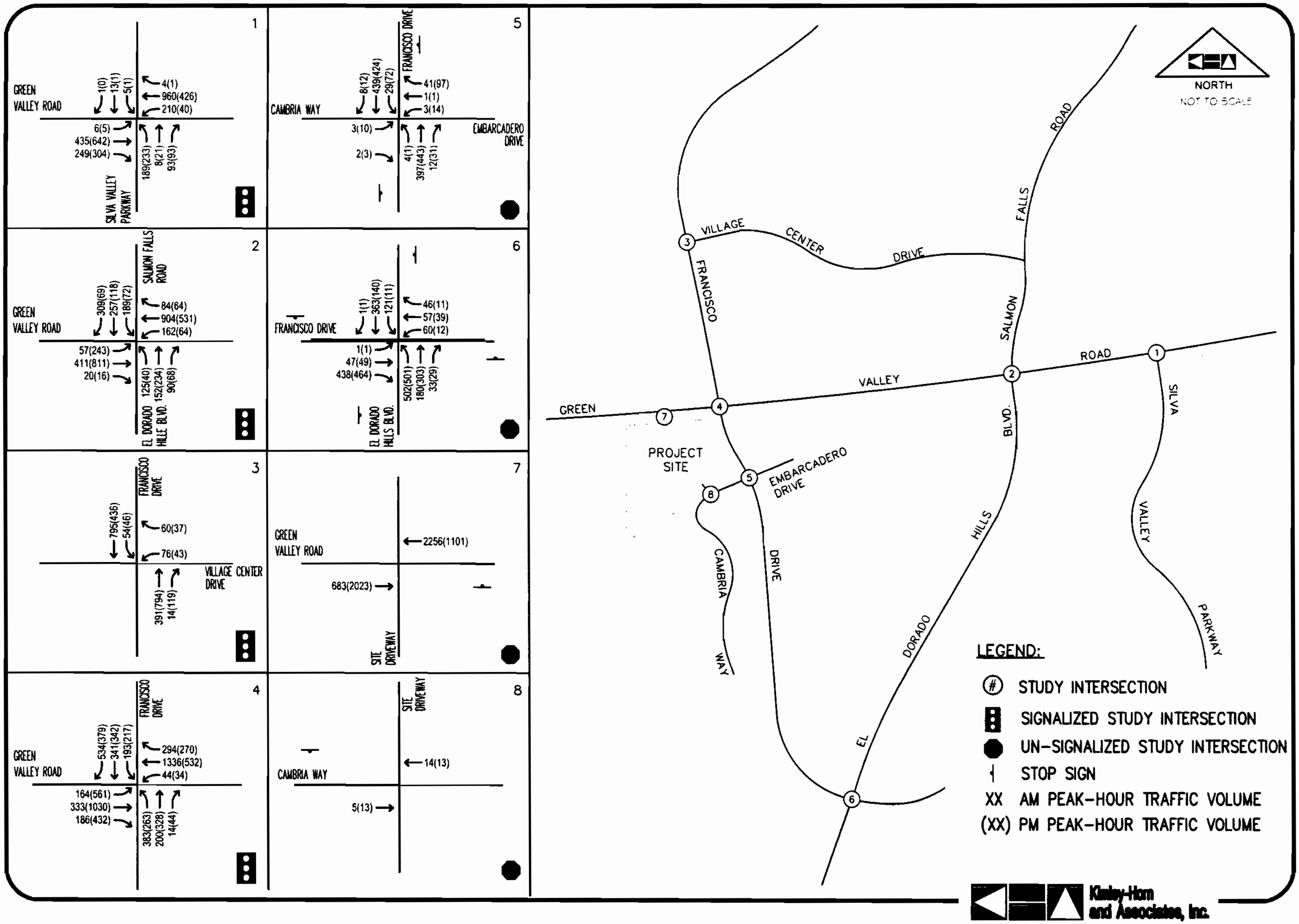

FIGURE 10

CUMULATIVE (2025) PEAK-HOUR TRAFFIC VOLUMES

GREEN VALLEY CENTER
EL DORADO HILLS, CA

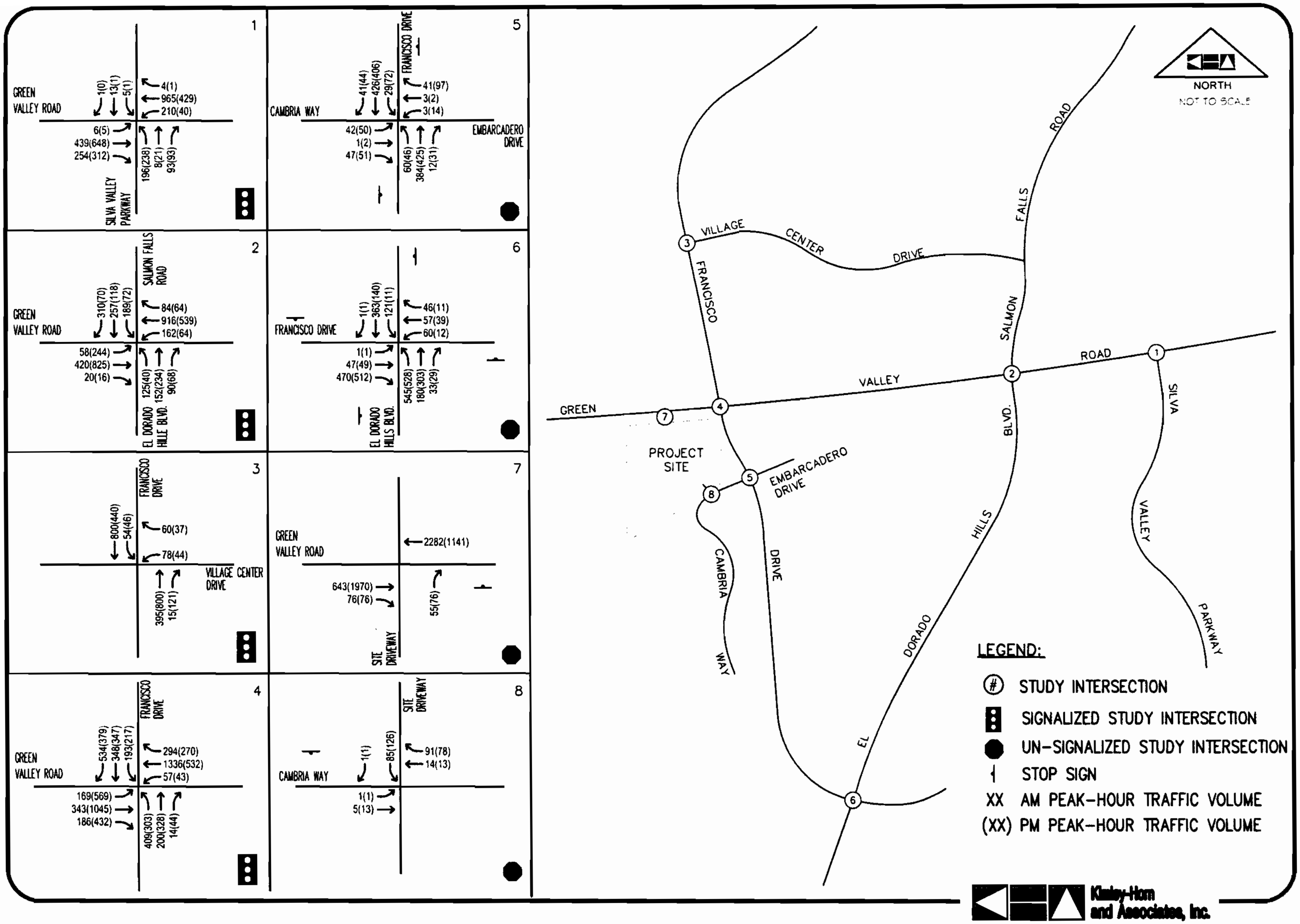

FIGURE 11

CUMULATIVE (2025) PLUS PROPOSED PROJECT PEAK-HOUR TRAFFIC VOLUMES

GREEN VALLEY CENTER
EL DORADO HILLS, CA

Table 8 – Cumulative (2025) and Cumulative (2025) plus Proposed Project Intersection Levels of Service

#	Intersection	Analysis Scenario[+]	Traffic Control	AM Peak-Hour		PM Peak-Hour	
				Delay (seconds)	LOS	Delay (seconds)	LOS
1	Green Valley Road @ Silva Valley Parkway/Allegheny Road	Cum	Signal	30.2	C	23.5	C
		Cum + PP		30.8	C	23.8	C
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	Cum	Signal	**113.7**	**F**	71.9	E
		Cum + PP		**116.0**	**F**	74.0	E
3	Francisco Drive @ Village Center Drive	Cum	Signal	6.5	A	7.7	A
		Cum + PP		6.5	A	7.8	A
4	Green Valley Road @ Francisco Drive	Cum	Signal	68.7	E	40.0	D
		Cum + PP		72.0	E	42.8	D
5	Francisco Drive @ Cambria Way/Embarcadero Drive	Cum	TWSC[*]	19.2 (EB)	C	31.5	D
		Cum + PP		28.5 (EB)	D	**50.8 (EB)**	**F**
6	El Dorado Hills Boulevard @ Francisco Drive	Cum	AWSC	**97.4**	**F**	**55.4**	**F**
		Cum + PP		**120.3**	**F**	**73.9**	**F**
7	Green Valley Road @ Project Site Access Driveway	Cum	*Plus Project Analysis Scenarios Only*				
		Cum + PP	TWSC[*]	11.1 (NB)	B	31.5	D
8	Cambria Way @ Project Site Access Driveway	Cum	*Plus Project Analysis Scenarios Only*				
		Cum + PP	TWSC[*]	9.3 (SB)	A	9.5	A

[+] Cum = Cumulative (2025), Cum + PP = Cumulative (2025) plus Proposed Project
[*] Control delay for worst minor approach (worst minor movement) for TWSC. **Bold = Substandard per County**

IMPACTS AND MITIGATION

Standards of Significance

Project impacts were determined by comparing conditions with the proposed project to those without the project. Impacts for intersections are created when traffic from the proposed project forces the LOS to fall below a specific threshold.

The County's standards[9] specify the following:

> "Level of Service (LOS) for County-maintained roads and State highways within the unincorporated areas of the County *shall not be worse than* ***LOS E in the Community Regions***." (El Dorado County General Plan Policy TC-Xd) The proposed project is located within the El Dorado Hills Community Region.
>
> "If a project causes the peak-hour level of service...on a County road or State highway that would otherwise meet the County standards (without the project) to exceed the [given] values, then the impact shall be considered significant."
>
> "If any county road or state highway fails to meet the [given] standards for peak hour level of service...under existing conditions, and the project will 'significantly worsen' conditions on the road or highway, then the impact shall be considered significant." According to General Plan Policy TC-Xe[10], 'significantly worsen' is defined as "a 2 percent increase in traffic during the a.m. peak hour, p.m. peak hour, or daily, or the addition of 100 or more daily trips, or the addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour."

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[9] *Traffic Impact Study Protocols and Procedures,* El Dorado County Department of Transportation, June 2008.

[10] *El Dorado County General Plan, Transportation and Circulation Element,* July 2004.

Impacts and Mitigation

Existing (2010) plus Proposed Project Conditions

As reflected in Table 4, the addition of the proposed project results in one (1) significant impact as defined by the County. The following is a discussion of the impact and its associated mitigation.

Impacts:

I1. *Intersection #2, Green Valley Road @ El Dorado Hills Boulevard/Salmon Falls Road*
As shown in Table 4, this intersection operates at LOS F during the AM peak-hour without the project, and the project contributes more than 10 peak-hour trips to the intersection during a peak-hour (Figure 5). ***This is a significant impact.***

I2. *Intersection #6, El Dorado Hills Boulevard @ Francisco Drive*
As shown in Table 4, this intersection operates at LOS F during the AM peak-hour without the project, and the project contributes more than 10 peak-hour trips to the intersection during a peak-hour (Figure 5). In addition, this intersection operates at LOS E during the PM peak-hour without the project, and the project results in LOS F. ***This is a significant impact.***

Mitigation:

M1. *Intersection #2, Green Valley Road @ El Dorado Hills Boulevard/Salmon Falls Road*
The significant impact at this intersection during the AM peak-hour can be mitigated with signal cycle length optimization and reallocation of the green time. As shown in Table 9, this mitigation measure results in the intersection operating at LOS D during the AM peak-hour. Therefore, ***this impact is less than significant***. The proposed project should contribute its proportionate share toward these improvements.

M2. *Intersection #6, El Dorado Hills Boulevard @ Francisco Drive*
The significant impact at this intersection during the AM and PM peak-hours can be mitigated with the addition of an eastbound channelized right-turn lane. Channelization of the eastbound right-turn lane will require the addition of a southbound receiving lane. As shown in Table 9, this mitigation measure results in the intersection operating at LOS D and LOS C during the AM and PM peak-hours, respectively. Therefore, ***this impact is less than significant***. The proposed project should contribute its proportionate share toward these improvements.

Table 9 – Intersection Levels of Service –
Existing (2010) plus Proposed Project Mitigated Conditions

#	**Intersection**	**Analysis Scenario**[+]	**Traffic Control**	**AM Peak-Hour**		**PM Peak-Hour**	
				Delay (seconds)	**LOS**	**Delay (seconds)**	**LOS**
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	Exist.	Signal	**83.2**	**F**	46.9	D
		Exist. + PP		**86.8**	**F**	48.4	D
		Exist. + PP(Mit)		49.8	D	48.3	D
6	El Dorado Hills Blvd @ Francisco Dr	Exist.	AWSC	**92.7**	**F**	49.9	E
		Exist. + PP		**115.4**	**F**	**66.1**	**F**
		Exist. + PP(Mit)		34.6	D	18.7	C

[+] Exist. = Existing (2010), Exist. + PP = Existing (2010) plus Proposed Project, Mit = Mitigated

Analysis worksheets for this scenario are provided in Appendix I.

Existing plus Approved Projects (2015) plus Proposed Project Conditions

As reflected in Table 6, the addition of the proposed project results in one (1) significant impact as defined by the County. The following is a discussion of the impact and its associated mitigation.

Impacts:

I3. Intersection #8, El Dorado Hills Boulevard @ Francisco Drive

As shown in Table 6, this intersection operates at LOS F during the AM and PM peak-hour without the project and the project contributes more than 10 peak-hour trips to the intersection during a peak-hour (Figure 5). ***This is a significant impact.***

Mitigation:

M3. Intersection #8, El Dorado Hills Boulevard @ Francisco Drive

The significant impact at this intersection during the AM and PM peak-hours can be mitigated with the addition of an eastbound channelized right-turn lane. Channelization of the eastbound right-turn lane will require the addition of a southbound receiving lane. As shown in Table 10, this mitigation measure results in the intersection operating at LOS D and LOS C during the AM and PM peak-hours, respectively. Therefore, ***this impact is less than significant.*** The proposed project should contribute its proportionate share toward these improvements.

Table 10 – Intersection Levels of Service –
Existing plus Approved Projects (2015) plus Proposed Project Mitigated Conditions

#	**Intersection**	**Analysis Scenario**	**Traffic Control**	**AM Peak-Hour**		**PM Peak-Hour**	
				Delay (seconds)	**LOS**	**Delay (seconds)**	**LOS**
8	El Dorado Hills Blvd @ Francisco Dr	EPAP	AWSC	**93.9**	**F**	**51.5**	**F**
		EPAP + PP		**116.6**	**F**	**68.4**	**F**
		EPAP + PP(Mit)		34.9	D	18.7	C

$^{+}$ EPAP = Existing plus Approved Projects (2015), EPAP + PP = Existing plus Approved Projects (2015) plus Proposed Project
, Mit = Mitigated,

Analysis worksheets for this scenario are provided in Appendix I.

Cumulative (2025) plus Proposed Project Conditions

As reflected in Table 8, the addition of the proposed project results in three (3) significant impacts as defined by the County. The following is a discussion of each of these impacts and their associated mitigations.

Impacts:

I4. Intersection #2, Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Road

As shown in Table 8, this intersection operates at LOS F during the AM peak-hour without the project, and the project contributes more than 10 peak-hour trips to the intersection during a peak-hour (Figure 5). ***This is a significant impact.***

I5. Intersection #5, Francisco Drive @ Embarcadero Drive

As shown in Table 8, this intersection operates at LOS D during the PM peak-hour without the project, and the project results in LOS F. ***This is a significant impact.***

I6. Intersection #6, El Dorado Hills Blvd @ Francisco Drive
As shown in Table 8, this intersection operates at LOS F during the AM and PM peak-hours without the project and the project contributes more than 10 peak-hour trips to the intersection during a peak-hour (Figure 5). ***This is a significant impact.***

Mitigation:

M4. Intersection #2, Green Valley Road @ El Dorado Hills Blvd / Salmon Falls Road
The significant impact at this intersection during the AM peak-hour can be mitigated by modifying the lane configuration on the southbound approach. The modified southbound lane configuration will result in the following: one left-turn lane, one through lane, and one right-turn lane. The existing right-of-way and pavement widths along Salmon Falls Road, immediately north of Green Valley Road, appear to provide adequate space to accommodate the additional southbound approach lane. As shown in Table 11, this mitigation measure results in the intersection operating at LOS E during the AM peak-hour. Therefore, ***this impact is less than significant***. The proposed project should contribute its proportionate share toward these improvements.

M5. Intersection #5, Francisco Drive @ Embarcadero Drive
The significant impact at this intersection during the PM peak-hour can be mitigated with the addition of an eastbound right-turn flare to provide storage for 1 vehicle. As shown in Table 11, this mitigation measure results in the intersection operating at LOS E during the PM peak-hour. Therefore, ***this impact is less than significant***. The proposed project should contribute its proportionate share toward these improvements.

M6. Intersection #6, El Dorado Hills Boulevard @ Francisco Drive
The significant impact at this intersection during the AM and PM peak-hours can be mitigated with the addition of an eastbound channelized right-turn lane. Channelization of the eastbound right-turn lane will require the addition of a southbound receiving lane. As shown in Table 11, this mitigation measure results in the intersection operating at LOS E and LOS C during the AM and PM peak-hours, respectively. Therefore, ***this impact is less than significant***. The proposed project should contribute its proportionate share toward these improvements.

Table 11 – Intersection Levels of Service –
Cumulative (2025) plus Proposed Project Mitigated Conditions

#	**Intersection**	**Analysis Scenario**	**Traffic Control**	**AM Peak-Hour**		**PM Peak-Hour**	
				Delay (seconds)	**LOS**	**Delay (seconds)**	**LOS**
2	Green Valley Road @ El Dorado Hills Blvd/Salmon Falls Rd	Cum	Signal	**113.7**	**F**	71.9	E
		Cum+PP		**116.0**	**F**	74.0	E
		Cum+PP (Mit)		77.2	E	55.1	E
5	Francisco Drive @ Cambria Way/Embarcadero Drive	Cum	TWSC[*]	19.2 (EB)	C	31.5	D
		Cum+PP		28.5 (EB)	D	**50.8 (EB)**	**F**
		Cum+PP (Mit)		24.6 (EB)	C	43.3 (EB)	E
6	El Dorado Hills Boulevard @ Francisco Drive	Cum	AWSC	**97.4**	**F**	**55.4**	**F**
		Cum+PP		**120.3**	**F**	**73.9**	**F**
		Cum+PP (Mit)		36.1	E	18.8	C

[+] Cum = Cumulative (2025), Cum + PP = Cumulative (2025) plus Proposed Project, Mit = Mitigated,
[*] Control delay for worst minor approach (worst minor movement) for TWSC.

Analysis worksheets for this scenario are provided in Appendix I.

OTHER CONSIDERATIONS

Peak-Hour Traffic Signal Warrant Evaluation

A planning level assessment of the need for traffic signalization was performed for the un-signalized study intersections. This evaluation was performed consistently with the peak-hour warrant methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices (CMUTCD)*, dated January 21, 2010. A summary of the peak-hour warrant results are presented in Table 12.

Table 12 – Traffic Signal Warrant Analysis Results

#	Intersection	Analysis Scenario					
		Existing (2010)	Existing (2010) plus PP	EPAP (2015)	EPAP (2015) plus PP	Cum (2025)	Cum (2025) plus PP
5	Francisco Dr @ Cambria Wy	No / No	No / No	No / No	No / No	No / No	No / No
6	El Dorado Hills Blvd @ Francisco Dr	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes
7	Cambria Way @ Project Access Dwy		No / No		No / No		No / No
8	Green Valley Rd @ Site Access Dwy		No / No		No / No		No / No

Results are presented in **AM / PM format.**
Note: Peak-hour warrant is satisfied if Condition A or B is met.

As shown in Table 12, intersection #6 (El Dorado Hills Blvd @ Francisco Dr) satisfies the peak-hour signal warrant with and without the addition of the proposed project. However, the proposed project does not cause the peak-hour signal warrant to be satisfied at any of the study intersections. Detailed results of this analysis are presented in Appendix J.

Sight Distance Evaluation

A sight distance evaluation was completed for both site access driveways (Intersections #7 and #8). These evaluations were based on observed horizontal and vertical geometric conditions and were performed in accordance with the guidelines presented in the *Geometric Design of Highways and Streets, 2004*, published by the American Association of State Highway and Transportation Officials (AASHTO).

According to AASHTO, an assumed 30 mph design speed (25 mph posted speed limit) requires a minimum of 200 feet of Stopping Sight Distance (SSD). Adequate SSD was documented along the Cambria Way approaches to the site driveway. Furthermore, an assumed 60 mph design speed (55 mph posted speed limit) requires a minimum of 570 feet of SSD. Adequate sight distance was observed to the left (west) for the Green Valley Road intersection with the site access driveway. In all cases, roadside vegetation should be maintained to preserve sight distance.

Intersection Queuing Evaluation

Vehicle queuing for three (3) intersections was evaluated. For the queuing analysis, the anticipated vehicle queues for critical movements at these intersections were evaluated. The calculated vehicle queues were compared to actual or anticipated vehicle storage/segment lengths. Results of the queuing evaluation are presented in Table 13. Analysis sheets that include the anticipated vehicle queues are presented in Appendices B, C, and E-I. As presented in Table 13, the addition of the proposed project adds additional queuing to several of the study locations.

Table 13 – Intersection Queuing Evaluation Results for Select Locations

Intersection / Analysis Scenario	**Movement**	**AM Peak-Hour**		**PM Peak-Hour**	
		Available Storage (ft)	**95th % Queue (ft)**	**Available Storage (ft)**	**95th % Queue (ft)**
#4, Green Valley Rd @ Francisco Dr	**NBL**				
Existing (2010)		200^{+}	207	200^{+}	122
Existing plus Proposed Project (2010)			227		141
EPAP (2015)			207		123
EPAP plus Proposed Project (2015)			227		157
Cumulative (2025)			303		150
Cumulative plus Proposed Project (2025)			330		184
	WBL				
Existing (2010)		200	45	200	41
Existing plus Proposed Project (2010)			66		51
EPAP (2015)			50		45
EPAP plus Proposed Project (2015)			64		65
Cumulative (2025)			82		69
Cumulative plus Proposed Project (2025)			100		92
#5, Francisco Dr @ Embarcadero Dr	**NBL**				
Existing (2010)		50	0	50	0
Existing plus Proposed Project (2010)			5		4
EPAP (2015)			0		0
EPAP plus Proposed Project (2015)			5		4
Cumulative (2025)			0		0
Cumulative plus Proposed Project (2025)			5		4
Cumulative plus Proposed Project (2025) Mitigated			5		4
	EBL				
Existing (2010)		*	2	*	7
Existing plus Proposed Project (2010)			44		75
EPAP (2015)			2		7
EPAP plus Proposed Project (2015)			44		77
Cumulative (2025)			2		8
Cumulative plus Proposed Project (2025)			44		84
Cumulative plus Proposed Project (2025) Mitigated			38		74
#6, El Dorado Hills Blvd @ Francisco Dr	**NBL**				
Existing (2010)		100	418^{++}	100	418^{++}
Existing plus PP (2010) (with and without mitigation)			454^{++}		440^{++}
EPAP (2015)			418^{++}		418^{++}
EPAP plus PP (2015) (with and without mitigation)			454^{++}		440^{++}
Cumulative (2025)			418^{++}		418^{++}
Cum plus PP (2025) (with and without mitigation)			454^{++}		440^{++}

Source: *Highway Capacity Manual (HCM) 2000* methodology per Synchro© v7.
*Intersection approach with available storage length equal to segment length; + Dual left-turn lane; ++ Source: Per Page 714, *A Policy on Geometric Design of Highways and Streets,* AASHTO, 2004. ((Peak-Hour Volume/30 min)*25 feet)

Site Plan, Access, and On-site Circulation Evaluation

The site plan for the proposed project (Figure 2) was qualitatively reviewed for general access and on-site circulation. According to the site plan, access to the site will be provided via two (2) driveways, one along Cambria Way and one along Green Valley Road. Level of service and delay data was previously reported for these intersections. The combination of these two access points, as well as the on-site circulation system provides adequate access to/from both Green Valley Road and Francisco Drive (via Cambria Way).

The proposed project's Green Valley Road Driveway is proposed to accommodate both right-in and right-out movements. Adequate deceleration distance should be provided and the acceleration distance should be considered as part of the existing eastbound right-turn pocket. The proposed geometrics and access are virtually identical to the existing Safeway center driveway located along the westbound approach to the Green Valley Road intersection with Francisco Drive. Furthermore, as documented in Appendices B, C, and E-I, the northbound right movement from the proposed project is not anticipated to be blocked by the eastbound approach queues at the Green Valley Road intersection with Francisco Drive.

In addition, *Fire Safe Regulations*[11] state that on-site roadways shall "provide for safe access for emergency wildland fire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a wildfire emergency..." All project roadways shall be designed and constructed in accordance with these requirements.

Preliminary Traffic Safety Evaluation

According to the County's 2007 *Accident Location Study*[12], several study area sites (i.e., intersections and roadway segments) experienced three (3) or more accidents during a three-year period between January 1, 2005, and December 31, 2007. According to the Study, these sites were selected for investigation and determination of corrective action(s). Table 14 provides a summary of the study area sites and their selected actions.

Table 14 – Project Area Sites Selected for Investigation

Site #	Location Description	Accident Rate⁺	Identified Action
14	El Dorado Hills Blvd, North of US-50	1.28	Pending Improvements
15	El Dorado Hills Blvd, at Lassen Ln	0.46	None Required
16	El Dorado Hills Blvd, at Olson Ln	0.36	None Required
19	Green Valley Rd, from Amy's Ln to Miller Rd	1.33	Recent Improvements
20	Green Valley Rd, at Francisco Dr	0.44	None Required
21	Green Valley Rd, at El Dorado Hills Blvd	0.49	None Required
44	Salmon Falls Rd, vicinity of Lakehills Dr	1.06	Proposed CIP

Source: *Annual Accident Location Study 2007*, County of El Dorado Department of Transportation, March 28, 2008.
⁺ # Accidents per Million Vehicles (MV) for single sites (intersections/curves), # Accidents per Million Vehicle Miles (MVM) for roadway sections.

According to the *Study*, four (4) sites "do not require further review at this time. However, these sites will continue to be monitored and any subsequent increase in the frequency of accidents may necessitate further review and analysis." One (1) site has a pending improvement and it is anticipated that, "upon completion, [this] improvement will substantially reduce the number of accidents." Site 44, Salmon Falls Road in the vicinity of Lakehills Drive, has been identified for inclusion in the County's Capital Improvement Program (CIP). "The scope of these improvements would require budget consideration and subsequent inclusion within the CIP...[this project] will compete for funding and consequently may, or may not, be funded."

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[11] *Fire Safe Regulations*, Title 14 Natural Resources, Division 1.5 Department of Forestry, Chapter 7 – Fire Protection, Subchapter 2 SRA Safe Regulations, Article 2 Emergency Access, El Dorado County Building Department.

[12] *Annual Accident Location Study 2007*, County of El Dorado Department of Transportation, March 28, 2008.

Bicycle and Pedestrian Facilities Evaluation

According to Chapter 5 of the *El Dorado County Bicycle Transportation Plan*, Class II Bike Lanes are proposed for Green Valley Road, Francisco Drive, and El Dorado Hills Boulevard in the vicinity of the project site. In addition, Class III Bike Routes are proposed for Francisco Drive and Salmon Falls Road/Lakehills Drive north of Green Valley Road. A Class I Bike Path is also proposed for El Dorado Hills Boulevard, south of Francisco Drive.

While the project will not result in removal of a bikeway/bike lane or prohibition of implementation of the facilities identified in the *Plan*, it is required to include pedestrian/bicycle paths connecting to adjacent commercial, research and development, or industrial projects and any schools, parks, or other public facilities. The proposed project will be required to construct on-site roadway and pedestrian facilities in accordance with County design guidelines. These on-site pedestrian and bicycle facilities will connect the project with the proposed adjacent Class II Bike Lanes along Green Valley Road and Francisco Drive. Through these connections to the proposed bike lane network, the project will provide continuity with adjacent projects, schools, parks, and other public facilities.

CONCLUSIONS

Based upon the analysis documented in this report, the following conclusions are offered:

- The proposed project is estimated to generate 3,388 total new daily trips, with 176 new trips occurring during the AM peak-hour, and 180 new trips occurring during the PM peak-hour.

- The proposed project (Commercial) is not consistent with the *2004 General Plan* land use designation and zoning density for the site (High Density Residential (1-5 DU/acre)). Therefore, a new Cumulative (2025) analysis is required in addition to the analysis already completed for the County's *General Plan*.

- As defined by the County, the addition of the proposed project to the Existing (2010), Existing plus Approved Projects (2015), and Cumulative (2025) scenarios significantly worsens conditions at multiple study intersections. However, these impacts can be mitigated to be ***less than significant***.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

August 16, 2012

Regulatory Division SPK-2007-00027

Mr. George Carpenter, Jr
Winn Communities
1130 Iron Point Road, Suite 150
Folsom, California 95630

Dear Mr. Carpenter, Jr:

We are responding to your August 8, 2012, request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Green Valley Center (Winn Property) site. The approximately 6.8-acre site is located in Section 22, Township 10 North, Range 8 East, Mount Diablo Meridian, Latitude 38.7084401041089°, Longitude -121.086295751017°, Town of El Dorado Hills, El Dorado County, California.

Based on available information, **we concur with the amount and location of wetlands and/or other water bodies on the site as depicted on the enclosed August 2012, Jurisdictional Delineation Green Valley Center (Winn Parcel), El Dorado County, California, drawing prepared by Gibson and Skordal, LLC** (enclosure 1). The approximately 0.146 acre of wetlands and other water bodies present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed (enclosure 2). Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization for the activity. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for Appeal form is enclosed to notify you of your options with this determination (enclosure 3).

EXHIBIT Q- ATTACHMENT 18

This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey.*

Please refer to identification number SPK-2007-00027 in any correspondence concerning this project. If you have any questions, please contact Mr. Peck Ha at our California North Branch Office, Regulatory Division, Sacramento District, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, email *Peck.Ha@usace.army.mil*, or telephone 916-557-6617. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx.*

Sincerely,

James Robb
Senior Project Manager,
California North Branch

Enclosures

Copy Furnished with enclosure 1:
Ms. Gina Paolini, El Dorado County Planning Department, 2850 Fairlane Court, Placerville, California 95667-4103

Copy Furnished without enclosure:
Mr. James Gibson, Gibson and Skordal, LLC, 2617 K Street, Suite 175, Sacramento, California 95814

JURISDICTIONAL DELINEATION
GREEN VALLEY CENTER
(WINN PARCEL)
El Dorado County, California

Channels

Ref. No.	Area (ft^2)	Area (ac)
CH1	2,439	0.056
CH2	568	0.013
CH3	1,002	0.023
	Area (ft^2)	Area (ac)
Total:	4,009	0.092

Wetland Swale

Ref. No.	Area (ft^2)	Area (ac)
WS1	392	0.009
WS2	1,960	0.045
	Area (ft^2)	Area (ac)
Total:	2,352	0.054

Grand Total:

Area (ft^2)	Area (ac)
6,361	0.146

N

0 50 100 200 Feet

Legend

- Data Points
- ▭ Channels (0 092 Acre)
- ▭ Wetland Swale (0 054 Acre)
- Study Area (6 8 acres)

GIBSON AND SKORDAL, LLC
WETLANDS CONSULTANTS
2617 K Street, Suite 175
Sacramento, California 95816
(916) 822-3230

Prepared: March 2004
Updated: August 2012
Base Map: Aerial Photography
Flown 2006

JURISDICTIONAL DELINEATION AND SPECIAL STATUS SPECIES EVALUATION

WINN PARCEL

FILE COPY

GIBSON & SKORDAL, LLC
Wetland Consultants
2277 Fair Oaks Blvd., Suite 105
Sacramento, California 95825

A 11-0003/Z 11-0004

GIBSON & SKORDAL, LLC
Wetland Consultants

2277 Fair Oaks Blvd., Suite 105
Sacramento, California 95825
Telephone (916) 569-1830
Facsimile (916) 569-1835

James C. Gibson
Thomas M. Skordal
Ginger E. Fodge
Karen Shaffer
Samuel R. Garcia

December 21, 2006

Ms. Kathy Norton
U.S. Army Corps of Engineers
Regulatory Branch
1325 J Street
Sacramento, California 95814

Subject: **Jurisdictional Delineation and Special Status Species Evaluation – Winn Property, El Dorado County, California.**

Dear Ms. Norton:

I have enclosed a copy of the Winn Property Jurisdictional Delineation and Special Status Species Evaluation for your review. A CD containing the GPS files is also enclosed.

As stated in the report, we identified a total of 0.14 acre of potential waters of the United States within the 6.8-acre study area. In our opinion these features are subject to regulation by the Corps.

We request that you proceed with the verification process at your earliest convenience. Please notify our office if you would like to meet for a field verification. The contact for this project is Mr. John Caulfield. He can be reached during office hours at (916) 783-0356 (phone) or (916) 783-1837 (fax), and his address is listed below in the "cc" section of this letter.

If you have any questions or need additional information, feel free to contact me at (916) 569-1830.

Sincerely,

James C. Gibson
Principal
Attachments

A 11-0003/Z 11-0004

cc: Mr. John Caulfield
Winn Communities
Landmark Endeavors, Inc.
4120 Douglas Boulevard, Suite 3006-215
Granite Bay, California 95746

Mr. George M. Carpenter, Jr.
Winn Communities
1130 Iron Point Road, Suite 150
Folsom, California 95630

Winn Property

JURISDICTIONAL DELINEATION AND SPECIAL STATUS SPECIES EVALUATION

WINN PROPERTY

EL DORADO COUNTY, CALIFORNIA

MARCH 2004

Prepared For:

WINN COMMUNITIES
4120 Douglas Boulevard, Suite 306-215
Granite Bay, California 95746

Prepared By:

GIBSON & SKORDAL, LLC
Wetland Consultants
2277 Fair Oaks Blvd., Suite 105
Sacramento, California 95825

A 11-0003/Z 11-0004

INTRODUCTION

The purpose of this report is to present the results of a jurisdictional delineation and special status species evaluation conducted for the Winn Parcel.

LOCATION

The study area is an approximately 6.8-acre parcel located immediately southwest of the intersection of Francisco Drive and Green Valley Road. It lies in a portion of Section 22, Township 10 North, and Range 8 East of El Dorado County, California (Latitude 38° 42' North, Longitude 121° 05' West). Figure 1 is a vicinity map.

METHODOLOGY

Field studies were conducted on February 5 and March 20, 2004 for the purpose of delineating all potential waters and wetlands existing in the study area and evaluating special status species and their habitats.

Jurisdictional Delineation

The boundaries of all waters including wetlands were delineated and surveyed in the field by Gibson & Skordal, LLC utilizing a Trimble GPS data logger with sub-meter accuracy (NAD83 CA Zone II). The delineation map was prepared by layering the GPS data over aerial photography flown in May 2002 by the United States Geological Survey (USGS).

The **"Corps of Engineers Wetlands Delineation Manual"**[1] was used as the standard of determining whether specific areas are wetlands potentially subject to regulation under Section 404 of the Clean Water Act. Corps of Engineers' 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 **"Soil Survey of El Dorado Area, California"**[3] was used to evaluate soil mapping in the study area.

---

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

[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.

[3] USDA, Soil Conservation Service. 1974. Soil Survey of El Dorado Area, California.

FIGURE 1

VICINITY MAP

↑
N
(Scale: 1 Inch = 2000 Feet)

Source: Clarksville 7.5 Minute USGS Topographic Quadrangle

Detailed data on vegetation, soils, and hydrology characteristics was taken in the field. Data sheets documenting the basis for determining which areas are wetland or upland are provided in Appendix A.

Special Status Species Evaluation

The special status species evaluation includes those species that have been identified as having relative scarcity and/or declining populations by the United States Fish & Wildlife Service (FWS) or California Department of Fish & Game (CDFG). Special status species include those formally listed as threatened or endangered, those proposed for formal listing, candidates for Federal listing, and those considered to be Species of Concern by FWS or Species of Special Concern by CDFG. In addition to these, we also included those species considered to be "special animals" or "fully protected" by the CDFG and those plant species considered to be rare, threatened or endangered in California by the California Native Plant Society (CNPS).

In our evaluation, we considered those special status species documented by the California Natural Diversity Database (CNDDB) as occurring in the vicinity of the study area. A record search of the CNDDB was conducted for the Clarksville, Folsom, Pilot Hill, and Shingle Springs 7.5-minute USGS quadrangles to identify all documented sightings of special status species in the vicinity of the study area. In addition to these species, we included other special status species that may have some potential for occurring in the study area based on historical range data and/or the presence of suitable habitat.

GENERAL SITE CONDITIONS AND HABITATS

The study area is a mostly undeveloped parcel bordered by existing roads to the north and west, Cambria Road and ongoing subdivision development to the southeast, and oak woodland and grassland habitats to the west and southwest. Topography consists of moderately hilly to steep terrain that drains from north to south. The highest point is a hill in the center of the study area that slopes to the south and southwest. Several drainage/swale features bisect the site including a channel that bisects the northwest corner and swale/channel feature that straddles the eastern boundary of the site.

A majority of the study area supports mixed oak woodland with associated annual grassland habitat. The oak woodland is generally dominated by a canopy of interior live oak (*Quercus wislizeni*) and blue oak (*Quercus douglasii*) with associated foothill pine (*Pinus sabiniana*). Valley oaks (*Quercus lobata*) and California buckeye (*Aesculus californica*) also occur along the lower terraces. The understory is annual grassland characterized by rip-gut brome (*Bromus diandrus*), soft chess (*Bromus mollis*), miner's lettuce (*Claytonia perfoliata*), chickweed (*Stellaria media*), and dogtail (*Cynosurus echinatus*) with scattered poison oak (*Toxicodendron diversilobum*). Other common species include filaree (*Erodium sp.*), cut-leaf geranium (*Geranium dissectum*), vetch (*Vicia sp.*), and bedstraw (*Galium aparine*).

Mapped soils include Auburn silt loam (2-30% slopes) mapped in the upper northeast corner, and Auburn very rocky silt loam (2-30% slopes) mapped over the remainder of the site. Auburn soils are well drained hardpan soils mapped on gently sloping to moderately steep slopes in the foothills. They are not considered to be hydric soils. Figure 2 provides a soil map for the study area.

EXISTING WATERS AND WETLANDS

We identified a total of 0.14 acre of waters and wetlands in the study area including 0.09 acre of channel and 0.05 acre of wet swale. Appendix B provides a delineation map showing the study area boundary, location of data points, and location and size of waters and wetlands. Appendix C provides a partial list of plant species observed in the study area including their status as wetland indicators.

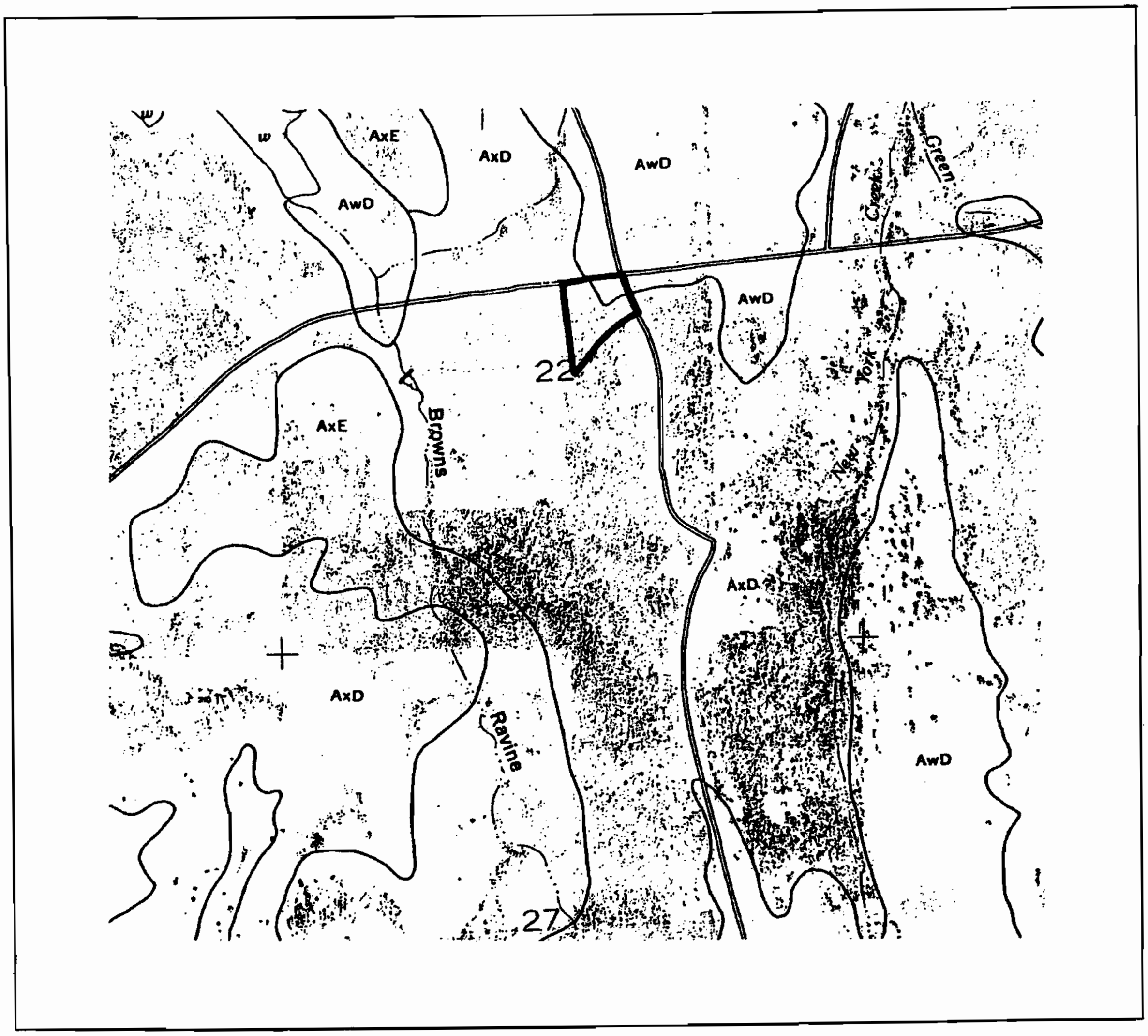
We identified 2,368-sq. ft. of seasonal wet swale (WS1) in the study area comprised of a shallow, linear, drainage feature that extends along the eastern boundary of the study area. WS1 is augmented by urban run-off from adjacent roads and subdivision development. As such, it sustains long-term saturated soil conditions at or within 12 inches of the surface for a portion of the early growing season before drying up in the spring.

WS1 supports a facultative plant community dominated by perennial rye (*Lolium perenne*). Other common associate species include curly dock (*Rumex crispus*), loosestrife (*Lythrum hyssopifolia*), miner's lettuce, cut-leaf geranium, and buttercup (*Ranunculus alveolatus*). At the time of field surveys, soils in the wet swale were saturated to the surface through out, while other areas sustained 1 to 2 inches of flowing surface water. Soils were generally observed to be dark gray (10YR 4/1) sandy silt loam with heavy mottles at 1 to 6 inches. The adjacent upland is marked by a rise in landscape position lacking indicators or wetland hydrology and hydric soils, and the presence of an oak woodland-annual grassland plant community.

We identified a total of 0.09 acre of channels in the study area including 0.07 acre (2,997-sq. ft.) of intermittent channel associated with CH1, and 0.02 acre of ephemeral channel associated with

FIGURE 2

SOILS MAP



Soil Unit	Soil Name	Soil Classification	Drainage Class
AxD	Auburn very rocky silt loam, 2-30% slopes	Lithic Xerochrepts	well drained
AwD	Auburn silt loam, 2-30% slopes	Lithic Xerochrepts	well drained

Source: USDA, Soil Conservation Service. 1974. Soil Survey of El Dorado Area, California

CH2. Channels were differentiated from wet swales in the field by the presence of an ordinary high water mark (OHWM) as defined by a clear and discernible channel bed and bank.

CH1 is an intermittent drainage channel that enters the study area via a culvert outlet under Green Valley Road, and it bisects the northeast corner of the study area and extends off-site to the southwest. CH1 is a high gradient stream channel with a mostly gravel substrate as it bisects the study area. Although it carries intermittent flows augmented by adjacent residential and commercial development, it generally dries up by early summer. Sparse seasonal wetland habitat in CH1 includes curly dock, prickly lettuce, tall flatsedge (*Cyperus eragrostis*), Baltic rush (*Juncus balticus*), dallis grass (*Paspalum dilatatum*), watercress (*Rorripa nasturtium-aquaticum*), willow herb (*Epilobium sp.*), Fremont cottonwood (*Populus fremontii*), and broad-leaf cattail (*Typha latifolia*).

CH2 is an ephemeral channel that is fed by the wet swale (WS1) and it cascades down the steep slopes in the southeast corner of the study area. It is characterized by a defined bed and bank with rock and gravel substrates. Similar to WS1 located immediately up-slope, CH2 sustains ephemeral flow conditions that generally persist only during and immediately following periods of heavy precipitation.

Jurisdictional Status

The channels and wet swale in the study area all drain off-site to the south and southwest and connect into a surface tributary to Brown's Ravine that drains into Folsom Lake situated roughly ½ mile west of the study area. Based on this, all of the waters and wetlands in the study area are regulated by the Corps of Engineers under Section 404 of the Clean Water Act.

SPECIAL STATUS SPECIES

Table 1 provides a list of special status species that were evaluated including their listing status, habitat associations, and whether potential habitats occur in the study area. Of the twenty-three special status species evaluated in Table 1, nine species including the bald eagle, vernal pool fairy shrimp, valley elderberry longhorn beetle, Stebbins' morning glory, Pine Hill ceanothus, Pine Hill flannelbush, El Dorado bedstraw, and Layne's ragwort are Federal and/or State listed threatened and/or endangered species.

The following is a summary of potential special status species and their habitats including an evaluation of their potential for occurrence in the study area.

TABLE 1

EVALUATION OF SPECIAL STATUS SPECIES HABITATS

	State Status	Federal Status	CNPS Listing	Habitat Association	Potential Habitat In Study Area
Birds					
Accipter cooperi (Cooper's hawk)	Species of Special Concern	None		Inhabits forested habitats, forest edge, and riparian habitat, may forage in adjacent grassland and fields.	Yes -foraging & nesting habitat present.
Accipter striatus (sharp-shinned hawk)	Species of Special Concern	None		Inhabits forested habitats, forest edge, and riparian habitat, may forage in adjacent grassland and fields.	Yes -foraging & nesting habitat present.
Agelaius tricolor (tricolored blackbird)	Species of Special Concern	Species of Concern		Colonial nester in cattails, bullrush, or blackberries associated with marsh habitats.	No - lacks suitable nesting habitat.
Elanus leucurus (white-tailed kite)	Fully Protected	None		Nests in riparian areas associated with rivers, streams, and wetlands. Forgages in nearby grasslands or open fields.	Yes -foraging & nesting habitat present.
Eremophila alpestris actia (California horned lark)	Species of Special Concern	None		Forages in open grasslands and fields.	Yes
Haliaeetus leucocephalus (bald eagle)	Endangered	Threatened		Documented as wintering & nesing in El Dorado Co., they typically nest in oak woodland within 1 mile of lakes, rivers, or larger streams.	Yes -suitable nesting habitat present with foraging sites nearby.
Amphibians & Reptiles					
Clemmys marmorata (western pond turtle)	Species of Special Concern	Species of Concern		Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	No
Phrynosoma coronatum (California horned lizard)	Species of Special Concern	Species of Concern		Diverse habitat associations, but normally a low land species associated with sandy scrub habitat in washes.	No
Rana aurora draytonii (California red-legged frog)	None	Threatened		Breeds in permanent to semi-permanent aquatic habitats including lakes, ponds, marshes, creeks, and other drainages.	No -lack suitable habitat or nexis with known RLF sites.
Scaphiophus hammondii (western spadefoot)	Species of Special Concern	Species of Concern		A lowland species associated with grassland habitats, it relies on vernal pools for breeding and egg-laying.	No
Invertebrates					
Branchinecta lynchi (vernal pool fairy shrimp)	None	Threatened		Vernal pools and seasonal wetlands	No

TAB[illegible]E 1

(Continued)

	State Status	Federal Status	CNPS Listing	Habitat Association	Potential Habitat In Study Area
Desmocerus californicus dimorphus (valley elderberry longhorn beetle)	None	Threatened		Dependent upon elderberry plant (Sambucus mexicana) as primary host species	No
Linderialla occidentalis (California linderiella)	None	None		Vernal pools and seasonal wetlands	No
Plants					
Balsamorhiza macrolepis macrolepis (big scale balsamroot)	None	Species of Concern	CNPS-1B	Valley and foothill grasslands, and cismontane woodland.	Yes
Calystegia stebbinsii (Stebbin's morning glory)	Endangered	Endangered	CNPS-1B	Foothill chaparral and cismontane woodland associated with Gabbro soils.	No
Ceanothus roderickii (Pine Hill ceanothus)	Rare	Endangered	CNPS-1B	Foothill chaparral and cismontane woodland associated with Gabbro soils.	No
Chlorogallum grandiflorum (Red Hills soaproot)	None	Species of Concern	CNPS-1B	Foothill chaparral, cismontane woodland, and lower montane coniferous forest.	Yes -marginal habitat exists.
Clarkia biloba brandegeeae (Brandegee's clarkia)	None	Species of Concern	CNPS-1B	Generally associated with chaparral and cismontane woodland, but may occur in foothill oak woodland and grassland.	Yes -local population recently documented within 1/8 mile of site.
Fremontodenderon decumbens (Pine Hill flannelbush)	Rare	Endangered	CNPS-1B	Foothill chaparral and cismontane woodland associated with Gabbro soils.	No
Galium californicum sierrae (El Dorado bedstraw)	Rare	Endangered	CNPS-1B	Foothill chaparral and cismontane woodland associated with Gabbro soils.	No
Helianthemum suffrutescens (Bisbee Peak rush rose)	None	Species of Concern	CNPS-3	Open areas within chapparal.	No
Senecio layneae (Layne's ragwort)	Rare	Threatened	CNPS-1B	Foothill chaparral and cismontane woodland associated with Gabbro soils.	No
Wyethia reticulata (El Dorado Co. mule ears)	None	Species of Concern	CNPS-1B	Foothill chaparral and cismontane woodland associated with Gabbro soils.	No

Bald Eagle and Other Raptors

The bald eagle (*Haliaeetus leucocephalus*) is a Federal threatened and State endangered raptor that typically nests within 1 mile of large bodies of water including lakes, streams, or rivers. Wintering adults have been documented in the Bass Lake area located roughly 4 miles southeast of the study area.

Given the presence of suitable nest trees in the study area and given the relatively close proximity of the study area to potential foraging sites including Folsom Lake and Bass Lake, the oak woodland habitat in the study area provides potential nesting habitat for bald eagles. It may also provide potential and suitable nesting habitat for other special status raptors including Cooper's hawk (*Accipiter cooperii*) and sharp-shinned hawk (*Accipiter striatus*).

Tricolored Blackbird

Tricolored blackbirds (*Agelaius tricolor*) are afforded protection by CDFG as a species of special concern due to declining populations in the region. They are colonial nesters preferring to nest in dense stands of cattails and/or bullrush, but they also commonly nest in blackberry thickets associated with drainages, ditches, and canals. They generally establish nesting colonies in close proximity to open water habitat.

Tricolored blackbird nesting colonies have been documented on the CNDDB as occurring in the Folsom, Clarksville, and Pilot Hill quadrangle areas, but the precise locations of the nesting colonies have been excluded from CNDDB records for security reasons. However, the lack of suitable or potential nesting habitat in the study area would eliminate any reasonable potential for tricolored blackbirds to nest at the site.

California Red-Legged Frog

California red-legged frog (*Rana aurora draytonii*) is a Federal Threatened species that typically breeds and forages in permanent to semi-permanent aquatic habitats including lakes, ponds, marshes, creeks, and other intermittent to perennial drainages. There have been no documented sightings of California red-legged frog in the Rocklin and Roseville area based on historical CNDDB records.

The closest documented red-legged frog habitat is in the North Fork Weber Creek, formerly designated as Critical Habitat Unit No.3, located roughly 1 mile south of the town of Camino, California and south of Highway 50 in El Dorado County, California. The Weber Creek watershed eventually drains into the South Fork of the American River. There is no connectivity between the Weber Creek watershed and the study area for this report. The study area drains into a tributary to Brown's Ravine that eventually drains into Folsom Lake.

Although the study area does support an intermittent creek channel (CH1), the channel is a high gradient gravel bottom drainage that generally lacks ponded pools or associated emergent marsh habitat. The section of the creek located upstream of the study area, on the Green Valley Market Place project (Corps #200300064), was not considered to be potential RLF habitat by the FWS. Given this, it is our opinion that the creek channels in the study area do not provide potential habitat for RLF.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a Federal threatened species 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, and they have been documented as occurring at numerous locations in the vicinity of the study area.

The absence of elderberry shrubs in the study area would eliminate any reasonable potential for valley elderberry longhorn beetle to occur at the site.

Vernal Pool Branchiopods

The threatened vernal pool fairy shrimp *(Branchinecta lynchi)* has been documented on the CNDDB as occurring in the Folsom and Clarksville quadrangles. However, the study area occurs at the upper range of elevation for this species. Another special status branchiopod that could potentially occur in the project vicinity is California linderiella (*Linderiella occidentalis*).

Both of these branchiopods occur in vernal pools and/or other seasonally ponded wetlands. The absence of these potential habitats in the study area would eliminate any reasonable potential for special status branchiopods to occur at the site.

Special Status Plants

Special status plant species identified on the CNDDB as occurring in the Clarksville quadrangle or in the general vicinity of the study area include big scale balsamroot (*Balsamorhiza macrolepis var. macrolepis*), Stebbins' morning glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), Red Hills soaproot (*Chlorogallum grandiflorum*), Brandegee's clarkia (*Clarkia biloba brandegeeae*), Pine Hill flannelbush (*Fremontodendron decumbens*), El Dorado bedstraw (*Galium californicum sierrae*), Layne's ragwort (*Senecio layneae*), and El Dorado County mule ears (*Wyethia reticulata*).

Most of these plants are restricted to and have only been documented in chaparral or cismontane woodland associated with the Gabbro soils region around Pine Hill and surrounding areas. The absence of suitable habitat in the study would eliminate the Gabbro associated plants from occurring in the study area.

Special status plants having some level of potential for occurring in the study area include big scale balsamroot, Red Hills soaproot, and Brandegee's clarkia. Of these, Brandegee's clarkia was recently documented as occurring on the Green Valley Market Place project site located roughly 1/8 mile northeast of the study area. Field studies in the study area were conducted too early in the growing season to determine presence or absence of these special status plants.

SUMMARY

We identified a total of 0.14 acre of waters and wetlands in the study area including wet swales, intermittent channels, and ephemeral channels that are subject to regulation by the Corps of Engineers under Section 404 of the Clean Water Act.

A variety of special status raptors including the bald eagle, Cooper's hawk, sharp-shinned hawk, and white-tailed kite may have a reasonable potential for occurring in the study area based on the presence of suitable nesting habitat and close proximity to suitable foraging areas. If proposed future development of the study area will occur during the raptor-nesting season from February to August, we recommend that a pre-construction raptor nesting survey be completed prior to the start of project construction.

In addition, the oak woodland and associated annual grassland may provide potential habitat for special status plant species including big scale balsamroot, Red Hills soaproot, and Brandegee's clarkia. Species determinate surveys to evaluate presence or absence of these special status plants have not been conducted for this site.

APPENDIX A

DATA FORMS

ROUTINE WETLAND DETERMINATION DATA FORM

Project/Site: Winn Parcel
Applicant/Owner: Donahue Schriber
Investigator(s): D. Skordal, J. Gibson

Date: 2/5/04
City/County: El Dorado Co.
State: California

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Wet Swale
Transect ID: 1
Data Point ID: A

VEGETATION

Plant Species Dominant (D) - Associate (A)	Stratum	Indicator	Plant Species Dominant (D) - Associated (A)	Stratum	Indicator
1. Lolium perenne -(D)		FAC	9.		
2. Stellaria media -(A)		FACU	10.		
3. Rumex crispus -(A)		FACW-	11.		
4. Claytonia perfoliata (A)		FAC	12.		
5. Ranunculus sp. (A		NI	13.		
6. Lythrum hyssopifolia (A)		FACW	14.		
7. Geranium dissectum (A)		UPL	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100% FAC Dominated

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
 ___ Streams, Lake, or Tide Gauge
 ___ Aerial Photographs
 ___ Other

___ No Recorded Data Available

Field Observations:

Depths of Surface Water: 1-2 (in.)
Depth to Free Water in Pit: ______ (in.)
Depth to Saturated Soil: Surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ✓ Inundated
- ✓ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits/Organic Detritus
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ✓ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Linear sloping swale fed by culvert outfalls from adjacent subdivision under construction.

SOILS

Map Unit Name (Series and Phase): (AxD) Auburn very rocky silt loam, 2-3 % slopes

Drainage Class: well drained

Taxonomy (Subgroup): Ruptic-Lithic Xerochrepts

Field Observations
Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-5	10YR 4/1	yes	—	sandy silt loam
>5	—	—	—	hardpan

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ✓ Aquic Moisture Regime
- ✓ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretion in upper 3 inches
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

Is this Data Point Within a Wetland? [✓ Yes] No

Remarks:

GIBSON & SKORDAL

ROUTINE WETLAND DETERMINATION DATA FORM

Project/Site: Winn Parcel
Applicant/Owner: Donahue Schriber
Investigator(s): D. Skordal, J. Gibson

Date: 2/5/04
City/County: El Dorado
State: CA

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Adj. upland - oak woodland
Transect ID: 1
Data Point ID: B

VEGETATION

Plant Species Dominant (D) - Associate (A)	Stratum	Indicator	Plant Species Dominant (D) - Associated (A)	Stratum	Indicator
1. Quercus douglesii (D)	T/C	UPL	9.		
2. Quercus wislizeni (D)	T/C	UPL	10.		
3. Bromus diandrus (D)	H	UPL	11.		
4. Bromus mollis (D)	H	FACU	12.		
5. Lolium perenne (D)	H	FAC	13.		
6. Claytonia perfoliata (A)	H	FAC	14.		
7. Stellaria media (A)	H	FACU	15.		
8. Cynosurus echinatus (A)	H	UPL	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 20%

Remarks: Oak woodland

HYDROLOGY

___ Recorded Data (Describe in Remarks):
  ___ Streams, Lake, or Tide Gauge
  ___ Aerial Photographs
  ___ Other

___ No Recorded Data Available

Field Observations:

Depths of Surface Water: ________(in.)

Depth to Free Water in Pit: ________(in.)

Depth to Saturated Soil: ________(in.)

Wetland Hydrology Indicators:
Primary Indicators:
  ___ Inundated
  ___ Saturated in Upper 12 inches
  ___ Water Marks
  ___ Drift Lines
  ___ Sediment Deposits/Organic Detritus
  ___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
  ___ Oxidized Root Channels in Upper 12 inches
  ___ Water-Stained Leaves
  ___ Local Soil Survey Data
  ___ FAC-Neutral Test
  ___ Other (Explain in Remarks)

Remarks: Sloping terrain above adj. swale, lacks sat. or ponding, lacks wetland hydrology.

SOILS

Map Unit Name (Series and Phase): (AxD) Auburn very rocky silt loam, 2-3 % slopes

Drainage Class: well drained

Field Observations Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Ruptic-Lithic Xerochrepts

Profile Description:

Depth (inches)	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-8	7.5 YR 3/4	None	—	silt loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretion in upper 3 inches
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

Is this Data Point Within a Wetland? Yes [✓ No]

Remarks: Non-wetland

GIBSON & SKORDAL

ROUTINE WETLAND DETERMINATION
DATA FORM

Project/Site: Winn Parcel
Applicant/Owner: Donahue Schriber
Investigator(s): D. Skordal, J. Gibson

Date: 2/5/04
City/County: El Dorado
State: CA

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: Wet Swale (upper portion)
Transect ID: 2
Data Point ID: A

VEGETATION

Plant Species Dominant (D) - Associate (A)	Stratum	Indicator	Plant Species Dominant (D) - Associated (A)	Stratum	Indicator
1. Lolium perenne (D)	H	FAC	9.		
2. Quercus lobata (A)	T/C	FAC	10.		
3. Stellaria media (A)	H	FACU	11.		
4. Claytonia perfoliata (A)	H	FAC	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100% FAC Dominated

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
  ___ Streams, Lake, or Tide Gauge
  ___ Aerial Photographs
  ___ Other

___ No Recorded Data Available

Field Observations:

Depths of Surface Water: ______ (in.)

Depth to Free Water in Pit: ______ (in.)

Depth to Saturated Soil: 3"-6" (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- ___ Inundated
- ✓ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ✓ Sediment Deposits/Organic Detritus
- ✓ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ✓ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Swale sustains long term saturation at or within 1"-12" of surface.

SOILS

Map Unit Name (Series and Phase): (AxD) Auburn very rocky silt loam, 2-3 % slopes

Drainage Class: well drained

Field Observations Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Ruptic-Lithic Xerochrepts

Profile Description:

Depth (inches)	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-10	10YR 3/1	heavy	—	silt loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ✓ Reducing Conditions
- ✓ Gleyed or Low-Chroma Colors
- ___ Concretion in upper 3 inches
- ___ High Organic Content in Surface Layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? [✓ Yes] No
Wetland Hydrology Present? [✓ Yes] No
Hydric Soils Present? [✓ Yes] No

Is this Data Point Within a Wetland? [✓ Yes] No

Remarks:

GIBSON & SKORDAL

ROUTINE WETLAND DETERMINATION
DATA FORM

Project/Site: Winn Parcel
Applicant/Owner: Donahue Schriber
Investigator(s): D. Skordal, J. Gibson

Date: 2/5/04
City/County: El Dorado
State: CA

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (Atypical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: oak woodland grassland
Transect ID: 2
Data Point ID: B

VEGETATION

Plant Species Dominant (D) - Associate (A)	Stratum	Indicator	Plant Species Dominant (D) - Associated (A)	Stratum	Indicator
1. Quercus lobata (D)	T/C	FAC	9.		
2. Bromus Mollis (D)	H	FACU	10.		
3. Stellaria Media (D)	H	FACU	11.		
4. Toxicodendron diversilobum (D)	SH	UPL	12.		
5. Bromus diandrus (A)	H	UPL	13.		
6. Lolium perenne (A)	H	FAC	14.		
7. Silybum marianum (A)	H	UPL	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 25%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
  ___ Streams, Lake, or Tide Gauge
  ___ Aerial Photographs
  ___ Other

___ No Recorded Data Available

Field Observations:

Depths of Surface Water: ______ (in.)

Depth to Free Water in Pit: ______ (in.)

Depth to Saturated Soil: ______ (in.)

Wetland Hydrology Indicators:
- Primary Indicators:
  - ___ Inundated
  - ___ Saturated in Upper 12 inches
  - ___ Water Marks
  - ___ Drift Lines
  - ___ Sediment Deposits/Organic Detritus
  - ___ Drainage Patterns in Wetlands
- Secondary Indicators (2 or more required):
  - ___ Oxidized Root Channels in Upper 12 inches
  - ___ Water-Stained Leaves
  - ___ Local Soil Survey Data
  - ___ FAC-Neutral Test
  - ___ Other (Explain in Remarks)

Remarks: Sloping terrain, lacks saturation @ 1-12, lacks wetland hydrology.

SOILS

Map Unit Name (Series and Phase): (AxD) Auburn very rocky silt loam, 2-3 % slopes

Drainage Class: ____________

Taxonomy (Subgroup): Ruptic-Lithic Xerochrepts

Field Observations

Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	7.5 YR 3/4	None	——	Sandy silt loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors

___ Concretion in upper 3 inches
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes [✓ No]
Wetland Hydrology Present? Yes [✓ No]
Hydric Soils Present? Yes [✓ No]

Is this Data Point Within a Wetland? Yes [✓ No]

Remarks: Non-wetland

APPENDIX B

DELINEATION MAP

APPENDIX C

PLANT LIST

PARTIAL LIST OF PLANTS OBSERVED ON THE WINN PARCEL PROPERTY AND THEIR STATUS AS WETLAND INDICATOR SPECIES

Scientific Name	**Common Name**	**Status** [1]&[2]
Achillea millefolium	yarrow	FACU
Aegilops triuncialis	barbed goatgrass	UPL
Aesculus californica	California buckeye	UPL
Aira caryophyllea	silver hairgrass	UPL
Anagallis arvensis	scarlet pimpernel	FAC
Brodiaea sp.	brodiaea	---
Bromus diandrus *(B. rigidus)*	rip-gut grass	UPL
Bromus mollis	soft chess	FACU-
Centaurea solstitialis	yellow star-thistle	UPL
Cerastium viscosum	stock chickweed	UPL
Chlorogalum pomeridianum	soap-root	UPL
Claytonia perfoliata	Miner's lettuce	FAC
Cynosurus echinatus	dogtail	UPL
Cyperus eragrostis	tall flatsedge	FACW
Dactylis glomerata	orchard grass	FACU
Epilobium sp.	willow herb	---
Eriogonum sp.	buck wheat	UPL
Erodium botrys	filaree	UPL
Festuca arundinacea	tall fescue	FAC-
Galium aparine	catchweed bedstraw	FACU
Geranium dissectum	cut-leaf geranium	UPL
Hordeum hystrix *(H. geniculatum)*	Mediterranean barley	FAC
Hordeum leporinum	barley	NI
Juncus balticus	baltic rush	OBL
Juncus bufonius	toad rush	FACW+
Juncus effusus	soft rush	OBL
Juncus sp.	rush	---
Lactuca serriola	prickly lettuce	FAC
Lolium perenne *(L. multiflorum)*	perennial ryegrass	FAC*
Lotus purshianus	Spanish clover	FAC
Lythrum hyssopifolia	loosestrife	FACW
Marrubium vulgare	common horehound	FAC
Paspalum dilatatum	dallis grass	FAC
Phalaris aquatica	Harding grass	FAC+
Picris echioides	bristly ox-tongue	FAC*

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[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 Wetland Inventory, U.S. Fish and Wildlife Service, St. Petersburg, Fl.

[2] OBL = obligate; FACW = facultative wetland; FAC = facultative; FACU = facultative upland; UPL = upland; and NI = no indicator.

Scientific Name	**Common Name**	**Status**
Pinus sabiniana	foothills pine	UPL
Plantago lanceolata	English plantain	FAC-
Poa annua	annual bluegrass	FACW-
Polygonum sp.	smartweed	---
Populus fremontii	Fremont cottonwood	FACW
Quercus douglasii	blue oak	UPL
Quercus lobata	valley oak	FAC*
Quercus wislizenii	interior live oak	UPL
Ranunculus sp.	buttercup	FAC-FACW
Rorippa nasturtium-aquaticum (Nasturtium officinale)	water-cress	OBL
Rubus procerus	Himalayan blackberry	FAC
Rumex crispus	curly dock	FACW-
Salix sp.	willow	---
Senecio vulgaris	common groundsel	NI
Silybum marianum	milk thistle	UPL
Stellaria media	chickweed	FACU
Toxicodendron diversilobum	poison oak	UPL
Trifolium hirtum	rose clover	UPL
Trifolium sp.	clover	---
Typha latifolia	broad-leaf cattail	OBL
Vicia villosa	winter vetch	---

JURISDICTIONAL DELINEATION
WINN PARCEL
(El Dorado County, California)

Legend

Data Points

▨ Channels (0.09 Acre)

▨ Wet Swale (0.05 Acre)

Study Area (6.8 acres)

GIBSON AND SKORDAL, LLC
WETLANDS CONSULTANTS
2277 Fair Oaks Blvd, Suite 105
Sacramento, CA 95825
(916) 565-1846

Prepared March 2004
Base Map Aerial Photography
Flown May 2002

A 11-0003/Z 11-0004

Gibson & Skordal, LLC
WETLAND CONSULTANTS

April 26, 2012

Rommel Pabalinas
El Dorado County Planning Department
2850 Fairlane Court
Placerville, California 95667

Subject: **Green Valley Center Project, El Dorado County, California**

Dear Mr. Pabalinas,

This letter is provided to you to identify permit requirements and mitigation proposed as part of the Green Valley Center Project.

Gibson & Skordal, LLC prepared a wetland delineation for the project site. The delineation was verified by the U.S. Army Corps of Engineers ("Corps") on July 26, 2007.

The delineation identified approximately 0.15 acres of waters of the United States. The identified waters include 0.09 acres of channels and 0.05 acres of wetland swales. These waters are regulated under section 404 of the Clean Water Act because they are tributary, or adjacent to tributaries, to Folsom Lake, and the American River, which is a traditional navigable waterway.

Construction of the project will result in the filling of 0.024 acres of wetland swales. The applicant will need to secure a Nationwide Permit from the Corps to fill the wetland swales. To mitigate for the impacts to the wetlands swales, the applicant proposes to purchase 0.024 acres of seasonal wetland credits at an approved mitigation bank or the National Fish and Wildlife Foundation (NFWF). The Sacramento District office of the Corps and the NWFW have an agreement to allow NFWF to collect funds to mitigate for wetlands associated with permit actions with minor impacts (less than one-half acre). These funds are used for restoration, creation, enhancement, or preservation of wetlands and their associated habitats within the boundaries of the Sacramento District.

Construction of an access road off of Green Valley road as part of the project improvements will result in the filling in 0.013 acres of the intermittent channel. The construction method will be to clear-span the channel. However, 0.013 acres of creek/riparian habitat will be impacted. The filling and impacts to the creek/riparian habitat will also be covered in the Nationwide Permit.

The applicant proposes to mitigate the impacts to the creek/riparian habitat by purchasing riparian habitat credits from an approved mitigation bank or the NFWF as described above.

The applicant will need to secure the Nationwide Permit before issuance of a grading permit and/or building permit.

The filling of the wetlands on site may also require a Streambed Alteration Agreement through the Department of Fish and Game and Water Quality Certification from the Regional Water Quality Control Board. To the extent required, the applicant must secure the Streambed Alteration Agreement and the Water Quality Certification prior to issuance of a grading permit and/or building permit.

By securing the permits required and by acquiring the mitigation credits prior to issuance of a grading permit and/or building permit, the impacts to wetland and riparian habitat resources will be less than significant.

If you have questions or need additional information, feel free to contact me at (916) 822-3230.

Sincerely,

James C. Gibson
Principal

cc:

George Carpenter
Winn Communities
3001 I Street, Suite 300
Sacramento, California 95816

SITE ASSESSMENT FORM

Project Biologist & Contact Information: *(attach qualifications)*	**James C. Gibson, Gibson & Skordal, LLC, 2277 Fair Oaks Boulevard, Suite 105, Sacramento, California 95825 Attachment A provides Resume**
APN(s):	**124-140-33-100**
Address:	**Southwest corner of Green Valley Road and Francisco Drive, El Dorado Hills, CA**
General Plan Designation:	**Currently High Density Residential, proposed Commercial**
Zoning:	**Currently R1-PD, proposed C-PD**
Project Description: *(attach site photos)*	**See Attachment B – Project Description, and Attachment C – Site Photos**
Alternative Setback Requested:	**25 to 40 foot buffer south of intermittent channel, road crossing of intermittent channel, and filling of upper reach of WS1**

Would the project, at the proposed alternative setback, directly or indirectly have the potential to cause any impact, conflict with, or disturbance to:	**YES**	**NO**
a) Riparian Vegetation?		**See Attachment D**
b) Creeks or Streams?		**See Attachment D**
c) Wetlands or Lakes?		**No**
d) Movement of Wildlife and/or Any Wildlife Migration Corridor?		**See Attachment D**
e) Any Candidate, Listed or Special Status Plant or Animal Species?		**None likely to be impacted**
f) Are all applicable Best Management Practices incorporated into the project? *(attach BMPs)*	**Yes, See Attachment E**	
g) Was alternative setback request subject to prior County approval? (If yes, provide Tentative Map # and environmental documents)		**No**

Conclusions: The channel where the reduction in the buffer and the channel crossing will occur will not be significantly impacted

I affirm that all of the information contained in this document is true and correct to the best of my knowledge and I acknowledge and agree that any material misinformation in this document can result in the denial or revocation of any permits or County approvals for this project.

Biologist: **Date:** 1/23/12

Applicant/Owner: **Date:** 1/27/12

ATTACHMENT A

RESUME OF
JAMES C. GIBSON

Gibson & Skordal, LLC
WETLAND CONSULTANTS

Gibson & Skordal, LLC
WETLAND CONSULTANTS

RESUME OF JAMES C. GIBSON

SUMMARY

Mr. Gibson has in-depth experience in and knowledge of environmental planning and regulatory fields. His experience as a wetlands consultant since 1988, and 18 years as an Environmental Resource Planner and Environmental Specialist with the U.S. Army Corps of Engineers (Corps) have provided him with solid working knowledge of environmental resource laws and regulations including Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, National Environmental Policy Act, Fish and Wildlife Coordination Act, Endangered Species Act, and California Environmental Quality Act.

As a consultant, Mr. Gibson has served as project manager for a wide range of wetland related projects throughout the west. He has been responsible for conducting jurisdictional delineations and special status species surveys, providing project planning assistance, obtaining governmental approvals, preparation of mitigation and monitoring plans, supervision of mitigation construction, and mitigation monitoring. He has also provided expert and factual testimony for litigation.

During Mr. Gibson's 11 years as an Environmental Specialist for the Sacramento District Corps, Regulatory Section, he was responsible for providing technical expertise in environmental matters, including delineation of wetlands subject to Corps regulatory jurisdiction; management and preparation of environmental impact statements and environmental assessments for complex and controversial permit actions; review of other agencies' environmental documents; coordination with resource agencies, applicants, and others with respect to regulatory actions, mitigation plans, permit conditions, and violations; and providing assistance to regulatory personnel and applicants on environmental matters. He was the Sacramento District Regulatory Wetlands Expert for Northern California, Nevada, and portions of Utah and Colorado. He also served 7 years as an Environmental Resource Planner for the Sacramento District Corps, Environmental Resources Section. He was responsible for planning, coordinating, and preparing Environmental Assessments and Environmental Impact Statements for Corps' Civil Works projects.

Mr. Gibson has conducted formal technical training in the delineation of wetlands utilizing the Corps' Wetland Delineation Manual and "Federal Manual for Identifying and Delineating Jurisdictional Wetlands".

EXPERIENCE

Gibson & Skordal, LLC *Principal, Wetland Consultant*	**January 2002 - Present** 2277 Fair Oaks Blvd., Suite 105 Sacramento, California 95825
Gibson & Skordal *Principal, Wetland Consultant*	**August 1992 - December 2001** 2277 Fair Oaks Blvd., Suite 395 Sacramento, California 95825
Huffman & Associates, Inc. *Vice President and Principal* *Senior Wetland Regulatory Specialist and Manager*	**March 1990 - July 1992** 4204 Power Inn Road Sacramento, California 95826

Private Consultant *Wetland Regulatory Consultant* *Wetland Regulatory Consulting*	**August 1988 - March 1990** 8291 Caribbean Way Sacramento, California 95826
U.S. Army Corps of Engineers *Environmental Specialist* *Responsible for environmental aspects of Corps of Engineers' Regulatory Program in California, Nevada, Utah, and Colorado*	**March 1977 - August 1988** 1325 J Street Sacramento, California 95814
U.S. Army Corps of Engineers *Environmental Resource Planner (Lieutenant 1970-1972)* *Responsible for environmental aspects of Corps of Engineers' Civil Works projects primarily in California*	**March 1970 - March 1977** Sacramento District 1325 J Street Sacramento, California 95814
U.S. Army Corps of Engineers *Second Lieutenant* *Combat Engineer*	**December 1969 - March 1970** Ft. Belvoir, Virginia

EDUCATION

Texas A&M University *B.S., Wildlife Science*	**1969** College Station, Texas
U.S. Army Engineer Officer Training Course *Combat Engineer*	**1970** Ft. Belvoir, Virginia

SPECIAL COURSES

Wetland Training Institute *Wetland Delineation Refresher*	**1994** Ontario, California
Corps of Engineers' Training *Wetlands Development and Restoration*	**1988** Tiburon, California
Corps of Engineers' Training *Wetland Methodologies*	**1987** Olympia, Washington
Corps of Engineers' Training *Wetlands Specialist*	**1985** Pocomoke City, Maryland
Corps of Engineers' Training *Wetland Soils and Hydrology*	**1985** Hickory Corner, Michigan
University of Alabama *Environmental Laws and Regulations*	**1984** Huntsville, Alabama
Corps of Engineers' Training *Public Involvement*	**1983** St. Louis, Missouri
Department of Army *Effective Briefing Techniques*	**1983** Sacramento, California
Oregon State University *Wetland Science and Technology*	**1977** Otter Rock, Oregon

Corps of Engineers 1976
Introduction to Water Resource Planning
Sacramento, California

California State University 1974
Environmental Impact Reporting and Evaluation
Sacramento, California

University of California Extension 1972
Environmental Law for the Layman
Sacramento, California

University of California Extension 1970
Aquatic Biology
Weed, California

PROFESSIONAL CERTIFICATIONS

- Certified Professional Wetland Scientist
- Certified Wildlife Biologist

PROFESSIONAL AFFILIATIONS

- Association of State Wetland Managers
- The Wildlife Society
- Society of Wetland Scientists

APPOINTMENTS AND HONORS

Sacramento District Chief of Regulatory Section 1987
Letter of Commendation for support in executing a successful regulatory program in Sacramento District

South Pacific Division Engineer 1986
Nominee for the Office of the Chief of Engineers Don Lawyer Outstanding Regulator Award for exceptional performance in regulatory functions

South Pacific Division Engineer 1986
Special Act Award for personal dedication and technical expertise associated with a highly complex permit action in the San Francisco Bay area

Sacramento District Engineer 1985
Special Act Award for being instrumental in obtaining favorable judgment by the Federal District Court in a regulatory case in Northern California

Sacramento District Chief of Construction - Operations Division 1982
Letter of Appreciation for outstanding contribution to the success of Sacramento District's regulatory program in Utah

Sacramento District Engineer 1976
Sustained Superior Performance Award for environmental planning efforts associated with civil works activities

Sacramento District Engineer 1975
Special Act Award for involvement in Sacramento River Wild and Scenic River Study/Report

Sacramento District Chief of Environmental Planning Section 1973
Letter of Appreciation for wildlife mitigation plan development

Sacramento District Engineer 1972
Letter of Commendation for contribution to civil works projects of the District

LITIGATION INVOLVEMENT

Citizens for Glenwood Canyon Scenic Corridor v. United States Army Corps of Engineers, *United States District Court, District of Colorado*

City of Sparks v. L. David Kiley, *Second Judicial District Court, State of Nevada, County of Washoe*

Concerned Citizens of Eagle County, Colorado v. Richard E. Woodrow, United States District Court, District of Colorado

Grantline Investments, LLC v. Pulte Homes Corporation et al., *Superior Court of the State of California in and for the County of Sacramento*

Great Salt Lake Minerals and Chemical Corporation v. Marsh, *United States District Court, District of Utah, Central Division*

Kramer Ranch v. Zentner & Zentner, et al., *Superior Court of California in and for the County of Sacramento*

Pacific Shores Subdivision California Water District et al., v. California Department of Fish and Game, et al., *Superior Court of the State of California in and for the County of Sacramento*

People v. Marsh, *United States District Court, Northern District of California*

Prudential Development Co. v. Stanford Ranch Inc. et al., *Superior Court of the State of California in and for the County of Placer*

Robert W. Akers v. United States of America, *United States District Court, Eastern District of California*

United States of America v. Robert W. Akers, *United States District Court, Eastern District of California*

William S. Stryker, M.D. v. Musick, Peeler & Garrett, *Superior Court of the State of California for the County of Los Angeles Central District*

ATTACHMENT B

PROJECT DESCRIPTION

Gibson & Skordal, LLC
WETLAND CONSULTANTS

PROJECT DESCRIPTION

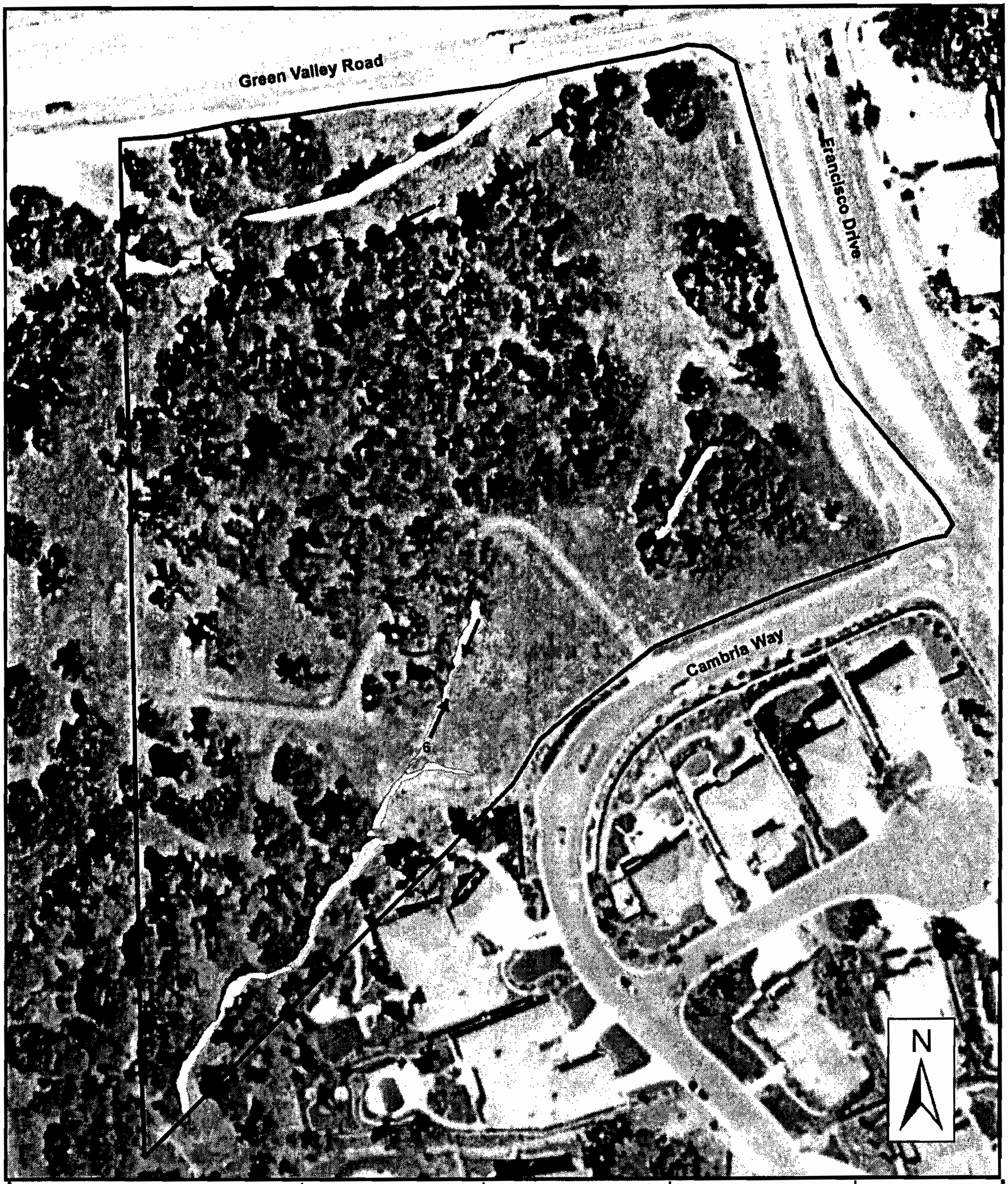
GREEN VALLEY CENTER

The project consists of the following: (a) General Plan Amendment amending the land use designation of the property from HDR (High Density Residential) to C (Commercial); (b) Rezone of the property from R1-PD (One Family Residential – Planned Development) to C-PD (Commercial – Planned Development); (c) Development Plan for the proposed commercial development consisting of three commercial buildings totaling 28.615 square feet served with on-site infrastructure including parking, landscaping, and signs. Each commercial building shall be within an individual commercial parcel; and (d) commercial Tentative Parcel Map of 6.85 acre property consisting of a total of three commercial parcels ranging from 1.53 acres to 3.04 acres in size.

ATTACHMENT C

SITE PHOTOS

Gibson & Skordal, LLC
WETLAND CONSULTANTS



Green Valley Center
Photo Index
El Dorado County, California

Prepared For:
Winn Communities, Inc.
3001 I Street, Suite 300
Sacramento, California 95816

Gibson & Skordal, LLC

Prepared By: [illegible]

Prepared Date: [illegible]

Date Aerial Photo: [illegible]

Photo 1: Buffer Area South of Channel

Photo 2: Buffer Area South of Channel

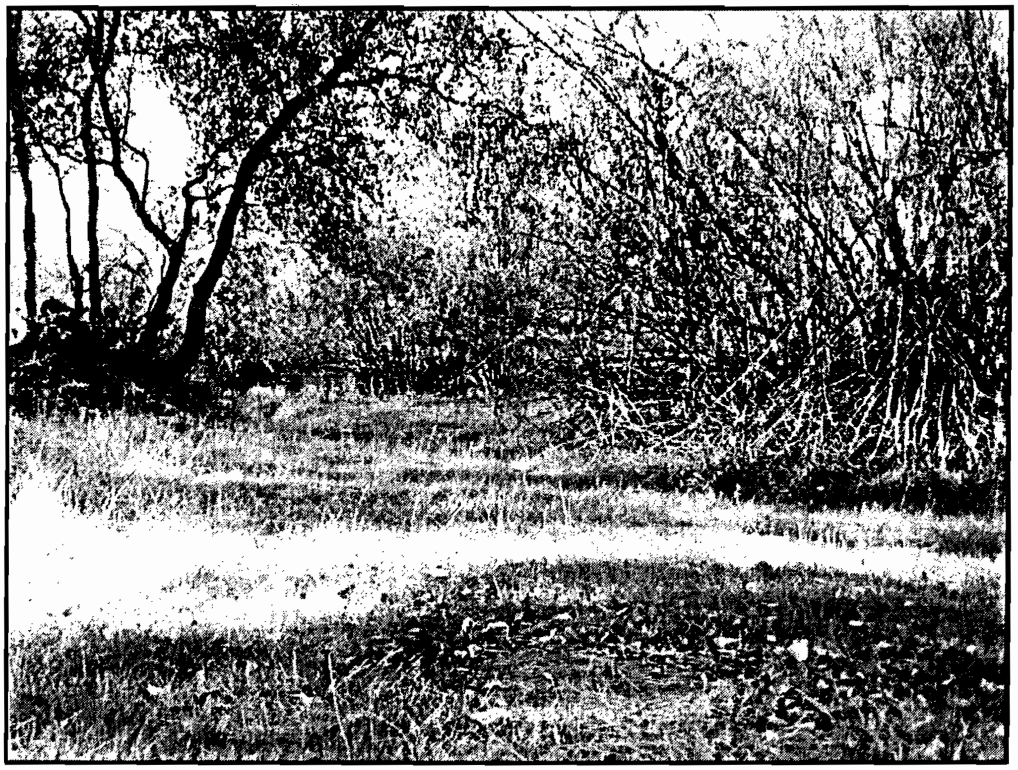


Photo 3: Buffer Area South of Channel

Photo 4: Road Crossing Area

Green Valley Center
Site Assessment
January 2012

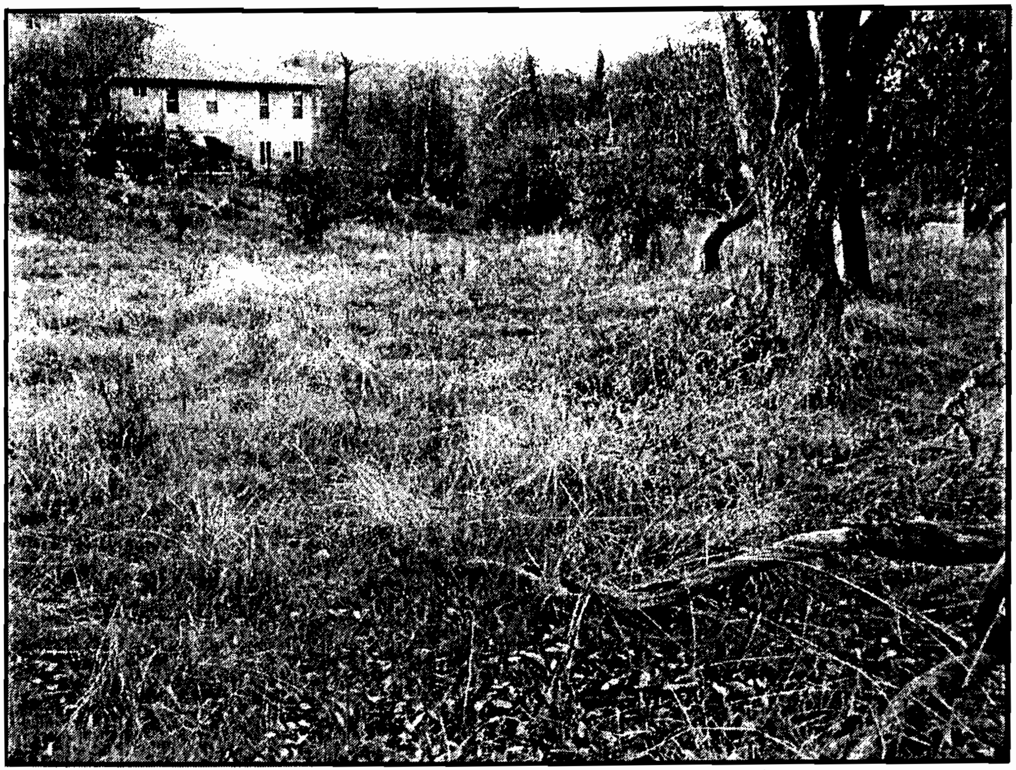


Photo 4: SW1 Looking Downslope at Proposed Fill Area

Photo 4: SW1 Looking Upslope at Proposed Fill Area

ATTACHMENT D

BUFFER EVALUATION

Gibson & Skordal, LLC
WETLAND CONSULTANTS

BUFFER EVALUATION

GREEN VALLEY CENTER

The Green Valley Center contains an intermittent channel along the northern border of the site. Due to practical and logistical factors, the project proposes to reduce the buffer on the south side of the channel, and cross it along the western border of the site. The proposed development plan including the proposed buffer is shown on the attached exhibit. As explained below, this buffer reduction and crossing will not significantly impact the functions and values of the intermittent channel. No riparian habitat will be impacted by the buffer reduction, nor will movement of wildlife or their corridors be affected. There are no known special status species that would be adversely affected by the buffer reduction.

There will be no development on the north side of the channel where the buffer width averages greater than 50 feet. On the south side of the channel, the proposed buffer width ranges from 25 to 45 feet, and averages approximately 34 feet. As shown in Photos 1, 2, and 3 in Attachment B, no riparian habitat will be impacted as a result of the buffer reduction. There is an existing 25-foot wide utility line easement along the south side of the channel that is clear of any trees or shrubs. The proposed buffer provides an adequate area for wildlife movement, and preserves the functions and values of the channel and associated riparian habitat.

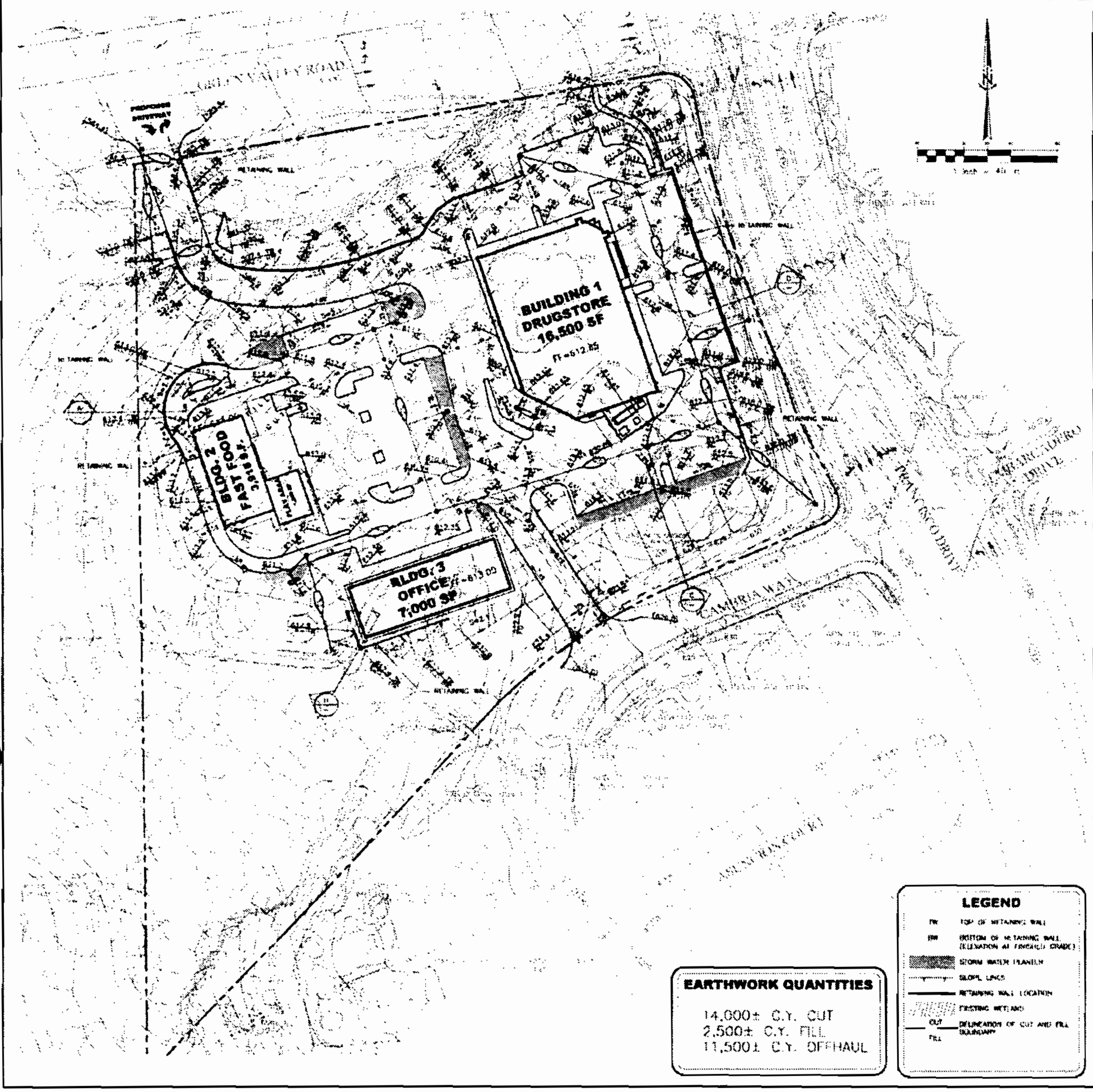
With respect to the road crossing, the re is a setback exception in the Interim Interpretive Guidelines that allows for road construction when the road is necessary or where such buffers deny reasonable use of the property. Appropriate mitigation/best management practices are required.

The proposed Green Valley Center project currently has frontage on Cambria Drive, Francisco Drive, and Green Valley Road. The project needs two access points due to the commercial nature of the project. The project has an existing access point on Cambria Drive. The project proposes to utilize a second access from the western edge of the site along Green Valley Drive. Due to the proximity of the Green Valley Drive/Francisco intersection to the Cambria/Francisco intersection, site access is not feasible on Francisco Drive. The access on Green Valley needs to be at the farthest western point to achieve optimum traffic operations. In particular, greater distance allows vehicles leaving the project site to proceed east on Green Valley or enter the turn pocket on Green Valley to go north on Francisco. Since the channel runs along most of the entire Green Valley frontage, it is not possible to gain access to Green Valley without crossing the channel. The driveway encroaches because of its length. The elevations at the proposed access points on Green Valley and Cambria differ by approximately 40 feet. In order to maintain acceptable driveway slopes, the driveways need to have the minimum amount of length as proposed. With the varying degrees of topography, the proposed driveway layout is the only feasible one. The proposed road crossing will be clear span so that wildlife movement will not be restricted.

WS1 will be filled in two locations, the easternmost isolated segment which is 406 square feet, and the upper 100 feet of the westernmost segment which is 655 square feet. The easternmost isolated segment of WS1 will be filled in its entirety and therefore, buffer widths are not applicable.

The upper 100 feet of the westernmost segment of WS1 is proposed to be filled for an office. The fill is necessary in order to provide reasonable use of the property. The remainder of this segment of WS1 will be preserved within a 1.26-acre area that will remain undeveloped. The segment of WS1 that is being filled contains grassland similar to the adjacent uplands with no riparian habitat as shown in Photos 5 and 6 in Attachment B. Movement of wildlife or their corridors should not be affected by the filling of the upstream extent of WS1. There are no known special status species that would be affected by the fill.

Mitigation measures as required by the Corps of Engineers and California Department of Fish and Game will be incorporated into the project. In addition, the BMP's identified in Appendix E will be implemented.

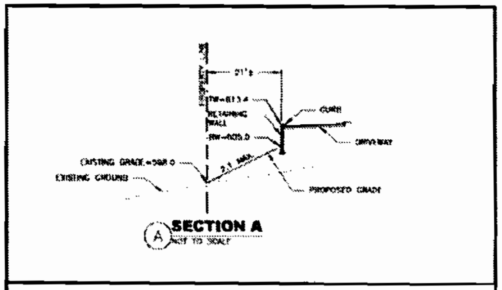


EARTHWORK QUANTITIES

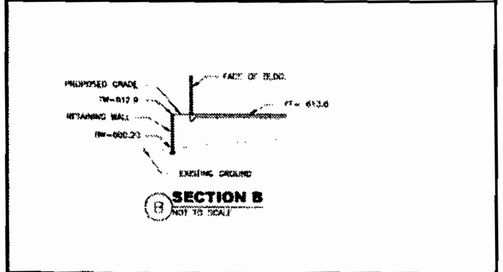
14,000± C.Y. CUT
2,500± C.Y. FILL
11,500± C.Y. OFFHAUL

LEGEND

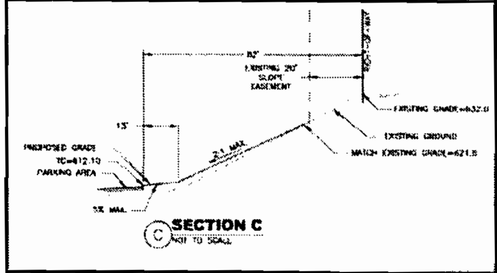
TW	TOP OF RETAINING WALL
BW	BOTTOM OF RETAINING WALL (ELEVATION AT FINISHED GRADE)
▨	STORM WATER PLANTER
	SLOPE LINES
	RETAINING WALL LOCATION
	EXISTING WETLANDS
CUT / FILL	DELINEATION OF CUT AND FILL BOUNDARY



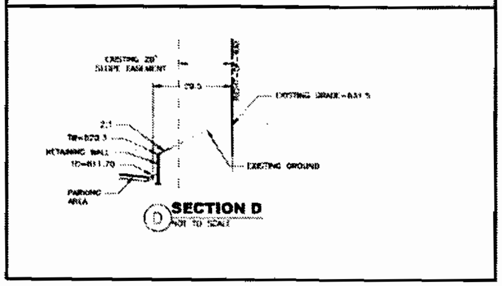
SECTION A
NOT TO SCALE



SECTION B
NOT TO SCALE



SECTION C
NOT TO SCALE



SECTION D
NOT TO SCALE

WINN COMMUNITIES

RSC ENGINEERING

PROJECT NO. 092-001
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

PRELIMINARY PLANS
GREEN VALLEY CENTER
GREEN VALLEY RD. & FRANCISCO DR.
EL DORADO COUNTY, CALIFORNIA

SHEET TITLE
PRELIMINARY GRADING PLAN

SHEET NO.
G-0.1
OF **1**

DATE: MARCH 7, 2011

ATTACHMENT E

BEST MANAGEMENT PRACTICES

Gibson & Skordal, LLC
WETLAND CONSULTANTS

BEST MANAGEMENT PRACTICES

GREEN VALLEY CENTER

A Storm Water Pollution Prevention Program (SWPPP) will be required by a National Pollutant Discharge Elimination System (NPDES) construction permit. To protect the channel on the site, the following Best Management Practices (BMP's) will be incorporated into the SWPPP.

1. Silt fences and /or waddles will be installed to prevent sediments from exiting the work area.

2. Orange construction fencing will be placed along the edge of the work area to avoid impacts from construction equipment.

3. Drip pans will be placed under all work vehicles.

4. Fuel waste will be contained throughout the site during construction.

5. The construction site will be winterized utilizing the distribution of straw and/or hydroseeding.

Winn Communities
Green Valley Center

Drainage Report

Green Valley Rd. & Francisco Drive
El Dorado County, CA

June 21, 2011

Prepared By:

CIVIL ENGINEERING
SOLUTIONS INC.
1325 Howe Avenue Suite 202
Sacramento, CA 95825
(916) 563-7300

JOB # 2010.15

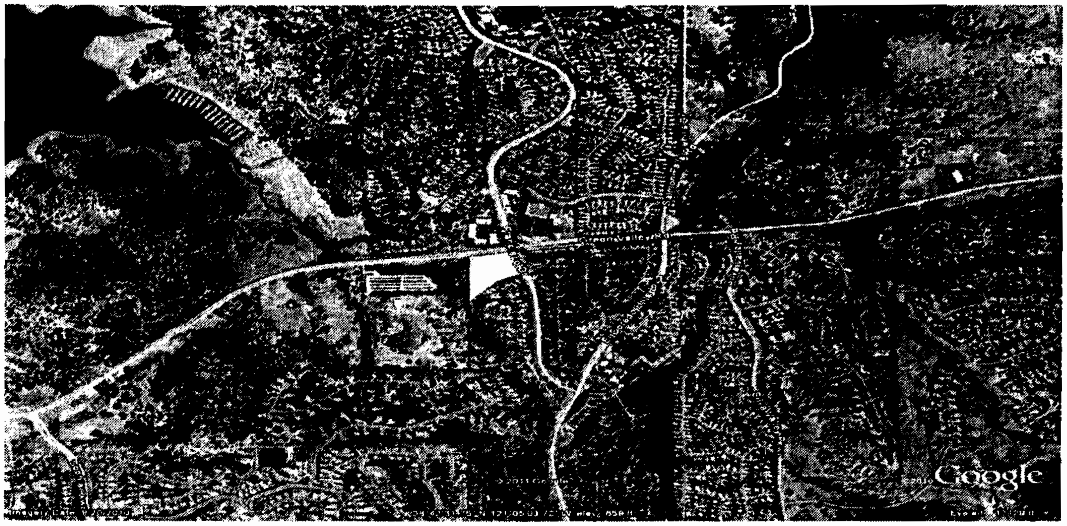
The status of this report is PRELIMINARY unless the appropriate signature is provided to the left. Signature will be provided after review is complete.

EXHIBIT Q- ATTACHMENT 19

Table of Contents

I. Introduction

The project site is located near Folsom Lake at the southwest corner at the intersection of Green Valley Road and Francisco Drive in El Dorado County. Figure 1.1 Site Location shows an aerial snapshot courtesy of Google with the site location indicated in yellow. Existing commercial development occupies the east side of Francisco Drive, the north side of Green Valley Road, and the northeast corner of the intersection. To the south lies existing residential development. To the immediate west side is an undeveloped area of a small tributary to Brown's Ravine. Much of the adjoining developed commercial area and significant upstream undeveloped area and developed residential area contributes to the flow in this tributary.



[illegible]

The purpose of this study is to determine the effect the proposed site development would have on local runoff patterns, determine required onsite stormwater drainage improvements, water quality treatment requirements and any necessary peak flow attenuation facilities required.

The proposed project is in FEMA flood ZONE X.

All elevations cited in this report are NGVD 29 datum unless otherwise specified.

II. Existing Conditions

The site is currently undeveloped with numerous trees and low vegetation. A dirt and gravel access road enters the site from the south side. Roughly the south half drains west-southwest from the site and also receives outflow from three offsite pipe systems. The north half drains to a well defined existing watercourse which also carries runoff from upstream drainages.

All site runoff for both the pre and post project conditions combines approximately 600 feet west of the site where pre and post project conditions are compared.

III. Proposed Conditions

The proposed project would create a commercial facility with road, parking and structures as indicated on the site plan provided by RSC Engineering, Inc. The site would be graded and approximately 3.85 acres of the 6.85 acre site would change from the current conditions to an impervious condition. This would result in changes to the runoff characteristics of the site.

IV. Hydrology

IV.A Methodology

All calculations and analysis included with this study were prepared in accordance with the requirements of the County of El Dorado Drainage Manual (EDDM) dated March 14, 1995.

The actual change to runoff from the site was determined by developing an HEC-1 hydrologic model for the site and surrounding tributary areas. Both pre and post project conditions models were developed and the effect of the project on the hydrology at selected downstream locations was calculated. Baseflow was not considered to be of significance for this analysis. Copies of the HEC-1 model input, output and dss data files are provided on the CD included with this report.

A portion of the upstream tributary area to the northeast of the project site was included in a report previously prepared for the Green Valley Market Place and included a HEC-1 model for the area. The outflow hydrographs from this model were used as the inflow hydrographs at the upstream location for this project and identified in the model for this analysis as shed A1.

The mean annual rainfall map in Appendix 2.2 of the EDDM indicates a mean annual rainfall for this location of roughly 25 inches. Interpolating from the tables in Appendix 2.2 this yields a 10-year total precipitation depth of 3.611 inches and a 100-year total precipitation depth of 5.119 inches.

Soils maps obtained from the National Resource Conservation Service (NRCS) indicate the soils in all of this watershed are hydrologic soils group type D, described as follows:

Group D: Consist of soils having a slow infiltration rate when thoroughly wet. The rate of water transmission is very slow, and runoff potential is very high. This group includes:

- *a. clay soils that have high shrink-swell potential*
- *b. soils that have a permanent high water table*
- *c. soils that have a clay pan or clay layer at or near the surface and*
- *d. soils that are shallow over nearly impervious material*

Undeveloped areas were estimated at a curve number of 83 for this analysis. Residential area curve numbers were estimated from 84 to 87. General commercial and mostly impervious areas curve numbers were estimated at 96 to 98. A composite curve number was calculated for each shed. Lag times for each shed were calculated as shown in Tables 4.2 and 4.3. A minimum lag times of 0.1 hours (6 minutes) was applied where the computed value was less than 0.1 hrs..

Shed maps for pre and post project conditions are provided in Appendix B as Figures SH-1 and SH-2. The curve numbers assigned to the various areas within this watershed are indicated on the shed maps.

Table 4.1 HEC-1 Parameter Summary shows the pre and post project data, where applicable, that was used in the corresponding HEC-1 model for each shed.

Table 4.1
HEC-1 Parameter Summary

	Area (acres)		Lag (hrs)		Composite Curve#	
Shed	Pre	Post	Pre	Post	Pre	Post
A1	33.5	33.5				
B1	6.3	6.3	0.10	0.10	96.4	96.4
B3	8.0	4.8	0.24	0.23	85.7	84.6
B3A		2.2		0.10		93.4
BC1		3.7		0.10		94.0
C1	5.3	5.3	0.20	0.20	85.9	85.9
C2	1.1	1.1	0.12	0.12	96.4	96.4
C3	7.1	4.4	0.10	0.10	85.1	85.5
D1	13.8	13.8	0.24	0.24	86.9	86.9
E1	75.8	75.8	0.38	0.38	86.2	86.2
E3	7.9	7.9	0.17	0.17	83.3	83.3

IV.B Results

The results of the HEC-1 modeling indicates that development of the site as proposed would result in changes in the flow at several locations.

Tributary area from the northern portion of the site to the existing channel (Node YB3) would decrease by 1.0 acre, but the peak runoff at this location would remain at 47 cfs in the 10-year and 68 cfs in the 100-year event.

An increase of 2 cfs is computed for both the 10-year and the 100-year events at the nodes downstream of the portion of the site draining toward the south (Nodes YE1 and YE3). The increase at the confluence of all runoff into a single stream (Node YB3E3) is 1 cfs for both the 10-year and the 100-year events, from 135 to 136 cfs for the 10-year event and from 215 to 216 cfs for the 100-year event.

This represents an increase of approximately 0.7% of existing for the 10-year and 0.5% of existing for the 100-year. Table 4.4 HEC-1 Peak Flow Results Summary shows the HEC-1 results at all model locations for 10-year and 100-year events under pre-project, post-project and post-project mitigated conditions.

A post-project mitigated model was prepared in order to estimate the mitigation measures required to attenuate the increased peak flows back to pre-project levels. The analysis indicates that a detention storage element of approximately 0.43 acre-feet (about 18,700 cubic feet) at the outfall of the onsite pipe system would result in peak flows at or below existing levels at all downstream locations.

Table 4.2
Pre-Project Lag Time Calculation

	Overland						Shallow Conc.					Channel						Total Time		Lag
Shed	Length ft	Slope ft/ft	N	P2	V fps	Travel Time min	Length ft	Elev Chg ft	Slope ft/ft	V fps	Travel Time min	Length ft	Elev Chg ft	Slope ft/ft	N	V fps	Travel Time min	Tc	Tlag = 0.6*Tc min	Tlag hr
B1	100	0.010	0.011	2.453	0.9	1.8	200	4	0.020	2.3	1.5	600	30	0.050	0.060	5.5	1.8	5.1	3.1	0.10
B3	200	0.015	0.130	2.453	0.2	19.5	300	6	0.020	2.3	2.2	900	100	0.111	0.060	9.3	1.8	23.5	14.1	0.24
C1	100	0.020	0.240	2.453	0.1	16.3	300	3	0.010	1.6	3.1	800	20	0.025	0.015	13.7	0.9	20.2	12.1	0.20
C2	50	0.020	0.240	2.453	0.1	9.4	200	3	0.015	2.0	1.7	500	10	0.020	0.015	14.0	0.6	11.6	7.0	0.12
C3	100	0.010	0.011	2.453	0.9	1.8	300	6	0.020	2.3	2.2	600	40	0.067	0.060	6.4	1.6	5.6	3.3	0.10
D1	100	0.010	0.240	2.453	0.1	21.5	300	6	0.020	2.3	2.2	1000	100	0.100	0.015	31.3	0.5	24.2	14.5	0.24
E1	300	0.013	0.130	2.453	0.2	23.3	300	10	0.033	2.9	1.7	2500	100	0.040	0.060	5.0	8.4	38.4	23.0	0.38
E3	100	0.010	0.130	2.453	0.1	13.2	200	3	0.015	2.0	1.7	500	20	0.040	0.060	5.0	1.7	16.5	9.9	0.17

Table 4.3
Post-Project Lag Time Calculation

	Overland						Shallow Conc.					Channel						Total Time		Lag
Shed	Length ft	Slope ft/ft	N	P2	V fps	Travel Time min	Length ft	Elev Chg ft	Slope ft/ft	V fps	Travel Time min	Length ft	Elev Chg ft	Slope ft/ft	N	V fps	Travel Time min	Tc	Tlag = 0.6*Tc min	Tlag hr
B1	100	0.01	0.011	2.453	0.9	1.8	200	4	0.020	2.3	1.5	600	30	0.050	0.060	5.5	1.8	5.1	3.1	0.10
B3A	100	0.030	0.011	2.453	1.4	1.2	200	4	0.020	2.3	1.5	450	50	0.111	0.060	8.3	0.9	3.5	2.1	0.10
B3	200	0.015	0.130	2.453	0.2	19.5	300	6	0.020	2.3	2.2	450	50	0.111	0.060	8.3	0.9	22.6	13.6	0.23
BC1	100	0.010	0.011	2.453	0.9	1.8	200	2	0.010	1.6	2.1	800	20	0.025	0.015	13.7	0.9	4.7	2.8	0.10
C1	100	0.020	0.240	2.453	0.1	16.3	300	3	0.010	1.6	3.1	800	20	0.025	0.015	13.7	0.9	20.2	12.1	0.20
C2	50	0.020	0.240	2.453	0.1	9.4	200	3	0.015	2.0	1.7	500	10	0.020	0.015	14.0	0.6	11.6	7.0	0.12
C3	100	0.010	0.011	2.453	0.9	1.8	300	6	0.020	2.3	2.2	600	40	0.067	0.060	6.4	1.6	5.6	3.3	0.10
D1	100	0.010	0.240	2.453	0.1	21.5	300	6	0.020	2.3	2.2	1000	100	0.100	0.015	31.3	0.5	24.2	14.5	0.24
E1	300	0.013	0.130	2.453	0.2	23.3	300	10	0.033	2.9	1.7	2500	100	0.040	0.060	5.0	8.4	38.4	23.0	0.38
E3	100	0.010	0.130	2.453	0.1	13.2	200	3	0.015	2.0	1.7	500	20	0.040	0.060	5.0	1.7	16.5	9.9	0.17

Table 4.4
HEC-1 Peak Flow Results Summary

Shed / Node			Area / Cum Area (acres)		10-Year Peak Flow (cfs)			100-Year Peak Flow (cfs)			10-Year Peak Flow Increase (cfs)		100-Year Peak Flow Increase (cfs)	
Pre	Post	Post Mit	Pre	Post / Post Mit	Pre	Post	Post Mit	Pre	Post	Post Mit	Post	Post Mit	Post	Post Mit
A1	A1	A1	33.5	33.5	31	31	31	43	43	43				
B1	B1	B1	6.3	6.3	9	9	9	13	13	13				
YB1	YB1	YB1	39.7	39.7	40	40	40	56	56	56				
VYB1	VYB1	VYB1	39.7	39.7	40	40	40	56	56	56				
	B3A	B3A		2.2		3	3		5	5				
	YB3A	YB3A		41.9		43	43		60	60				
B3	B3	B3	8.0	4.8	8	4	4	12	7	7	-4	-4	-5	-5
YB3	YB3	YB3	47.7	46.7	47	47	47	68	68	68				
C1	C1	C1	5.3	5.3	5	5	5	9	9	9				
C2	C2	C2	1.1	1.1	2	2	2	2	2	2				
YC2	YC2	YC2	6.3	6.3	7	7	7	11	11	11				
VYC2	VYC2	VYC2	6.3	6.3	7	7	7	11	11	11				
	BC1	BC1		3.7		5	5		8	8				
	YBC1	YBC1		10.0		12	12		18	18				
		UYBC1					8			13				
C3	C3	C3	7.1	4.4	7	5	5	12	8	8	-2	-2	-4	-4
D1	D1	D1	13.8	13.8	14	14	14	22	22	22				
E1	E1	E1	75.8	75.8	63	63	63	104	104	104				
YE1	YE1	YE1	103.0	104.0	85	87	85	141	143	141	2		2	
VYE1	VYE1	VYE1	103.0	104.0	85	87	85	141	143	141	2		2	
E3	E3	E3	7.9	7.9	7	7	7	12	12	12				
YE3	YE3	YE3	110.9	111.9	91	93	90	151	153	150	2	-1	2	-1
YB3E3	YB3E3	YB3E3	158.6	158.6	135	136	131	215	216	209	1	-4	1	-6

V. Onsite Drainage

The onsite drainage layout was analyzed using Civil Solutions Drainage Studio (CSDS) software and required pipe conveyance determined. Tributary area to each onsite inlet was determined and the area types entered into the model, estimated runoff computed, and performance of the system assessed. Copies of the CSDS model data files and program are provided on the CD included with this report

Minimum cover of 1.5 feet was established for all pipes. The system analysis included both the 10-year and 100-year events. Results indicate that the hydraulic grade line (hgl) would remain within the pipes for the 10-year event. Except for the pipe from node N4 to node N5 hgl's also remain within the pipes for the 100-year event. At upstream node N4 the hgl is calculated to be 0.17 feet above the top of pipe. This would likely not be an issue as this node is indicated to have over 20 feet of cover.

VI. Culvert

The proposed access road from Green Valley Road onto the site will require the installation of a culvert to convey flows in the existing channel. Computed peak flow to this location (HEC-1 node YB3A) is calculated at 60 cfs for the 100-year event.

The culvert performance was evaluated with HYDROCALC Hydraulics for Windows from Dodson & Associates, Inc. A table of flow rates from 10 to 100 cfs was computed and the results are presented in Table 5 Culvert. The culvert is in inlet control at all flow rates. Headwater at 60 cfs flow rate is computed at 4.55 feet above the inlet invert at 591.0 feet for an upstream water surface elevation of 595.55 feet.

VII. Water Quality

Post construction stormwater management is intended to treat in perpetuity the urban runoff generated on-site. Post construction stormwater treatment is composed of three general elements: source control, runoff reduction and treatment of runoff. The basic practice of source control is to minimize the potential for constituents to enter runoff at the source. An example of a source control BMP would be stamping of drainage inlets to inform occupants that waters flow to the creeks.

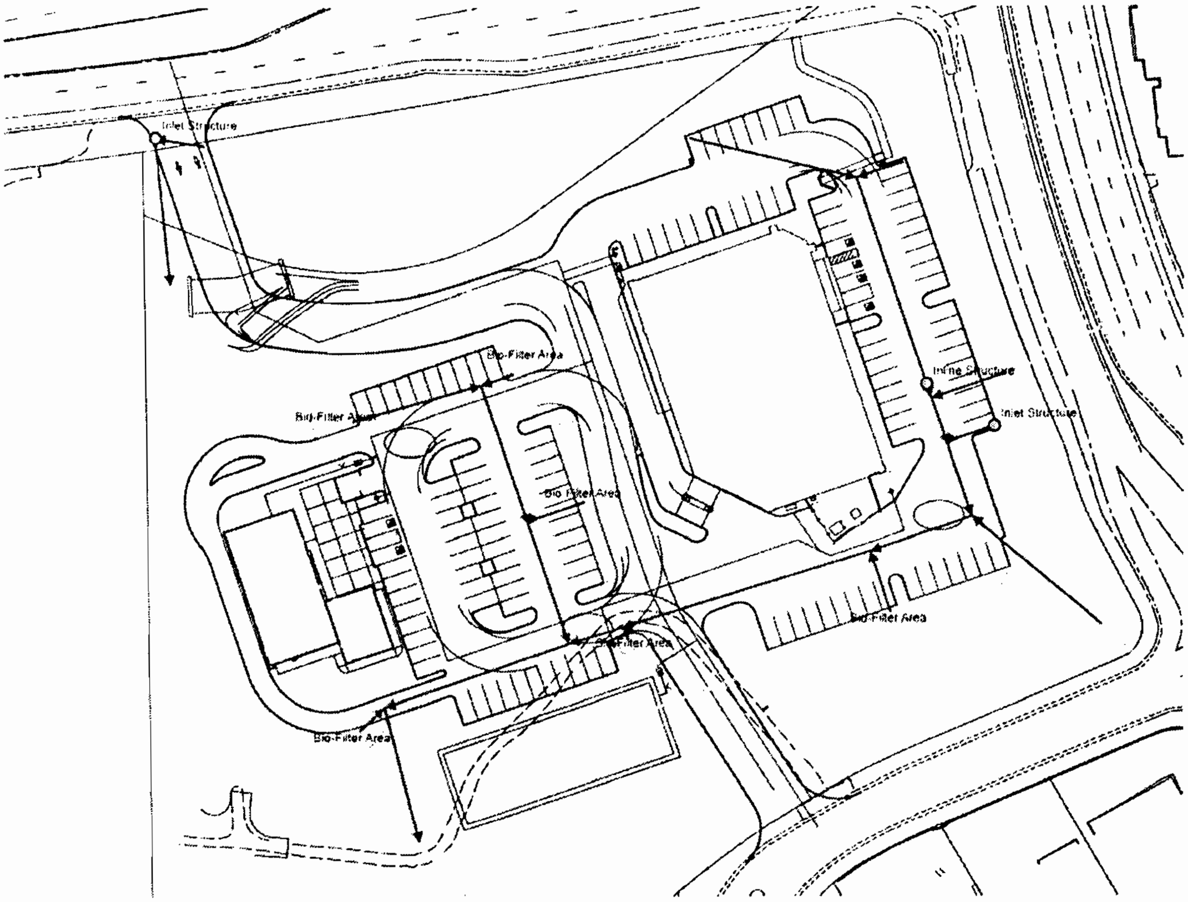
The project proposes to provide stormwater quality treatment through the use of treatment swales and structural Best Management Practices (BMPs).

The proposed site improvements include bio-filtration runoff collection areas where runoff from tributary impervious areas would be collected and filtered prior to entry into the pipe collection system. Where such areas are not feasible structural measures will be employed such as inlet separation units and an in-line separation unit. The bio-filtration areas and proposed separation unit locations are shown in Figure 7.1 Water Quality Treatment.

Table 5 Culvert

```
                          PIPE CULVERT ANALYSIS
                 COMPUTATION OF CULVERT PERFORMANCE CURVE

                              June 22, 2011

==========================================================================
                           PROGRAM INPUT DATA
DESCRIPTION                                                          VALUE
--------------------------------------------------------------------------
Culvert Diameter (ft)......................................          3.0
FHWA Chart Number..........................................          2
FHWA Scale Number (Type of Culvert Entrance)...............          1
Manning's Roughness Coefficient (n-value)..................          0.015
Entrance Loss Coefficient of Culvert Opening...............          0.5
Culvert Length (ft)........................................          50.0
Invert Elevation at Downstream end of Culvert (ft).........          582.5
Invert Elevation at Upstream end of Culvert (ft)...........          591.0
Culvert Slope (ft/ft)......................................          0.17

Starting Flow Rate (cfs)...................................          10.0
Incremental Flow Rate (cfs)................................          10.0
Ending Flow Rate (cfs).....................................          100.0

Starting Tailwater Depth (ft)..............................          3.0
Incremental Tailwater Depth (ft)...........................          0.0
Ending Tailwater Depth (ft)................................          3.0

==========================================================================

                           COMPUTATION RESULTS

   Flow  Tailwater   Headwater (ft)       Normal  Critical  Depth at   Outlet
   Rate      Depth   Inlet      Outlet     Depth     Depth    Outlet  Velocity
  (cfs)       (ft)   Control   Control      (ft)      (ft)      (ft)     (fps)
--------------------------------------------------------------------------
   10.0        3.0      1.13     -5.44      0.42      1.0       0.42     16.64
   20.0        3.0      1.8      -5.25      0.59      1.44      0.59     20.49
   30.0        3.0      2.4      -4.95      0.72      1.77      0.72     23.03
   40.0        3.0      2.98     -4.51      0.83      2.06      0.83     25.02
   50.0        3.0      3.71     -3.96      0.93      2.3       0.93     26.7
   60.0        3.0      4.55     -3.28      1.03      2.5       1.03     28.1
   70.0        3.0      5.53     -2.48      1.11      2.66      1.11     29.31
   80.0        3.0      6.67     -1.56      1.2       2.77      1.2      30.39
   90.0        3.0      7.96     -0.51      1.28      2.85      1.28     31.38
  100.0        3.0      9.4       0.66      1.36      2.9       1.36     32.24

==========================================================================
HYDROCALC Hydraulics for Windows, Version 2.0.1 Freeware, Copyright(c) 1996-2010
Dodson & Associates, Inc., 5629 FM 1960 West, Suite 314, Houston, TX 77069
Email:software@dodson-hydro.com, All Rights Reserved.
```

Figure 7.1 Water Quality Treatment



APPENDICES

APPENDIX A

Project Models

APPENDIX B

Oversized Exhibits

APPENDIX C

CD-ROM of Project Files

Noise Analysis Addendum

Green Valley Center Commercial Development

El Dorado Hills, California (El Dorado County)

BAC Job #2010-071

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March 29, 2012

EXHIBIT Q– ATTACHMENT 20

Introduction

This analysis of off-site traffic and garbage pickup noise impacts for the Green Valley Center is prepared as an addendum to the April 5, 2011 noise study prepared by Bollard Acoustical Consultants, Inc. (report titled Francisco Commercial Development). That 2011 study focused on noise generated by proposed drive-thru operations at the drug store, and restaurant uses proposed within the development, and did not address off-site traffic and garbage pick-up noise. As a result, El Dorado County has requested additional analysis of the potential traffic and garbage collection noise impacts associated with the project. This addendum contains the results of that additional analysis.

The particular focuses of this study are on project-related garbage collection and traffic noise impacts at the residences located along Cambria Way between Francisco Drive and the project site access from Cambria Drive, as well as project-generated traffic noise increases on Francisco Drive and Green Valley Road.

Existing Ambient Noise Environment

The existing ambient noise environment in the project vicinity is defined primarily by local traffic on Francisco Drive and Green Valley Road. On the morning of January 24, 2012, BAC conducted an ambient noise survey along Cambria Way, adjacent to the third residence west of Francisco Drive and immediately opposite the southern project site access. The location of the noise survey, which is shown on Figure 1, was selected because it represents the property line of the nearest residences which would be potentially affected by project-generated traffic. The existing land uses to the east and north of the project site contain less sensitive commercial uses. The purpose of the survey was to generally quantify existing daytime ambient noise levels adjacent to the most potentially affected residences on Cambria Way.

A Larson Davis Laboratories Model 820 sound level meter was used for the measurements. The meter was calibrated before use to ensure the accuracy of the data. The microphone was located at a height of 5 feet above ground and fitted with a windscreen.

Weather conditions during the survey consisted of a temperature of 43° F, moderate to high humidity, calm winds and mostly cloudy skies. The meter was placed adjacent to an existing noise barrier wall separating residences to the south from Cambria Way. During the 15 minute measurement, the major source of noise was traffic from Francisco Road, as only five cars on Cambria Way passed the noise measurement location. This conclusion is not surprising as Cambria Way is gated immediately west of the project site access, so only local residential traffic currently utilizes this roadway. The implications of the low existing volume on Cambria Way is that the existing residences to the south of that roadway, opposite the project site, are exposed to noise from existing traffic on Francisco Drive. For the 15-minute survey, an average noise level of 55 dBA Leq and a maximum level of 77 dBA Lmax were measured.

Noise Exposure Criteria

The El Dorado County Noise Element of the General Plan establishes acceptable noise level limits for transportation and non-transportation noise sources affecting residential uses. Table 1 and 2 provide a summary of these standards, respectively.

Table 1
Maximum Allowable Noise Exposure for Transportation Noise Sources
El Dorado County General Plan – El Dorado County, California

	Outdoor Activity Areas[1]	**Interior Spaces**	
Land Use	**dBA, L_{dn}/CNEL**	**dBA, L_{dn}/CNEL**	**dBA, L_{eq}**[2]
Residential	60^3	45	-
Transient lodging	60^3	45	-
Hospitals, nursing homes	60^3	45	-
Theaters, auditoriums, music halls	-	-	35
Churches, meeting halls	60^3	-	40
Office buildings	-	-	45
School, libraries, museums	-	-	45
Playgrounds, neighborhood parks	70-	-	-

Source: El Dorado County General Plan (2004)

Notes:

[1] In Communities and Rural Centers, where the location of outdoor activity areas is not clearly defined, the exterior noise level standard shall be applied to the property line of the receiving land use. For residential uses with front yards facing the identified noise source, an exterior noise level criterion of 65 dB L_{dn} shall be applied at the building facade, in addition to a 60 dB L_{dn} criterion at the outdoor activity area. In Rural Regions, an exterior noise level criterion of 60 dB L_{dn} shall be applied at a 100 foot radius from the residence unless it is within Platted Lands where the underlying land use designation is consistent with Community Region densities in which case the 65 dB L_{dn} may apply. The 100-foot radius applies to properties which are five acres and larger; the balance will fall under the property line requirement.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dBA, L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dBA, L_{dn}/CNEL may be allowed provided that available exterior mitigation has been included and interior noise levels are in compliance with the 45 dB L_{dn} interior standard.

Table 2
Exterior Noise Exposure Criteria for Non-Transportation Sources
Applicable at Property Lines of Community Residential Land Uses
El Dorado County Noise Element of the General Plan

Noise Level Descriptor	Daytime (7 a.m. - 7 p.m.)	Evening (7 p.m. - 10 p.m.)	Night (10 p.m. - 7 a.m.)
Hourly L_{eq}, dB	55	50	45
Maximum Level, dB (L_{max})	70	60	55

Source: El Dorado County General Plan (2004)

The Table 1 standards indicate that an exterior traffic noise environment of 60 dB Ldn is considered acceptable for outdoor activity areas (backyards), with an interior noise level of 45 dB Ldn considered acceptable for residential land uses. The Table 2 standards indicate that a maximum noise levels ranging from 55-70 dB Lmax are acceptable for garbage removal activities, depending on the time of day those activities occur.

To assess impacts associated with project-related increases in traffic noise, the guidelines contained in Table 3 are commonly utilized.

Table 3
Significance of Project-Related Changes in Noise Exposure

Ambient Noise Level Without Project, L_{dn}	Increase Required for Finding of Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON).

Prediction of Traffic Noise Levels

To describe existing and projected noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict traffic noise levels in terms of L_{dn}, it is necessary to adjust the input volume to account for the day/night distribution of traffic.

To assess noise impacts associated with project-related traffic noise increases on the local roadway network, traffic noise levels were predicted at a reference distance of 50 feet from the roadway centerlines for both existing and future, with project and no-project conditions. Noise impacts are identified at existing noise-sensitive areas (residences), if the noise level increases that result from the project either result in exceedance of the Table 1 noise standards or substantially exceed noise levels which would be present without the project, as defined by the Table 3 guidelines.

Table 4 shows the estimated L_{dn} at a reference distance of 50 feet from the centerlines of project area roadways for existing and future conditions, both with and without the project. The full FHWA Model inputs and results are provided in Appendices B-E.

Table 4
Predicted Traffic Noise Levels and Project-Related Increases
(L_{dn}, dBA, 50 feet from roadway centerlines)

Roadway	From	To	Exist No Project	Exist + Project	Exist + App Projects	Exist + App Projects + Prop Proj	Change[1]
Francisco Drive	Village Center Drive	Green Valley Road	69	69	69	69	0 / 0 / 0
	Green Valley Road	Cambria Way	68	68	68	68	0 / 0 / 0
	Cambria Way	El Dorado Hills Blvd	68	68	68	68	0 / 0 / 0
Green Valley Road	Miller Road	Site Driveway	73	73	74	74	0 / 1 / 1
	Site Driveway	Francisco Drive	73	73	74	74	0 / 1 / 1
	Francisco Drive	El Dorado Hills Blvd	71	72	72	72	1 / 1 / 1
Cambria Way	Asuncion Ct	Site Driveway	47	47	47	47	0 / 0 / 0
	Site Driveway	Francisco Drive	47	57	47	57	10 / 0 / 10
Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	54	54	54	54	0 / 0 / 0

Source: Bollard Acoustical Consulting, Inc.

1. Change = change relative to existing no-project conditions for the three scenarios to the right of existing no-project conditions.

Analysis of Project-Related Traffic Noise Impacts Relative to Existing Conditions

The Table 4 data indicate that project-related traffic noise level increases would range from 0-1 dB on all project-area roadways except Cambria Way. According to the Table 3 guidelines, such increases are considered less than significant.

On the surface, noise impacts at residences located along Cambria Way, between the site access and Francisco Drive, would appear to be significant. This is due to the predicted 10 dB increase in Cambria Way traffic noise levels, and the fact that such an increase would be considered significant relative to the Table 3 criteria. However, due to the presence of the existing noise barrier and contribution of Francisco Drive traffic noise levels to the ambient noise environment at these residences, such a determination cannot be made without additional analysis. Such analysis follows.

As noted previously, measured daytime ambient noise levels adjacent to the residences south of Cambria Way, between the southern project-site access and Francisco Drive, are affected by noise from traffic on Francisco Drive. As a result, existing backyard noise levels at those residences would be higher than the predicted level of 47 dB Ldn for Cambria Way alone. With a measured daytime ambient level of 55 dB Leq adjacent to those residences, it is reasonable to assume daytime ambient noise levels in the back yards of those same residences would be approximately 5 dB lower due to shielding provided by the existing noise barrier, or approximately 50 dB Leq.

Given a daytime average noise level of approximately 50 dB Leq at the most potentially affected residence, existing Ldn values in that residential backyard would similarly be approximately 50 dB Ldn. This is due to the proximity of Francisco Drive and the typical day/night traffic distribution for roadways such as Francisco Drive. Given a backyard noise environment of approximately 50 dB Ldn, a project-related increase of 5 dB Ldn resulting from the project would be considered significant according to Table 3.

As noted in Table 4, the project-related traffic noise exposure at a distance of 50 feet from the Cambria Road centerline is predicted to be approximately 57 dB Ldn. Because of shielding provided by the existing noise barrier between Cambria Drive and those nearest residences to the south, actual project noise exposure within those backyard areas is predicted to be 5 dB lower, or approximately 52 dB Ldn. When combined with the existing noise exposure conservatively estimated to be 50 dB Ldn within those backyards (actual levels are expected to be higher), the combined existing plus project noise exposure in those backyards would be 54 dB Ldn, or an increase of 4 dB over existing ambient conditions within those backyards without the project.

According to the Table 3 criteria, a project-related increase of 4 dB Ldn would not be considered significant at the residences located south of Cambria Way, between the south project site entrance and Francisco Drive. Furthermore, the predicted existing-plus-project traffic noise exposure of approximately 54 dB Ldn is well within compliance of the El Dorado County 60 dB Ldn standard applied to residential uses, as indicated in Table 1. As a result, project-related traffic noise impacts at the existing residences located south of Cambria Way are predicted to be less than significant relative to both CEQA and El Dorado County noise criteria relative to existing conditions.

Analysis of Project-Related Traffic Noise Impacts Relative to Cumulative Conditions

Future development projects within the project area, would affect the future (cumulative) ambient noise environment. While it is difficult to project exactly how the ambient noise conditions within the area would change, it is known that traffic noise levels would increase due to the additional traffic generated by the proposed project, and other development in the city and the region. Table 5 shows the projected traffic noise levels at a reference distance of 50 feet from the various roadway centerlines for Cumulative plus Project conditions, and the increases associated with those levels over cumulative conditions without the proposed project.

Table 5
Predicted Traffic Noise Levels and Project-Related Increases
(L_{dn}, dBA, 50 feet from roadway centerlines)

Roadway	From	To	Cumulative No Project	Cumulative + Project	Change
Francisco Drive	Village Center Drive	Green Valley Road	70	70	0
	Green Valley Road	Cambria Way	68	68	0
	Cambria Way	El Dorado Hills Blvd	68	68	0
Green Valley Road	Miller Road	Site Driveway	74	74	0
	Site Driveway	Francisco Drive	74	74	0
	Francisco Drive	El Dorado Hills Blvd	73	73	0
Cambria Way	Asuncion Ct	Site Driveway	47	47	0
	Site Driveway	Francisco Drive	47	57	10
Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	54	54	0

Source: Bollard Acoustical Consulting, Inc.

As with the evaluation of traffic noise impacts relative to existing conditions, the Table 5 data indicate that project-related traffic noise level increases would effectively be 0 dB on all project-area roadways except Cambria Way for cumulative conditions. According to the Table 3 guidelines, such increases are considered less than significant.

Because the predicted future traffic noise levels on Cambria Way shown in Table 5 are identical to existing levels shown in Table 4, the analysis of noise impacts at these residences is the same for cumulative conditions as for existing conditions. Specifically, because of shielding provided by the existing noise barrier between Cambria Drive and the nearest residences to the south, project noise exposure within those backyard areas is predicted to be 52 dB Ldn. When combined with the cumulative noise exposure conservatively estimated to be 50+ dB Ldn within those backyards (actual levels are expected to be higher), the combined cumulative plus project noise exposure in those backyards would be 54 dB Ldn, or an increase of 4 dB over cumulative ambient conditions within those backyards without the project.

According to the Table 3 criteria, a cumulative plus project increase of 4 dB Ldn would not be considered significant at the residences located south of Cambria Way, between the south project site entrance and Francisco Drive. Furthermore, the predicted cumulative-plus-project traffic noise exposure of approximately 54 dB Ldn is well within compliance of the El Dorado County 60 dB Ldn standard applied to residential uses, as indicated in Table 1. As a result, project-related traffic noise impacts at the existing residences located south of Cambria Way are predicted to be less than significant relative to both CEQA and El Dorado County noise criteria for cumulative conditions.

Noise Associated with Garbage Pickup

The project site contains three garbage enclosures where pickup would occur. Garbage pickup is a relatively brief activity typically occurring during hours when the parking lot containing the trash enclosures is not busy. BAC analyzed the noise impacts at the nearest residences on Cambria Way, located approximately 215 feet from the nearest enclosure, using BAC noise measurement results for typical garbage pickup activities (for overhead bin dumping). The reference maximum garbage pickup noise level from BAC's file data is 69 dB at a distance of 30 feet. Table 6 below shows the noise levels at the nearest residences.

Table 6
Summary of Garbage pickup Maximum Noise Level Predictions
Green Valley Center – El Dorado Hills, California (El Dorado County)

Location	Distance	L_{max}
Nearest Residence to the South	215	47

Notes: The distance was scaled from the nearest residence to the nearest proposed garbage enclosure area within the proposed commercial development. The Table 6 data include a -5 dB offset to account for shielding of garbage pickup noise levels by the existing noise barrier located to the existing residences to the south.

Based on the Table 6 data, the noise levels associated with garbage truck pickup would satisfy the county noise level standards shown in Table 2, even during nighttime garbage collection activities.

Conclusions

The proposed Green Valley Center Commercial Development will generate additional traffic on the local roadway network in the immediate project vicinity. The noise level increase associated with that additional traffic is predicted to range from 0-1 dB on Francisco Drive, Green Valley Road, and Embarcadero Drive relative to existing conditions without the project, and the project-related increase in traffic noise levels on those same roadways relative to future (cumulative) conditions is predicted to be negligible (0 dB Ldn after rounding). As a result, no adverse traffic noise impacts associated with the project are identified for sensitive receptors located adjacent to those roadways for either existing or cumulative conditions.

The greatest increase in project-generated noise will occur along Cambria Way, between the southern project site access and Francisco Drive. At the residential backyards located immediately south of that segment of Cambria Way, the existing and future-plus-project traffic noise levels are predicted to be approximately 54 dB Ldn, for an increase of 4 dB or less above existing and future noise levels without the project.

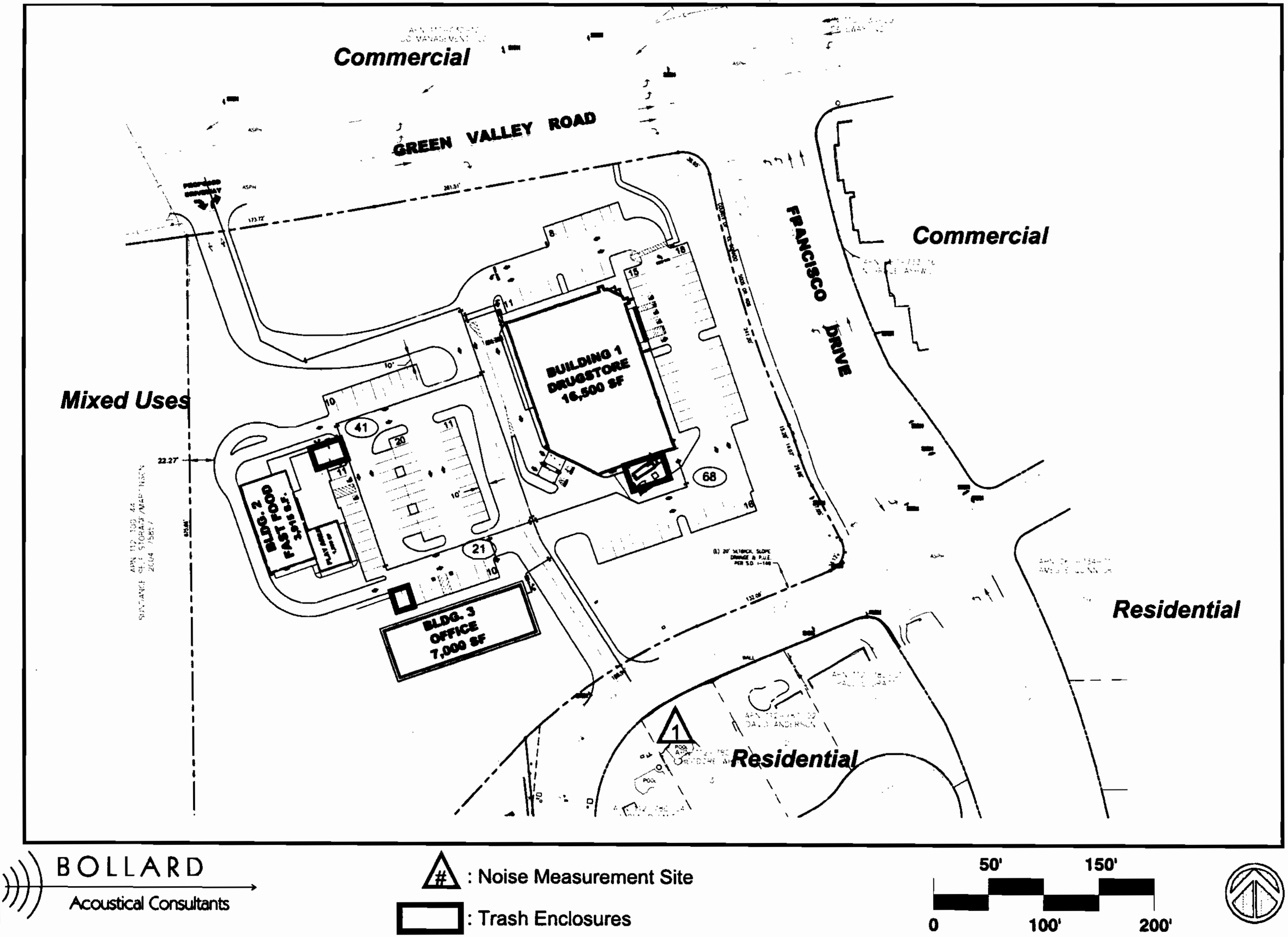
According to the Federal Interagency Commission on Noise criteria shown in Table 4, the predicted project-related increase of 4 dB Ldn or less would not be considered significant at those residential backyards. Furthermore, the predicted backyard level of approximately 54 dB Ldn, which includes project traffic, is well below the El Dorado County 60 dB Ldn exterior noise level standard applicable to residential land uses (see Table 1). As a result, off-site traffic noise impacts of the proposed Green Valley Center Commercial Development are predicted to be less than significant relative to both CEQA and El Dorado County noise criteria for both existing and cumulative conditions at all noise-sensitive land uses in the immediate project vicinity.

Finally, an analysis of garbage removal noise concludes that, although garbage removal would result in brief periods of elevated noise levels, predicted maximum noise levels associated with garbage removal activities would be within compliance with El Dorado County noise standards.

This concludes Bollard Acoustical Consultants supplemental analysis of noise generated by on-site garbage removal and off-site traffic noise. Please contact Paul Bollard at (916) 663-0500 or paulb@bacnoise.com if there are any questions regarding this supplemental analysis.

Figure 1

Green Valley Center Commercial Development
El Dorado Hills, California (El Dorado County)



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Appendix A

Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.
RT$_{60}$	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #:	2010-071 Francisco Commercial Development
Description:	Existing (2010)
Ldn/CNEL:	Ldn
Hard/Soft:	Soft

		Segment Description						% Med.	% Hvy.			Offset
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	Trucks	Trucks	Speed	Distance	(dB)
1	Francisco Drive	Village Center Drive	Green Valley Road	14,540	80		20	2	2	40	50	
2	Francisco Drive	Green Valley Road	Cambria Way	10,770	80		20	2	2	40	50	
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	10,450	80		20	2	2	40	50	
4	Green Valley Road	Miller Road	Site Driveway	22,790	80		20	2	2	50	50	
5	Green Valley Road	Site Driveway	Francisco Drive	22,790	80		20	2	2	50	50	
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	15,350	80		20	2	2	50	50	
7	Cambria Way	Asuncion Ct	Site Driveway	190	80		20	2	2	25	50	
8	Cambria Way	Site Driveway	Francisco Drive	190	80		20	2	2	25	50	
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	860	80		20	2	2	25	50	

Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #:	2010-071 Francisco Commercial Development
Description:	Existing (2010)
Ldn/CNEL:	Ldn
Hard/Soft:	Soft

		Segment Description			Medium	Heavy	
Segment	Roadway Name	From	To	Autos	Trucks	Trucks	Total
1	Francisco Drive	Village Center Drive	Green Valley Road	66.9	59.0	63.8	69
2	Francisco Drive	Green Valley Road	Cambria Way	65.6	57.7	62.5	68
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	65.4	57.5	62.4	68
4	Green Valley Road	Miller Road	Site Driveway	71.6	62.4	66.6	73
5	Green Valley Road	Site Driveway	Francisco Drive	71.6	62.4	66.6	73
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	69.9	60.7	64.9	71
7	Cambria Way	Asuncion Ct	Site Driveway	42.1	37.0	44.6	47
8	Cambria Way	Site Driveway	Francisco Drive	42.1	37.0	44.6	47
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	48.7	43.5	51.1	54

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #:	2010-071 Francisco Commercial Development
Description:	Existing (2010)
Ldn/CNEL:	Ldn
Hard/Soft:	Soft

		Segment Description		------ Distances to Traffic Noise Contours ------				
Segment	Roadway Name	From	To	75	70	65	60	55
1	Francisco Drive	Village Center Drive	Green Valley Road	20	43	93	201	433
2	Francisco Drive	Green Valley Road	Cambria Way	16	35	76	164	354
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	16	35	75	161	347
4	Green Valley Road	Miller Road	Site Driveway	38	82	176	379	816
5	Green Valley Road	Site Driveway	Francisco Drive	38	82	176	379	816
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	29	63	135	291	627
7	Cambria Way	Asuncion Ct	Site Driveway	1	1	3	7	15
8	Cambria Way	Site Driveway	Francisco Drive	1	1	3	7	15
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	2	4	9	19	40

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Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2010-071 Francisco Commercial Development
Description: Existing (2010) Plus Proposed Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description										
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Francisco Drive	Village Center Drive	Green Valley Road	14,660	80		20	2	2	40	50	
2	Francisco Drive	Green Valley Road	Cambria Way	11,230	80		20	2	2	40	50	
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	11,200	80		20	2	2	40	50	
4	Green Valley Road	Miller Road	Site Driveway	23,410	80		20	2	2	50	50	
5	Green Valley Road	Site Driveway	Francisco Drive	23,200	80		20	2	2	50	50	
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	15,610	80		20	2	2	50	50	
7	Cambria Way	Asuncion Ct	Site Driveway	210	80		20	2	2	25	50	
8	Cambria Way	Site Driveway	Francisco Drive	1,950	80		20	2	2	25	50	
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	890	80		20	2	2	25	50	

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Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2010-071 Francisco Commercial Development
Description: Existing (2010) Plus Proposed Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description			Medium	Heavy	
Segment	Roadway Name	From	To	Autos	Trucks	Trucks	Total
1	Francisco Drive	Village Center Drive	Green Valley Road	66.9	59.0	63.8	69
2	Francisco Drive	Green Valley Road	Cambria Way	65.7	57.9	62.7	68
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	65.7	57.8	62.7	68
4	Green Valley Road	Miller Road	Site Driveway	71.7	62.6	66.8	73
5	Green Valley Road	Site Driveway	Francisco Drive	71.7	62.5	66.7	73
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	70.0	60.8	65.0	72
7	Cambria Way	Asuncion Ct	Site Driveway	42.6	37.4	45.0	47
8	Cambria Way	Site Driveway	Francisco Drive	52.3	47.1	54.7	57
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	48.9	43.7	51.3	54

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Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2010-071 Francisco Commercial Development
Description: Existing (2010) Plus Proposed Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description		------ Distances to Traffic Noise Contours -----				
Segment	Roadway Name	From	To	75	70	65	60	55
1	Francisco Drive	Village Center Drive	Green Valley Road	20	43	94	202	435
2	Francisco Drive	Green Valley Road	Cambria Way	17	36	78	169	364
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	17	36	78	169	363
4	Green Valley Road	Miller Road	Site Driveway	39	83	179	386	831
5	Green Valley Road	Site Driveway	Francisco Drive	38	83	178	383	826
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	29	63	137	294	634
7	Cambria Way	Asuncion Ct	Site Driveway	1	2	3	7	16
8	Cambria Way	Site Driveway	Francisco Drive	3	7	15	32	69
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	2	4	9	19	41

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Appendix D-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2010-071 Francisco Commercial Development
Description: Cumulative (2025)
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description						% Med.	% Hvy.			Offset
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	Trucks	Trucks	Speed	Distance	(dB)
1	Francisco Drive	Village Center Drive	Green Valley Road	17,260	80		20	2	2	40	50	
2	Francisco Drive	Green Valley Road	Cambria Way	11,680	80		20	2	2	40	50	
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	10,460	80		20	2	2	40	50	
4	Green Valley Road	Miller Road	Site Driveway	29,390	80		20	2	2	50	50	
5	Green Valley Road	Site Driveway	Francisco Drive	29,390	80		20	2	2	50	50	
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	22,140	80		20	2	2	50	50	
7	Cambria Way	Asuncion Ct	Site Driveway	190	80		20	2	2	25	50	
8	Cambria Way	Site Driveway	Francisco Drive	190	80		20	2	2	25	50	
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	860	80		20	2	2	25	50	

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Appendix D-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2010-071 Francisco Commercial Development
Description: Cumulative (2025)
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description From	To	Autos	Medium Trucks	Heavy Trucks	Total
1	Francisco Drive	Village Center Drive	Green Valley Road	67.6	59.7	64.5	70
2	Francisco Drive	Green Valley Road	Cambria Way	65.9	58.0	62.8	68
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	65.4	57.5	62.4	68
4	Green Valley Road	Miller Road	Site Driveway	72.7	63.5	67.7	74
5	Green Valley Road	Site Driveway	Francisco Drive	72.7	63.5	67.7	74
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	71.5	62.3	66.5	73
7	Cambria Way	Asuncion Ct	Site Driveway	42.1	37.0	44.6	47
8	Cambria Way	Site Driveway	Francisco Drive	42.1	37.0	44.6	47
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	48.7	43.5	51.1	54

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Appendix D-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2010-071 Francisco Commercial Development
Description: Cumulative (2025)
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description		------ Distances to Traffic Noise Contours -----				
Segment	Roadway Name	From	To	75	70	65	60	55
1	Francisco Drive	Village Center Drive	Green Valley Road	23	48	104	225	485
2	Francisco Drive	Green Valley Road	Cambria Way	17	37	81	173	374
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	16	35	75	161	347
4	Green Valley Road	Miller Road	Site Driveway	45	97	208	449	967
5	Green Valley Road	Site Driveway	Francisco Drive	45	97	208	449	967
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	37	80	172	372	800
7	Cambria Way	Asuncion Ct	Site Driveway	1	1	3	7	15
8	Cambria Way	Site Driveway	Francisco Drive	1	1	3	7	15
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	2	4	9	19	40

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Appendix E-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2010-071 Francisco Commercial Development
Description: Cumulative (2025) Plus Proposed Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description		ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
		From	To									
1	Francisco Drive	Village Center Drive	Green Valley Road	17,380	80		20	2	2	40	50	
2	Francisco Drive	Green Valley Road	Cambria Way	12,140	80		20	2	2	40	50	
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	11,210	80		20	2	2	40	50	
4	Green Valley Road	Miller Road	Site Driveway	30,010	80		20	2	2	50	50	
5	Green Valley Road	Site Driveway	Francisco Drive	29,800	80		20	2	2	50	50	
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	22,370	80		20	2	2	50	50	
7	Cambria Way	Asuncion Ct	Site Driveway	210	80		20	2	2	25	50	
8	Cambria Way	Site Driveway	Francisco Drive	1,950	80		20	2	2	25	50	
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	890	80		20	2	2	25	50	

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Appendix E-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #:	2010-071 Francisco Commercial Development
Description:	Cumulative (2025) Plus Proposed Project
Ldn/CNEL:	Ldn
Hard/Soft:	Soft

		Segment Description			Medium	Heavy	
Segment	Roadway Name	From	To	Autos	Trucks	Trucks	Total
1	Francisco Drive	Village Center Drive	Green Valley Road	67.6	59.8	64.6	70
2	Francisco Drive	Green Valley Road	Cambria Way	66.1	58.2	63.0	68
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	65.7	57.8	62.7	68
4	Green Valley Road	Miller Road	Site Driveway	72.8	63.6	67.8	74
5	Green Valley Road	Site Driveway	Francisco Drive	72.8	63.6	67.8	74
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	71.5	62.4	66.6	73
7	Cambria Way	Asuncion Ct	Site Driveway	42.6	37.4	45.0	47
8	Cambria Way	Site Driveway	Francisco Drive	52.3	47.1	54.7	57
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	48.9	43.7	51.3	54

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Appendix E-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2010-071 Francisco Commercial Development
Description: Cumulative (2025) Plus Proposed Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description		------ Distances to Traffic Noise Contours ------				
Segment	Roadway Name	From	To	75	70	65	60	55
1	Francisco Drive	Village Center Drive	Green Valley Road	23	49	105	226	487
2	Francisco Drive	Green Valley Road	Cambria Way	18	38	83	178	384
3	Francisco Drive	Cambria Way	El Dorado Hills Blvd	17	36	78	169	364
4	Green Valley Road	Miller Road	Site Driveway	46	98	211	455	980
5	Green Valley Road	Site Driveway	Francisco Drive	45	98	210	453	976
6	Green Valley Road	Francisco Drive	El Dorado Hills Blvd	37	81	174	374	806
7	Cambria Way	Asuncion Ct	Site Driveway	1	2	3	7	16
8	Cambria Way	Site Driveway	Francisco Drive	3	7	15	32	69
9	Embarcadero Drive	Francisco Drive	Telegraph-Hill Road	2	4	9	19	41

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Environmental Noise Assessment

Francisco Commercial Development

El Dorado Hills, California (El Dorado County)
BAC Job #2010-071

Prepared For:

Winn Communities

Attn: Mr. George Carpenter
1130 Iron Point Road, Suite 340
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Prepared By:

Bollard Acoustical Consultants, Inc.

Paul Bollard

Paul Bollard, President

April 5, 2011

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A 11-0003/Z 11-0004

INTRODUCTION

The project is the proposed Francisco Commercial development located on the southwest corner of Green Valley Road and Francisco Drive in El Dorado Hills, California (El Dorado County). Please see the project plan in Appendix A. The project would include a drugstore with drive-thru pharmacy, a fast food restaurant with drive-thru, and an office building. Project drive-thru operations are expected to be 24-hours, and nighttime noise exposure from these operations is of primary concern.

The project site is directly adjacent to single-family residential uses to the south and southeast, across Cambria Way and Francisco Drive, respectively. The project developer and County staff have requested an environmental noise assessment to address potential noise impacts from project drive-thru operations at the neighboring residential uses.

The project drive-thru uses are the only noise source addressed in the following. Traffic noise level increases from the project on local area roadways (e.g., Cambria Way) is not addressed as part of this study. Rooftop mechanical systems (HVAC) on the drugstore building are expected to be shielded by the building structure (parapet), and are not considered to be a significant source of project-related noise. Truck deliveries to the drugstore and fast food restaurant would be completed during daytime hours only (7 a.m.-7 p.m.). These trucks would access the site from Green Valley Road, away from neighboring residential uses. All off-loading of trucks would be completed using hand trucks and lifts (no forklifts). No more than one truck delivery per day is assumed for each of these uses. Truck deliveries and off-loading of goods to the drugstore and fast food restaurant are not expected to be significant sources of project-related noise, and are not assessed in the following.

Please refer to Appendix A for definitions of acoustical terminology used in this report.

NOISE EXPOSURE CRITERIA

The El Dorado County Noise Element of the General Plan establishes hourly noise exposure limits for non-transportation (stationary) noise sources affecting community residential land uses. These limits are summarized in Table 1. In this case, the noise level criteria have been reduced by 5 dB to account for the speech content of the primary project noise source (drive-thru). The standards in Table 1 are applied at the closest residential property lines to the south and southeast.

Table 1

Exterior Noise Exposure Criteria
Applied at Community Residential Property Lines Adjacent to the Project
El Dorado County, California Noise Element of the General Plan

	Noise Level (dB)		
Noise Level Descriptor	**Day (7 a.m.-7 p.m.)**	**Evening (7 p.m.-10 p.m.)**	**Night (10 p.m.-7 a.m.)**
Hourly L_{eq}	50	45	40
L_{max}	65	55	50

Note: Levels have been reduced by 5 dB to account for the speech content of the project drive-thru noise.

NOISE LEVEL MEASUREMENT EQUIPMENT

Noise level measurement equipment used for this project included a Larson-Davis Laboratories (LDL) Model 820 precision integrating sound level meter equipped with an LDL Model 2560 ½" microphone. The measurement instrumentation was calibrated in the field before use with an LDL Model CAL200 acoustical calibrator.

EXISTING (AMBIENT) NOISE ENVIRONMENT

The ambient noise environment in the project vicinity is dominated by traffic on Green Valley Road and Francisco Drive, activities in the neighboring commercial parking lots, and residential community activities to a small degree. Bollard Acoustical Consultants, Inc. conducted short-term (15-minute) ambient noise level measurements near the closest residential uses on October 26, 2010. Noise level measurements were completed between 10-11 p.m., during what was assumed to be a relatively quiet time of the 24-hour day, and when project operations could most impact the residential neighbors. The noise level measurement sites are illustrated in Appendix A. Table 2 summarizes the ambient noise level measurement results.

Table 2

Summary of Existing Ambient Noise Level Measurement Results
Francisco Commercial Development
October 26, 2010 – 10-11 p.m.

Measurement Site	L_{eq}, dB	L_{max}, dB
1 (South)	47	64
2 (Southeast)	56	70

As shown in Table 2, measured ambient noise exposure in the project area is well above the applicable noise criteria presented in Table 1. Therefore, a conservative assessment of project-related noise exposure/impact would be expected with the application of the Table 1 criteria.

REFERENCE NOISE LEVEL MEASUREMENTS

Reference noise level measurements were completed at a local drive-thru facility similar to the proposed project. Measurements were completed at the Starbucks coffee drive-thru in Auburn, California (Bell Road and Highway 49) on July 18, 2008 from 9:15-9:45 a.m. The noise level measurements were completed at a distance of 25 feet from the drive-thru speaker and 20 feet from the center of the drive-thru lane. The measurement site was positioned forward of the drive-thru speaker to minimize acoustical shielding of the speaker by vehicles in the drive-thru line. Measured noise sources included the drive-thru speaker, drive-thru customers (voices), customer vehicles in the drive-thru, and vehicle movements in the neighboring parking lot. Starbucks drive-thru operations were continuous during the measurement period, and included several relatively loud vehicles but no diesel vehicles or vehicles with loud stereos. The reference noise level data is summarized in Table 3. It is expected that this data is representative of typical noise exposure associated with a busy restaurant drive-thru.

Table 3

Summary of Reference Drive-Thru Noise Level Measurements
Starbucks Coffee (Bell Road and Highway 49) - Auburn, California
July 18, 2008 – 25-Feet from Drive-Thru Speaker

Noise Level Descriptor	Noise Level, dB
L_{eq}	61
L_{max}	75

ANALYSES

The reference noise level data summarized in Table 3 were applied directly to the project. Noise level reduction due to distance between the noise sources and receivers was assumed to be 6 dB per doubling of distance (i.e., standard spherical divergence). Noise attenuation due to area topography (shielding), ground attenuation, and existing barriers was not included in the calculations in order to provide a conservative estimate of project-related noise exposure. Additional noise level reduction due to these elements may be as much as 5-10 dB for a given receiver location. The calculated noise exposure is presented in Table 4.

Table 4

Estimated Project Drive-Thru Noise Exposure at Closest Residential Property Lines
Francisco Commercial Development - El Dorado Hills, California

Receiver	Distance, Feet*	L_{eq}, dB*	L_{max}, dB
South	440/240	36/41 (42)	55
Southeast	710/435	32/36 (38)	50

Notes: These levels do not account for additional reduction due to topography, ground absorption, or existing barriers.

*Represents distance or level associated with proposed fast food drive-thru/drugstore drive-thru. The level in parentheses represents the total noise exposure from both fast food and drugstore drive-thru sources.

As shown in Table 4, individual drive-thru noise exposure in terms of the L_{eq} (average noise level) would not be expected to exceed the applicable County noise criteria during any given part of the 24-hour day. Combined drive-thru noise exposure in terms of the L_{eq}, from both project drive-thru uses, and maximum noise exposure (L_{max}) would exceed the County's nighttime noise criteria at the closest residences to the south, as shown in Table 4. Again, these levels would be reduced by an estimated 5-10 dB due to topographic shielding, ground absorption, and the existing 5-foot high noise barrier along the residential property lines to the south. These elements would be expected to provide the noise abatement needed to satisfy the applicable day, evening, and night noise exposure criteria. Additionally, project-related drive-thru noise exposure is expected to be well below existing, ambient noise exposure at neighboring residences.

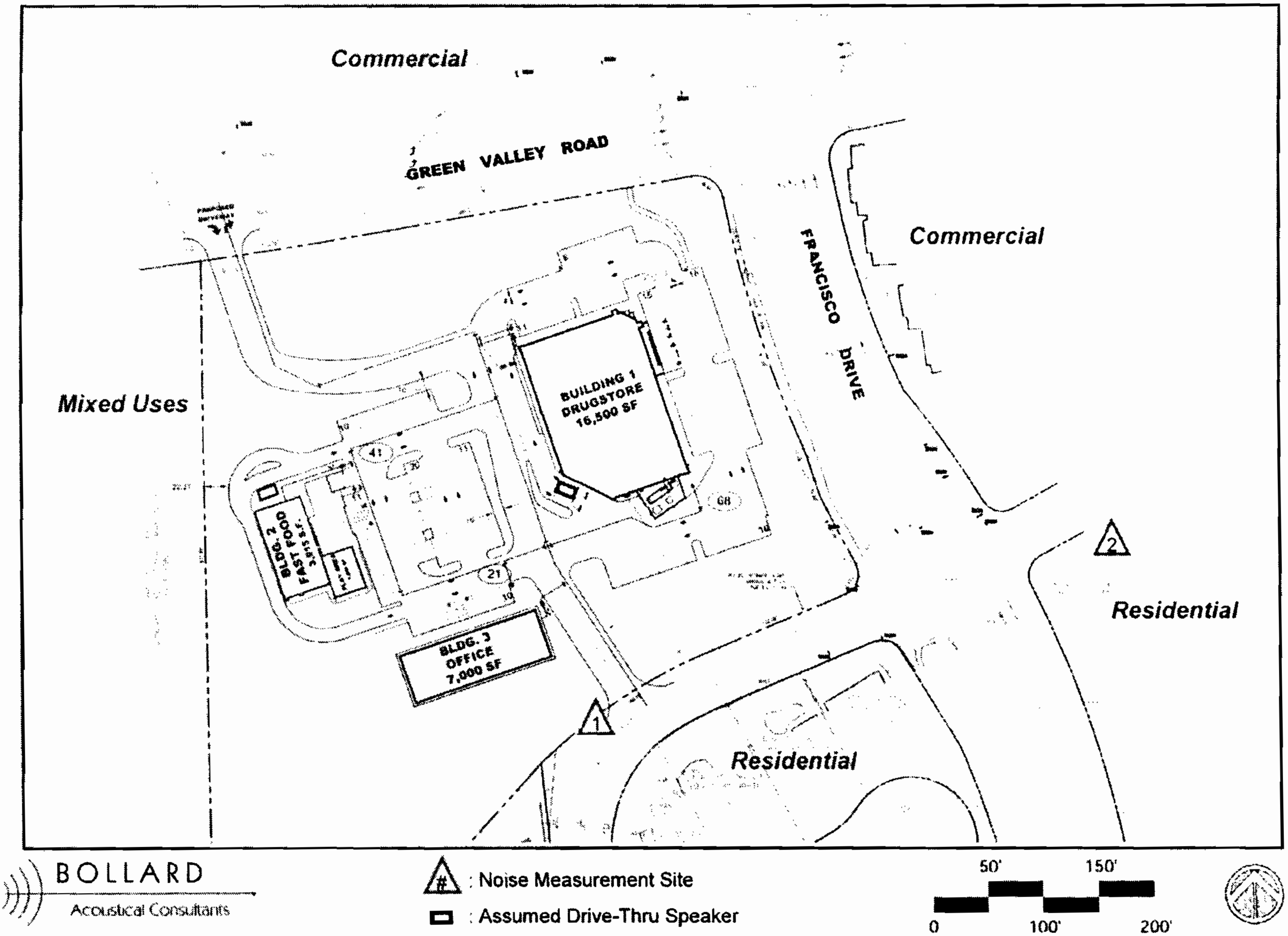
CONCLUSIONS AND RECOMMENDATIONS

Based on the reference noise level data and assumptions presented above, project drive-thru noise exposure is not expected to exceed the applicable El Dorado County noise exposure limits or contribute significantly to the existing ambient noise environment at neighboring residences. It is expected that project-area topography, ground absorption, and shielding from the existing 5-foot high barrier at residences to the south will adequately mitigate noise from the primary project noise sources, including project drive-thru operations.

Although rooftop mechanical equipment at the project drugstore is not addressed as a primary noise source for this project, and would not be expected to significantly impact the closest residential receivers to the south, noise from this equipment may be relatively easily mitigated with the addition rooftop mounted screens on the south side of each unit. These screens should be without any significant gaps or holes, and should extend at least 1-foot beyond the extents of each HVAC unit. The screens do not necessarily need to be massive in composition (e.g., a simple metal screen would be appropriate), but should block line-of-sight for receivers adjacent to Cambria Way.

This concludes our environmental noise assessment for the proposed Francisco Commercial development in El Dorado Hills, California (El Dorado County). Please contact me at (916) 663-0500 or paulb@bacnoise.com if you have any questions or require additional information.

Appendix A
Francisco Commercial Development
El Dorado Hills, California (El Dorado County)



△# : Noise Measurement Site

▭ : Assumed Drive-Thru Speaker

BOLLARD
Acoustical Consultants

Appendix B

General Acoustics Terminology

Acoustics	The physics of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human auditory response.
Decibel or dB	Fundamental unit of sound. A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 – 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Impulsive	Sound of short duration, usually less than one second with an abrupt onset and rapid decay.
L_n	The sound level exceeded "n" percent of the time during a sample interval (L_{50}, L_{25}, L_8, etc.). L_{50} equals the level exceeded 50 percent of the time.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
NLR	Noise Level Reduction. The arithmetic difference in noise levels between two conditions. (e.g., $NLR = L_1 - L_2$ or $NLR = L_{source} - L_{receiver}$ or $NLR = L_{exterior} - L_{interior}$).
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
SEL	Sound Exposure Level. The equivalent sound level over a 1 second time interval for a discrete sound event (e.g., aircraft overflight).
Simple Tone	Any sound which is distinguishable as a single pitch or set of single pitches.
STC	Sound Transmission Class. A single-number representation of a partition's noise insulation performance.

BOLLARD
Acoustical Consultants

Kimley-Horn
and Associates, Inc.

Suite 200
11919 Foundation Place
Gold River, California
95670

October 30, 2012

Mr. George Carpenter
Vice President
Winn Communities, Inc.
3001 I Street, Suite 300
Sacramento, California 95816

Re: Supplemental Traffic Information
Green Valley Center
El Dorado Hills, California

Dear George:

As discussed and requested at the October 25th Planning Commission Meeting, I am writing to provide additional supplemental traffic information for the above referenced project. The following sections address certain traffic related topics as requested by the Planning Commission:

I. **Francisco Drive @ Cambria Way Intersection**

The existing sight distance conditions at this intersection have been well documented. The existing geometry physically limits the line of sight for vehicles exiting Cambria Way who are looking to their right (toward the south to see northbound Francisco Drive vehicles) in order to turn left onto northbound Francisco Drive or to travel straight across onto Embarcadero Drive. This condition persists today, in the absence of development of the project site.

In an effort to improve this condition, several alternate traffic control conditions have been qualitatively evaluated to assess their feasibility and application to this situation. The following is a discussion of each of these conditions:

Traffic Signal – The addition of traffic signal control at this intersection would result in two closely spaced signalized intersections approximately 400-feet apart. While the next traffic signal to the north of Green Valley Road, along Francisco Drive, is located such that there is approximately 500-feet of separation, the County has emphasized that these distances are less than desirable and they are not likely to consider traffic signal control a the Cambria Way/Embarcadero Drive intersection. Closely spaced, signalized intersections pose challenges with coordination, queuing, and visibility.

TEL 916 858 5800
FAX 916 608 0885

EXHIBIT Q- ATTACHMENT 21

All-Way Stop Control (AWSC) – The conversion of the subject intersection from two-way stop control (TWSC) to all-way stop control (AWSC) would be anticipated to result in unnecessary delay and queuing to the traffic along Francisco Drive. According to the *California Manual on Traffic Control Devices (CMUTCD) 2012 Edition*, "Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal." Examination of the anticipated volumes at this location reveals that the Francisco Drive volumes account for approximately 80 percent of the total intersection volumes. Per the CMUTCD, this lopsided volume distribution does not lend itself well to the application of AWSC and would likely result in excessive queuing along Francisco Drive, and would adversely affect traffic signal operations and traffic flow characteristics at the Green Valley Road intersection.

Roundabout – Review of roundabout planning guidelines suggests that an appropriately sized, single-lane roundabout would have a diameter of approximately 130-feet (100-foot diameter center island with a 15-foot circulating roadway). As depicted in **Attachment A**, this approximately 130-foot outside diameter geometry nearly exceeds the available space within the existing intersection footprint. Additional features would be desired (e.g., sidewalks, buffers, landscaping, etc.) that would further extend the footprint of a roundabout. Due to these physical and anticipated cost constraints, a roundabout is not considered to be a viable configuration for this location.

Median Access Restrictions – Elimination of the eastbound left-turn movement (outbound Cambria Way to northbound Francisco Drive) is anticipated to improve the safety at this intersection by physically restricting the subject movement. As shown in **Attachment B**, this restriction is envisioned to be most easily accomplished by adding a median barrier along Francisco Drive whereby allowing left-turns into both Cambria Way and Embarcadero Drive while restricting left-turns out of both side streets. Under this configuration, right-turns into and out of both approaches would also be allowed.

It should be noted that restriction of the outbound Cambria Way left-turn movement would require these vehicles to perform one of two maneuvers to reach there understood destinations west, north, and east along Green Valley Road:

1. Utilize Cambria Way through the Francisco Oaks subdivision and connect to El Dorado Hills Boulevard using Brittany Place. The El Dorado Hills Boulevard intersection with Brittany Place is currently un-signalized with side-street stop control.
2. Utilize the proposed project site's internal roadway to travel between Cambria Way and Green Valley Road.

While the stopping sight distance is currently adequate and the crash rate at this location is at an acceptable level, application of median access restrictions eliminates the need for the corner sight distance which has been documented to be restricted by existing geometrics. Furthermore, when the vertical sight distance limitations are resolved in conjunction with the County's widening project along this segment of Francisco Drive at some point in the future, these access restrictions can be considered for removal.

Francisco Drive Access

As previously documented, a project access driveway along the Francisco Drive frontage (instead of the Cambria Way driveway) would be anticipated to be restricted to right-turns in and out, with both entering and exiting left-turns physically restricted with the existing Francisco Drive center median. Additionally, it would be desirable to maximize spacing from both Green Valley Road and Cambria Way. If constructed, this driveway would likely require the addition of an auxiliary lane along the project's Francisco Drive frontage to maximize the deceleration and acceleration distances. According to County standards[1], a Francisco Drive right-in/right-out driveway would likely be required to be located at least 150-feet south of the Green Valley Road curb return.

---

[1] Standard Plan 109, El Dorado County Department of Transportation Design Standards.

The conceptual layout of this driveway is depicted in **Attachment C**. It has been determined that a driveway at this location would have grades exceeding 44 percent, far steeper than permitted by the County. Additionally, considering the existing and future traffic volumes along this segment of Francisco Drive, as well as the anticipated origins and destinations of project related traffic (right-in/right-out access would necessitate additional u-turn movements or the restriction of u-turns), the relocation of the project's secondary access from Cambria Way to Francisco Drive is not feasible or desirable.

II. Green Valley Road @ Francisco Drive U-Turn

As previously documented, we have also explored the feasibility of the addition of an eastbound u-turn movement at the Green Valley Road intersection with Francisco Drive. Currently, eastbound to westbound u-turns are prohibited by use of an overhead lane designation sign (R73-6). While the County does not have their own specific design standard for the application of u-turn movements, it has been field confirmed and documented that the available physical space available today, in conjunction with the existing traffic signal phasing and signal equipment locations are adequate to permit this u-turn movement consistent with an adjacent agency's design standards[2] (see **Attachment D**).

The addition of said movement would be anticipated to reduce the number of site trips that are required to utilize Cambria Way exiting the project site and destined for points to the west. Based on coordination with the County[3], the County is amenable to the removal of the u-turn restriction.

III. Cambria Way Site Driveway

In an effort to quantify the potential effect of headlight glare associated with vehicles exiting the project site using the proposed Cambria Way driveway, we have assessed the headlight beam patterns and various vehicle position at this location. As depicted in **Attachment E**, the anticipated headlight beam for vehicles exiting the site have been drawn relative to the two western most Francisco Oaks residential lots that backup to Cambria Way (White and Smith residences). As depicted, in Attachment E, no impact is anticipated to these existing resident due to the existing screen wall on the south side of Cambria which screens the light from the commercial driveway.

---

[2] *Street Improvement Standards, Chapter 4*, Sacramento County Department of Transportation.

[3] Telephone conversation with Eileen Crawford, El Dorado County Department of Transportation, January 5, 2012.

IV. <u>"New" vs. "Existing" Project Trips</u>

As reflected in Table 1 (Page 5) of the original traffic study[4], "Pass-By Trip Reductions" were applied to the calculated project trips. According to the Institute of Transportation Engineers[5] (ITE):

> *"Pass-by trips are attracted from the traffic passing the site on an adjacent street or roadway that offers direct access to the generator."*

As a result of this guidance and the reasonable expectation that a large proportion of the site trips will be vehicles that are already on the roadway network and were presumably already passing by the site, nearly one-half of the project trips (49 percent of the PM peak-hour pharmacy trips, 49 percent of the fast-food restaurant AM peak-hour trips, and 50 percent of the fast-food restaurant PM peak-hour trips) were documented to be "Pass-by" trips. The remaining trips are referred to as the "Net New External Trips" and are understood to be the "new" trips generated by the proposed project that were not already on the roadway network and/or were not already passing by the site. While certainly a reasonable expectation, the ITE Pass-by trip data does not include a documented reduction for the daily trips for either use. As such, no reduction was applied to the daily trips in Table 1.

It is important to note that ITE[5] goes on to state the following:

> *"Pass-by trips are drawn from the passing traffic stream, but are always included in site driveway movement."*

This is a subtle point pertaining to Pass-by trips, while the overall trip numbers are reduced, the full number of project trips are evaluated at the site driveways. As a result, the original traffic study fully documents the anticipated site driveway intersection operations resulting from the full complement of site generated trips.

---

[4] *Final Traffic Impact Analysis, Green Valley Center (WO#39)*, Kimley-Horn and Associates, Inc., March 3, 2011.

[5] *Trip Generation Handbook, 2nd Edition*, ITE, June 2004.

Please contact me at (916) 859-3617 if you have any questions or require additional information.

Very truly yours,

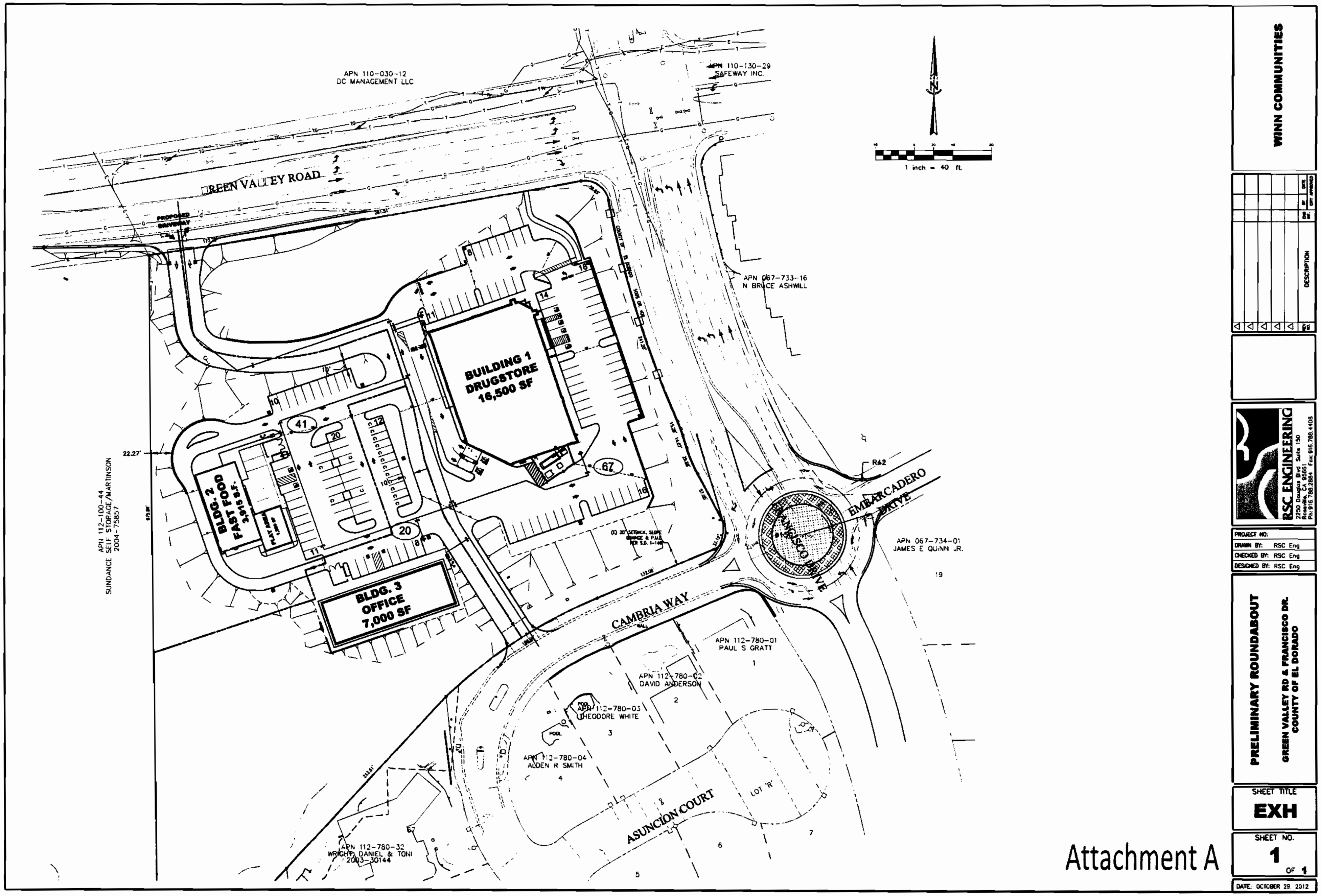
KIMLEY-HORN AND ASSOCIATES, INC.

Matthew D. Weir, PE, TE, PTOE
PE No. C70216 & TR2424

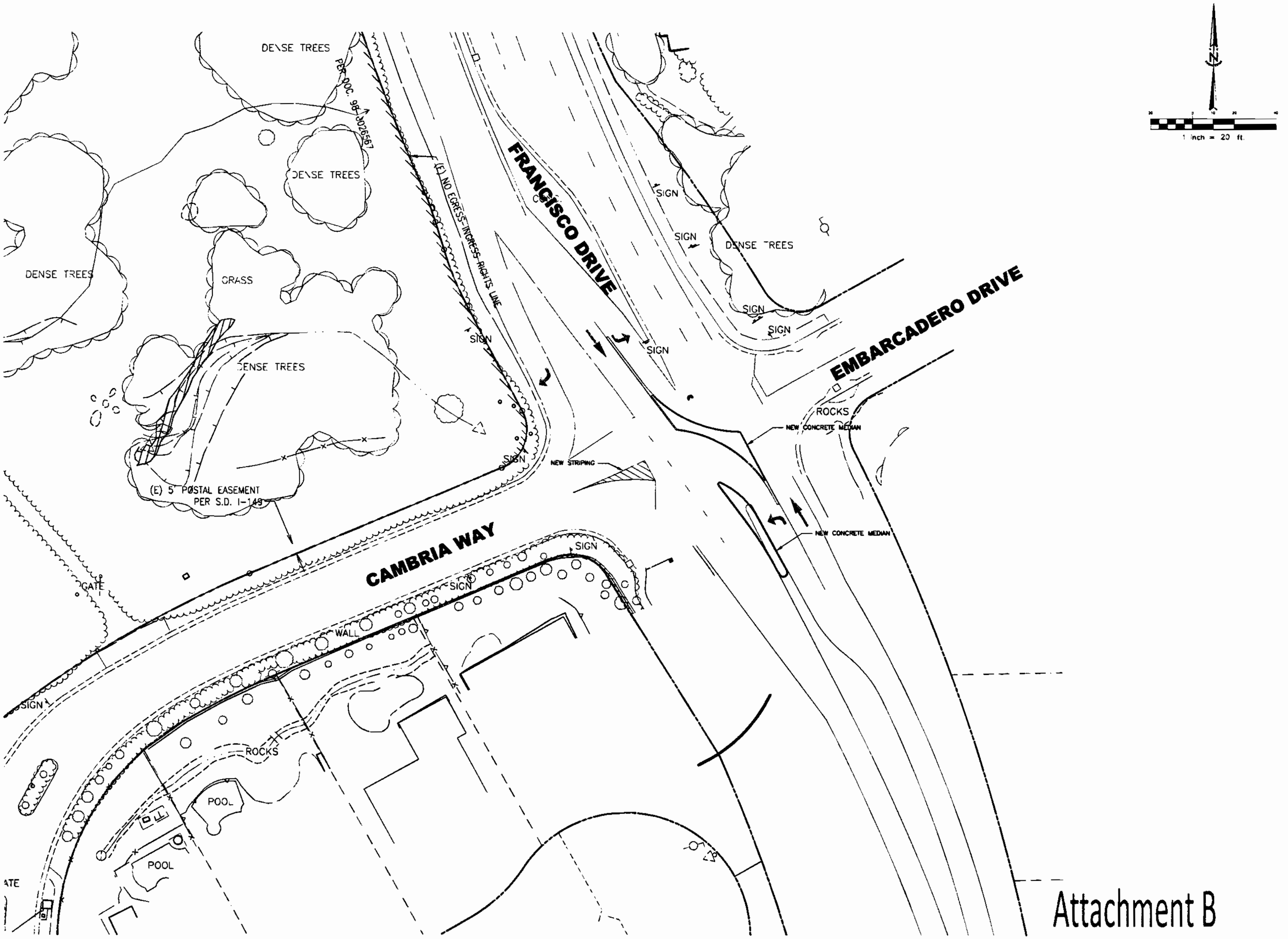
MATTHEW D. WEIR
No. TR2424
06/30/13

Attachments:

- A – Francisco/Cambria Roundabout Concept Exhibit
- B – Francisco/Cambria Median Restrictions Exhibit
- C – Francisco Drive Access Exhibit
- D – Green Valley/Francisco U-Turn Exhibit
- E – Cambria Driveway Headlight Glare Exhibit



Attachment A



Attachment B

WINN COMMUNITIES

REV	DESCRIPTION	ENG BY	BY	DATE
△				
△				
△				
△				
△				

RICHARD S CHAVEZ
No. 29033
Mar. 31, 2011

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph: 916.788.2884 Fax: 916.788.4408

PROJECT NO: 082-001
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

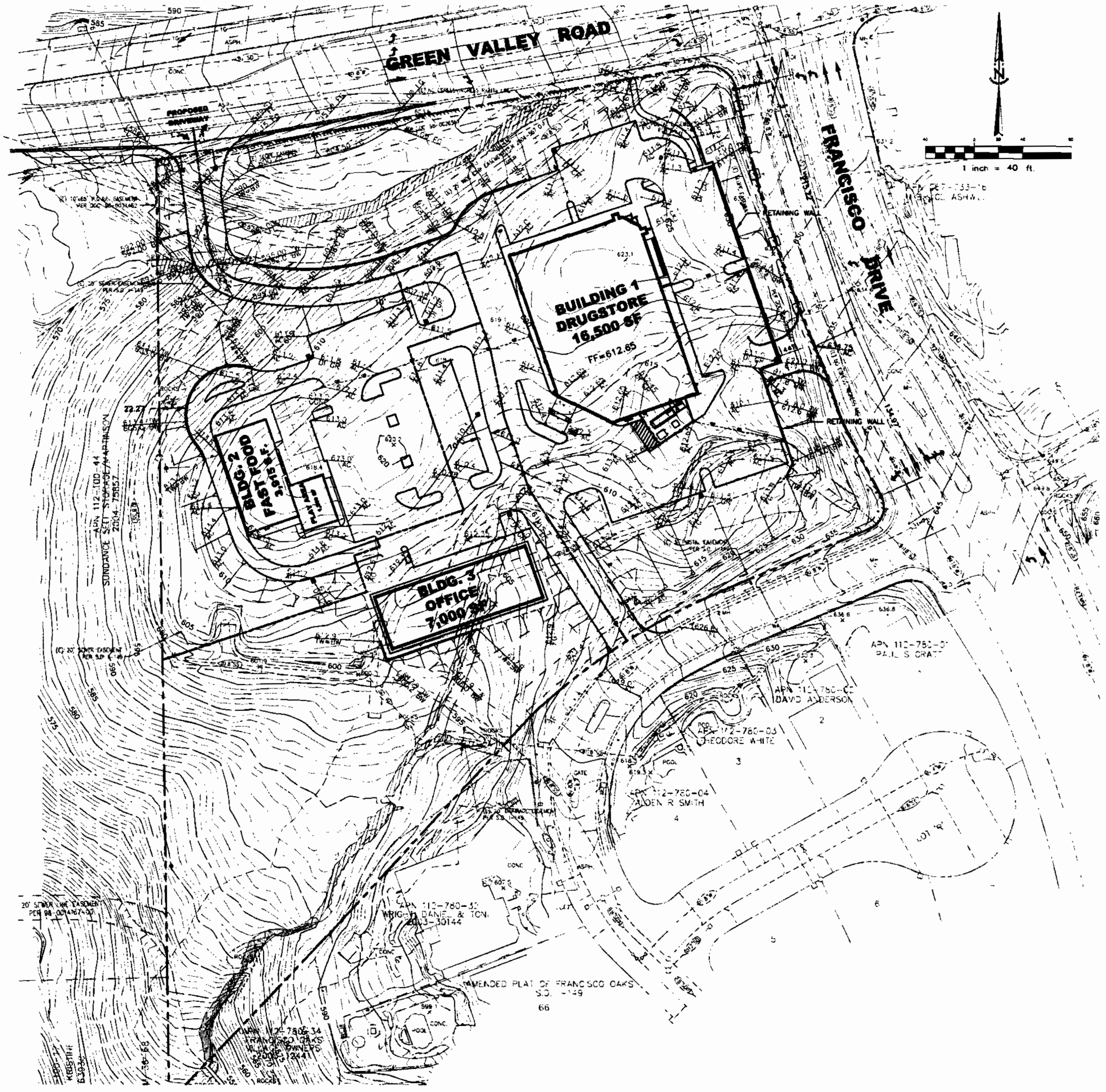
DRIVEWAY EXHIBIT
GREEN VALLEY CENTER

GREEN VALLEY RD. & FRANCISCO DR.
EL DORADO COUNTY, CALIFORNIA

SHEET TITLE
FRANCISCO DRIVE EXHIBIT

SHEET NO.
EX FR
OF **1**

DATE: OCTOBER 29, 2012



Attachment C

WINN COMMUNITIES

DESCRIPTION

RSC ENGINEERING
2250 Douglas Blvd Suite 150
Roseville, CA 95661
Ph 916 788 2884 Fax 916 788 4408

PROJECT NO: 082-001
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

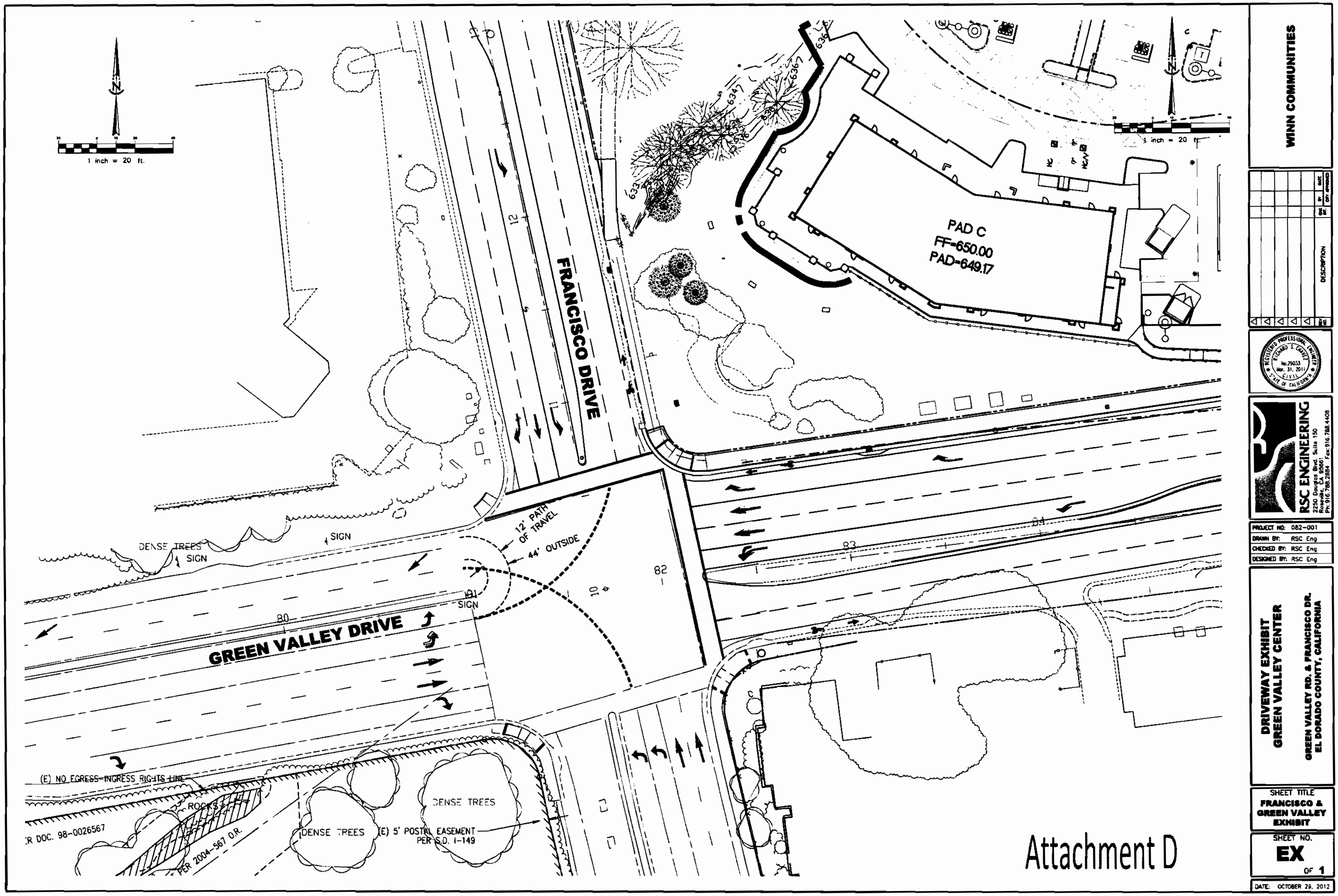
PRELIMINARY PLANS
GREEN VALLEY CENTER

GREEN VALLEY RD. & FRANCISCO DR.
EL DORADO COUNTY, CALIFORNIA

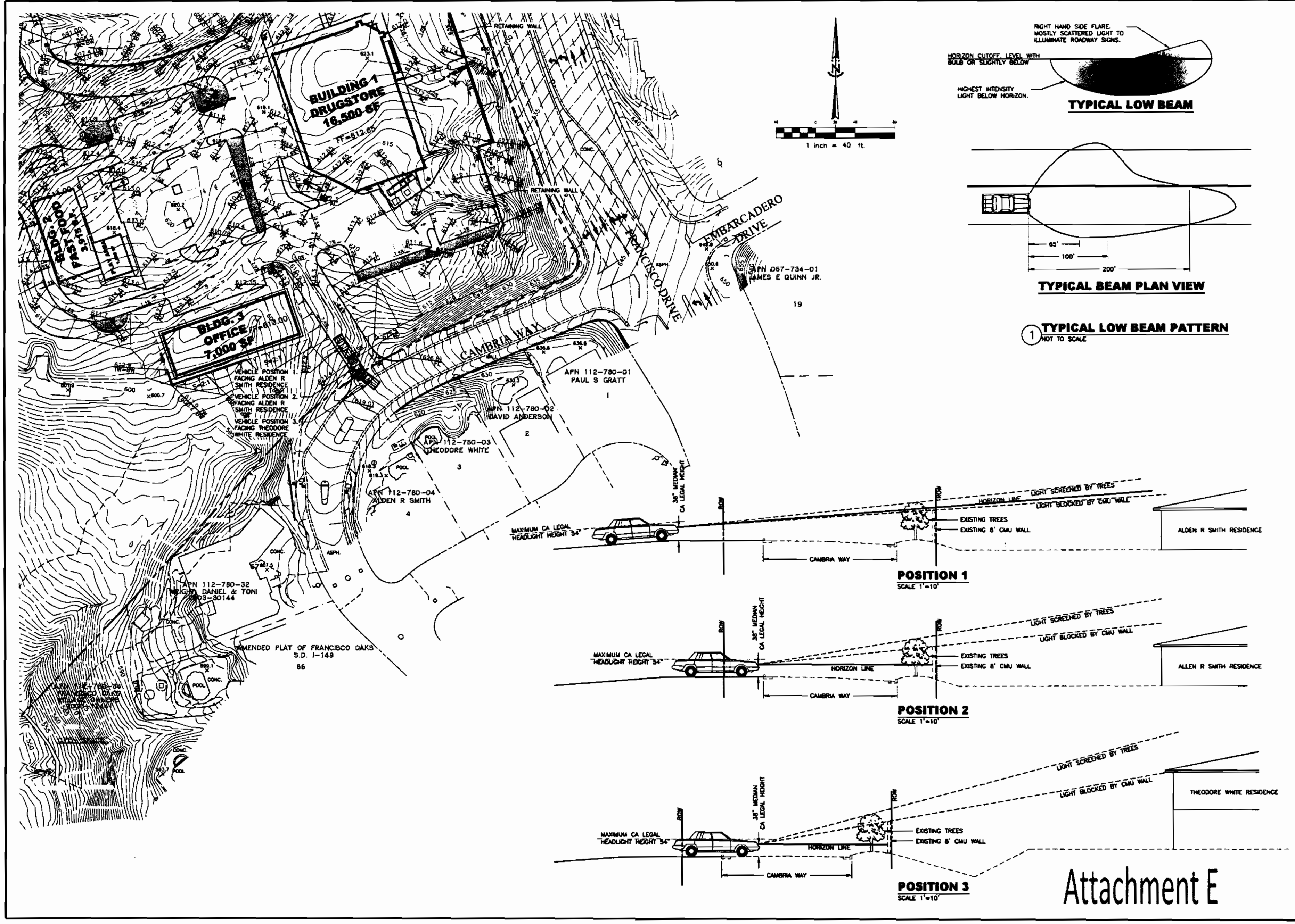
SHEET TITLE
DRIVEWAY
EXHIBIT

SHEET NO.
1
OF 1

DATE: OCTOBER 29, 2012



Attachment D



Attachment E

WINN COMMUNITIES

REV NO.	DESCRIPTION	DWG BY	BY / DATE / CITY APPROVED
△			
△			
△			
△			
△			

RICHARD S CHAVEZ
No.29033
Mar. 31, 2011

RSC ENGINEERING
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
Ph. 916.788.2884 Fax 916.788.4408

PROJECT NO: 082-001
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

DRIVEWAY EXHIBIT
GREEN VALLEY CENTER
GREEN VALLEY RD. & FRANCISCO DR.
EL DORADO COUNTY, CALIFORNIA

SHEET TITLE
DRIVEWAY EXHIBIT

SHEET NO.
EX1
OF **1**

DATE: OCTOBER 29, 2012

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 3 - SACRAMENTO AREA OFFICE
2379 GATEWAY OAKS DRIVE, SUITE 150
SACRAMENTO, CA 95833
PHONE (916) 274-0635
FAX (916) 274-0602
TTY 711
www.dot.ca.gov

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October 22, 2012

032012ELD0012
03-ELD-50/PM 0.86
SCH#2012092046

Mr. Rommel Pabalinas
Senior Planner
County of El Dorado
2850 Fairlane Court
Placerville, CA 95667

Green Valley Center – General Plan Amendment, Rezone, Tentative Parcel Map – Mitigated Negative Declaration

Dear Mr. Pabalinas:

Thank you for including the California Department of Transportation (Caltrans) in the review process for the notice of intent to adopt the mitigated negative declaration for the project referenced above. The proposed project is located in El Dorado Hills, approximately 4 miles north of Highway 50 (US 50), on the southwest corner of Green Valley Road and Francisco Drive, near El Dorado Hills Boulevard. The proposed site access is off of Green Valley Road. The project consists of three commercial buildings for office, retail and service uses on a total of 6.85 acres, served with on-site parking, landscaping, lighting and signs. The project requires a General Plan Amendment amending the land use designation from High Density Residential to Commercial; Rezone from One-Family Residential to Commercial-Planned Development; Preliminary Planned Development Permit for a total of 28,615 sq ft commercial building space; and Tentative Parcel Map creating a total of three commercial parcels ranging from 1.53 to 3.04 acres in size. The following comments are based on the Mitigated Negative Declaration package prepared for this project.

Vehicle Trip Generation and Distribution Changes Resulting from Project

During construction or starting on "opening day", this proposed project may impact the US 50 mainline and nearby US 50 Interchanges. As identified by the Mitigated Negative Declaration, this project would generate approximately 176 trips for the morning (a.m.) peak period and 180 trips for the evening (p.m.) peak period. It is anticipated that a portion of these trips would add to the congestion on the US 50 Corridor; however, the traffic analysis provided within the Mitigated Negative Declaration did not address or analyze such impacts.

EXHIBIT Q- ATTACHMENT 22

Traffic Impact Analysis

It may be necessary to amend the Traffic Impact Analysis (TIA) to analyze impacts the project will have on US 50. The following criteria are among those that may be used to determine whether a TIA revision is warranted:

1. The project will generate over 100 peak hour trips assigned to a State highway facility.
2. The project will generate between 50 and 100 peak hour trips assigned to a State highway facility, and the affected highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions.
3. The project will generate between one to 49 peak hour trips assigned to a State highway facility, and the affected highway facilities are experiencing significant delay; unstable or forced traffic flow conditions.

We recommend using the Department's *Guide for the Preparation of Traffic Impact Studies (TIS Guide)* for determining which scenarios and methodologies to use in the analysis. It is available at the following website address:

http://dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

Please contact us to coordinate the scope of the study with our office. If the proposed project will not generate the amount of trips needed to meet the trip generation thresholds listed above, an explanation of how this conclusion was reached should be provided.

Transportation Permit

Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by the Department. To apply, a completed transportation permit application with the determined specific route(s) for the shipper to follow from origin to destination must be submitted to: Caltrans Transportation Permits Office, 1823 14th Street, Sacramento, CA 95811-7119. See the following website for more information: http://www.dot.ca.gov/hq/traffops/permits/

Please provide our office with copies of any further actions regarding this proposed development.

If you have any questions regarding this letter, please contact Susan Wilson of my staff at (916) 274-0639 or by email: susan_wilson@dot.ca.gov

Sincerely,

ERIC FREDERICKS, Chief
Office of Transportation Planning – South

c: Scott Morgan, State Clearinghouse
Susan Wilson, Caltrans District 3

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

INTERDEPARTMENT MEMORANDUM

Date: November 1, 2012

To: Mel Pabalinas, Project Planner

From: Eileen Crawford, DOT Transportation

Subject: **P11-0003, (Z11-0004, PD11-0002, A11-0003)**
Project Name: **Francisco/Green Valley (Family Real Property LP/Winn Communities/RSC Engineering)**
Project Location: Located on the Southwest corner of Green Valley Road and Francisco Drive.
APN: **124-140-33**

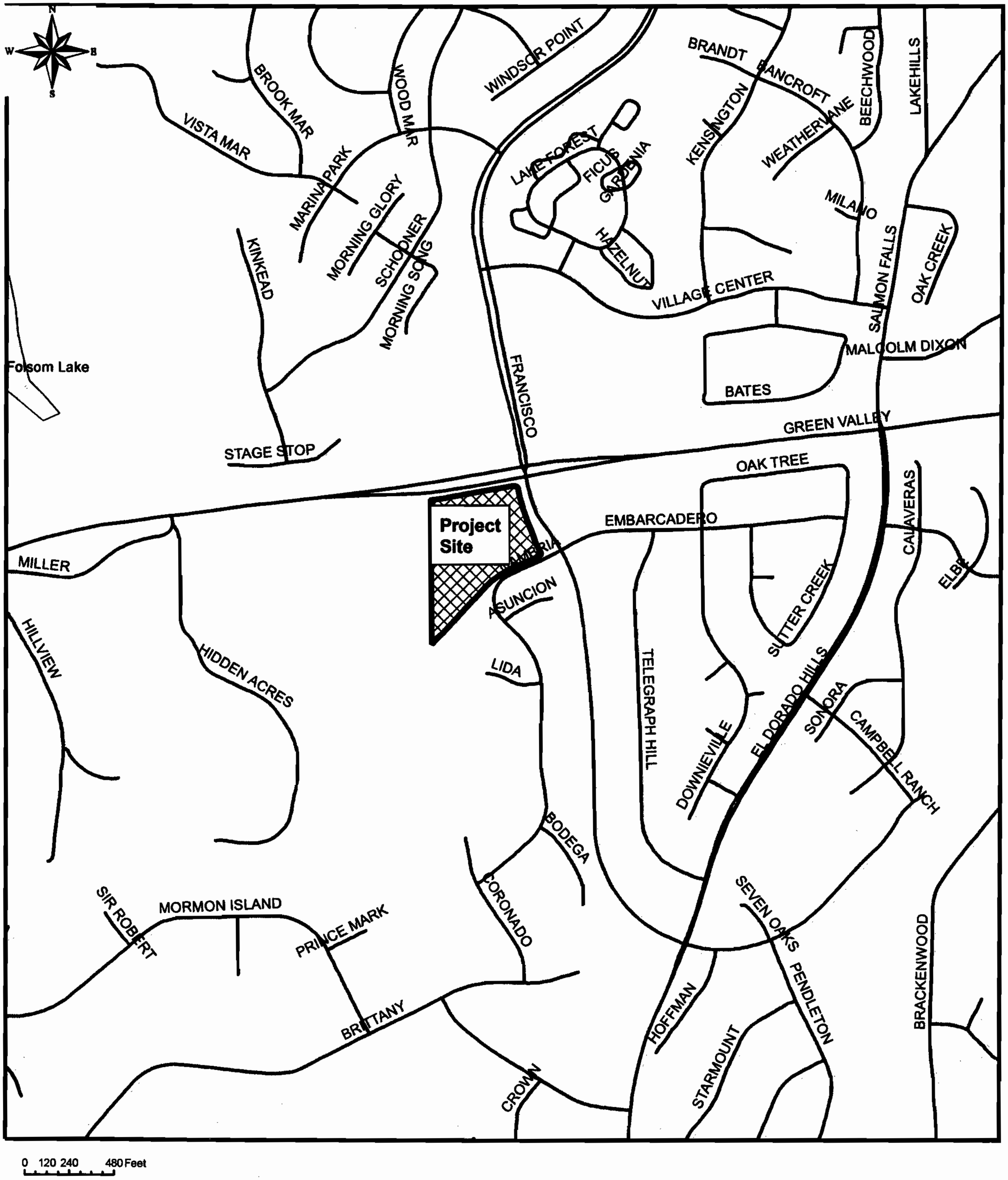
DOT has added the following conditions to the conditions of approval.

28 B. Off-site Improvements (Right-In, Right-Out for Cambria Way and Embarcadero Drive): The applicant shall restripe a right-in and right-out encroachments on Cambria Way and Embarcadero Drive intersection with Francisco Drive, and construct a dual left turn lane with a raised concrete median at the intersection of Francisco Drive as referenced in the Francisco Drive Exhibit by RSC Engineering, Sheet # EX FR, dated October 29, 2012. The improvements shall be completed to the satisfaction of the Department of Transportation or the applicant shall obtain an approved improvement agreement with security, prior to the filing of the parcel map.

30 B. **Signage:** The applicant shall install U-turn signage at the intersection of Green Valley Road and Francisco Drive for eastbound Green Valley Road. The signing and striping shall be designed and constructed per the latest version of the Manual Uniform Traffic Control Devices (MUTCD) and the California Supplement The improvements shall be completed to the satisfaction of the Department of Transportation or the applicant shall obtain an approved improvement agreement with security, prior to the filing of the parcel map.

EXHIBIT Q- ATTACHMENT 23

Green Valley/Francisco Commercial Center
File Nos. A11-0003, Z11-0004, PD11-0002, P11-0003



Map prepared by:
Mel Pabalinas
El Dorado County
Development Services-Planning

Existing Circulation witihin vicinity of Project Site

EXHIBIT Q– ATTACHMENT 24

DEVELOPMENT SERVICES DEPARTMENT

COUNTY OF EL DORADO http://www.edcgov.us/devservices

PLACERVILLE OFFICE:
2850 FAIRLANE COURT PLACERVILLE, CA 95667
BUILDING (530) 621-5315 / (530) 622-1708 FAX
bldgdept@edcgov.us
PLANNING (530) 621-5355 / (530) 642-0508 FAX
planning@edcgov.us

LAKE TAHOE OFFICE:
3368 LAKE TAHOE BLVD. SUITE 302
SOUTH LAKE TAHOE, CA 96150
(530) 573-3330
(530) 542-9082 FAX
tahoebuild@edcgov.us

October 2, 2012

Norm Rowett
Area Planning Advisory Committee (APAC)
1021 Harvard Way
El Dorado Hills, CA 95762

RE: Response to APAC Letter of February 20, 2012
Green Valley Center Project
File Nos. A11-0003/Z11-0004/PD11-0002/P11-0003

Dear Mr. Rowett:

I am writing in response to APAC's letter indicated above. I've coordinated with the Department of Transportation (DOT) for assistance in analyzing and responding to each item of concern identified in your letter. The attached memorandum from DOT details the response.

Staff believes that each item has been adequately addressed. If you should have further specific traffic and transportation concerns, please direct any questions to Eileen Crawford or Natalie Porter of DOT. Eileen Crawford can be reached directly at 530-621-6077 or email at eileen.crawford@edcgov.us. Natalie Porter can be reached at 530-621-5442 and email at natalie.porter@edcgov.us. Should you have project related questions, you may contact me at 530-621-5363 or email at Rommel.Pabalinas@edcgov.us.

Cordially,

Mel Pabalinas, Senior Planner
Planning Services

Attachment: DOT Memorandum dated October 1, 2012

Cc. Department of Transportation (DOT)
George Carpenter
Project File

EXHIBIT R

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

INTERDEPARTMENT MEMORANDUM

Date: October 1, 2012

To: Mel Pabalinas, Project Planner, Development Services Department

From: Eileen Crawford, P.E., Department of Transportation SL for Eileen

Subject: Area Planning Advisory Committee (APAC) Subcommittee Review of the Traffic Study for Francisco/Green Valley, Family Real Property LP/Winn Communities/RSC Engineering, Inc
P11-0003, A11-0003, Z11-0003, & PD11-0003
Response to APAC Comment Letter

I have reviewed the APAC letter dated February 20, 2012 and have several comments and responses to their list of concerns. For ease of reference, I have repeated the APAC concerns and the Department of Transportations' (DOT) response.

1. *First, the Subcommittee found arithmetic errors in the Study; specifically Table 1. These inaccuracies put the veracity of the Study itself into question. The appendixes were not included with the study, making it very difficult to determine the accuracy of the study as a whole.*

   DOT Response: Although there appear to be "arithmetic errors" in the trip generation table, these differences are only due to rounding (cannot have a half a trip). The actual number of trips studied by Kimley Horn and Associates (KHA) is the in/out volumes, which result in a higher number of trips and a more conservative result as it relates to the "total" trips volume. DOT did provide a copy of the appendixes on February 23, 2012 for APAC's review upon the request.

2. *In its cumulative projections, the study failed to include the traffic impacts of the following known development projects in the area: Grande Amis, Alto, La Canada and Dixon Ranch. Jointly and severally these developments will have major traffic impacts on the GV corridor.*

   DOT Response: KHA conducted this traffic study according to County protocols and were directed to use the County's traffic model to arrive at cumulative volumes in which General Plan land uses and projections are assumed. The County traffic model includes build out of the various land uses in a manner consistent with the General Plan. Although the projects were not individually listed in the Traffic Impact Analysis (TIA), the projects were included in the study with the exception of Dixon Ranch. Dixon Ranch had not been submitted at the time the scope of work was determined for the TIA, and therefore, was not considered a pending project at that time.

3. *The Study peak hour traffic volumes for the study area were obtained from the county for the years 1998 and 2025*[5]*, and used to calculate five year growth rates. It then used these data for 2015 traffic conditions. This approach is flawed: the inherent projected growth rate of 2% completely ignores the housing boom on the western slopes between 2000 and 2005, which was approximately 9 percent.*

   DOT Response: All on the ground traffic count data was obtained in 2005 or after. As such, the baseline intersection count data was collected after the 2000-2005 boom so the 9% growth between 2000 and 2005 was not a factor in the analysis. Consistent with County protocols, 2015 conditions study the worst case scenario of adding the growth assumed in the model or the addition of approved projects in the area. As an example of the general lack of growth in the project area during the time period following the "boom", the calculated annual growth rate determined between 2004 and 2010 at the intersection of El Dorado Hills and Francisco is 2%. Therefore, this analysis is correct and consistent with DOT's guidelines.

4. *Traffic levels at the major intersections and the projection of traffic patterns from and through the Project are incorrect. A resident's traffic count taken on 1-10-2012 revealed a traffic count significantly more than that reported by the Project. The Subcommittee believes that the already deteriorated traffic level of service (LOS) at the Green Valley Road intersections of Silva Valley, Salmon Falls, and Francisco must not be made worst. Meaningful assessments must be completed using timely data: An updated traffic study must be completed using 2011 data to properly address the impacts.*

   DOT Response: The Traffic Impact Study (TIS) is a required submittal at the time the application is submitted to the Planning Department and the project is deemed complete in accordance with the Subdivision Map Act § 66474.2. It is not uncommon for the TIS to be two-three years old by the time the application is brought before the Planning Commission or Board of Supervisors for approval. Please note that the process by which volumes were either counted in 2010 or used an assumed 2%/year growth rate is demonstrated as being appropriate pursuant to item #3. Therefore, this analysis is correct and consistent with DOT's guidelines.

5. *The Study's recommendation that mitigations for existing LOS F conditions can be achieved by changing green light calibrations at the intersection at Salmon Falls/GV, (Table 9 indicates that the wait time could go from 83 to 49 by simply changing the lighting) is questionable. The Subcommittee believes this in not achievable without major capital improvements to road. The Subcommittee requests the County immediately test its ability to mitigate traffic impacts by changing the timing of the stop lights at these key intersections before approving any traffic plan for this Project. It should also share results with APAC and the public.*

   DOT Response: To mitigate this impact, the average vehicle delay only needs to be reduced by 4 seconds (to the no-project conditions). The reallocation of signal green time is widely recognized as an effective and appropriate means by which to "mitigate" intersection operations resulting from a change in volumes. The software (Synchro) used to model these mitigated conditions is the same tool that the County routinely uses to determine signal timing parameters. Documentation of the mitigation's ability to achieve the necessary operating conditions validates the mitigation's validity. Therefore, the DOT has determined that this analysis is correct and consistent with DOT's guidelines.

6. *The Subcommittee also believes that "signal cycle length optimization" of this nature may not be a viable solution for improving the LOS at these locations. There was no evidence that the Study considered the impacts of those intersections taking up signal delays at various critical times, to include school hour commute traffic. The general comment of "signal cycle length optimization" does not clearly offer a site specific timing distribution analysis and as such, the general comment that it would mitigate to less than significant cannot be substantiated.*

   To be credible, the study must include an actual signal timing distribution analysis relative to circulations and counts inclusive of school commute traffic for these intersections. Clearly, for example, if the signal cycle time is lengthened for Green Valley Road, then the North bound El Dorado Hills Blvd could potentially overlapping congestion at El Dorado Hills Blvd at Francisco which already operates at LOS F at peak hours. This is not a reasonable solution and will not improve the intersection LOS. The County has tried signal cycle length optimizations at other locations unsuccessfully. There are many variables overlapping considerations to consider when proposing signal cycle length changes.

   DOT Response: The school peak during the AM is included in the analysis collected. The PM school peak occurs earlier than the traditional PM peak and analysis during this time period would not be conservative. It is worth noting that the evaluation of signalized intersection LOS is based on the overall intersection and not an individual approach or movement. Therefore, the DOT has determined that this analysis is correct and consistent with DOT's guidelines.

7. *The Subcommittee believes that the proposed lane configuration of southbound Salmon Falls of one left lane, one through lane, and one right turn lane would require extensive intersection modifications.*

   DOT Response: While the pavement section north of the intersection is 65-feet which could more than accommodate 3 approach lanes, one receiving lane, and 2 bike lanes, DOT Staff has further confirmed that additional right-of-way is available if needed based on the ultimate intersection reconfiguration. It should be noted that relocation of the signal control boxes and signal arms would likely be required with substantial reconfiguration of the north intersection approach.

8. *Further, the proposed dedicated right turn lane from southbound Salmon Falls to westbound Green Valley will require signal relocation, significant peak hour cycle length changes affecting other legs (that were not been analyzed in this analysis), and the relocation of several utilities at that corner. There may be set back requirements or public utility easements to consider from the adjoining residential properties at the NW corner of intersection. The geometrics to provide a dedicated right turn lane onto westbound Green Valley would require widening; signal relocation and utility relocation were only mentioned qualitatively. This Study must analyze the necessary constructability, right of way, signal timing, lighting and traffic encroachment issues to residential properties bordering the corner before assigning a less than significant impact.*

DOT Response: Please see response to comment item #7. The analysis that is implied by APAC is not required at this time as part of the planning process. Typically, the improvement plans and associated engineering for development projects are submitted after a project has been approved by the Planning Commission or Board of Supervisors. The DOT has reviewed the Project application planning level documents and has determined that the proposed improvements, with DOT conditions at this intersection, are constructible and feasible. Therefore, DOT has determined that this analysis is correct and consistent with DOT's guidelines and will not be requiring additional planning studies.

9. *Referring to Table TC-2 of the General Plan regarding the volume to capacity ratio of roadway segments (which states: shall not exceed the ratio specified in the GP table), the Subcommittee did find any mention of the capacity ratio in the Study.*

DOT Response: Table TC-2 within the 2004 General Plan lists the roadways within the County that are allowed to operate at LOS F, with the associated maximum volume to capacity ratios. The roadways within this TIA are not included within table TC-2, therefore, the volume to capacity ratios is not applicable to this Project and the calculation is not a required analysis. Therefore, DOT has determined that this analysis is correct and consistent with DOT's guidelines.

10. *The Subcommittee would challenge the Study's assumptions about the volume of traffic to be created by the Project. For example, the study projects only on(e) car exiting onto Cambria Way from the Project during peak AM & PM periods. Cambria is the primary neighborhood adjacent to the project. Clearly, more than one car, AM or PM, will be entering the Project. The committee challenges this number and requests a review by an independent source.*

DOT Response: The DOT believes that the distribution percentage within the TIA is appropriate for the area. If the distribution percentage was increased to the Cambria residential neighborhood it would only decrease the number of trips distributed throughout the network, which could in-turn reduce or eliminate Project impacts throughout the roadway network. The TIS Figure 7, #8 Intersection shows one trip turning right into the subdivision and 85 AM(126 PM) peak trips turning left towards Francisco Drive, which appear to be reasonable.

The DOT utilizes Dowling and Associates as an outside consultant to complete the peer review of TIS's/TIA's generated by Developers within the County. For this Project, the developer hired KHA to complete the TIS/TIA and Dowling and Associates was used by the DOT to complete the peer review. DOT also reviews the TIS/TIA in coordination with the consultant peer review. Therefore, DOT has determined that this analysis is correct and consistent with DOT's guidelines and the necessary independent source review has been completed.

11. *Equally as important, the study failed to address the fact that Cambria Way is a gated road, adding complexity to the traffic flows and essentially restricting traffic to only one east bound exit point from the Project.*

DOT Response: There are two ingress/egress points for the Project. It is unlikely that gate operation at the end of Cambria will have a significant effect on the operations at the project driveway on Cambria. Quoting Supplemental Traffic Evaluation for Green Valley Center-El Dorado Hills, CA, Dated January 6, 2012, page 6, -Cambria Way Residential Gate

Operations:

> "Approximately one-half (30 of the 60) of the Francisco Oaks gated residential neighborhood units are reasonably anticipated to currently or eventually utilize the Cambria Way access gate. This volume of traffic is generally supported by the existing traffic count data presented in the previous traffic study (Figure 6).
>
> Due to the absence of traffic signal control at the Francisco Drive intersection with Cambria Way, traffic entering the residential neighborhood are reasonably assumed to arrive at a uniform rate at which one (1) trip is assumed to arrive per minute (30 trips per hour = 0.5 trips per minute, rounding up to 1 trip per minute). For the purposes of this analysis, the entry gate is assumed to have a service rate of 4 vehicles per minute (30 seconds and 2 vehicles per gate actuation). Given the conservative arrival and service rates, the likelihood of the neighborhood gate operations queuing entering vehicles back to or past the proposed project site access driveway is extremely low. The approximately 130-feet of storage space (between the gate and project site driveway) could easily accommodate up to 5 vehicles, far more than the anticipated arrival rate would produce."

The Subcommittee would also offer the following specific observations and questions:

I. M5 Francisco Drive @ Embarcadero Drive – Is this proposed eastbound right turn flare on eastbound Cambria to southbound Francisco? The Study fails to analyze and mitigate for significant site distance to the south from eastbound Cambria at intersection #5.

DOT Response: Site distance(s) at the intersection of Francisco and Cambria /Embarcadero have been analyzed and found to be adequate. A speed survey and intersection review was completed on March 9, 2012 by DOT Traffic Operations Staff. A one-hour traffic count of Francisco Drive and Cambria Way/Embarcadero Drive substantiated the values in the TIA. The 85th percentile speed survey yielded an average speed of 40 mph. The minimum Corner Sight Distance (CSD) for an 85th percentile speed of 40 mph is 440 feet. The CSD from a vehicle stopped on Cabria and looking at southbound traffic on Francisco is 460 feet and from northbound Francisco 375 feet, less than the standard value. The CSD is limited by the vertical curve of Francisco Drive. The Stopping Sight Distance (SSD) for an 85th percentile speed of 40 mph is 300 feet. The SSD for vehicles traveling southbound on Francisco is 400 feet and on northbound Francisco 325 feet (slightly greater than standard). In accordance with Caltrans Highway Design Manual 405.1(2b) where restrictive conditions exist, the minimum value for the corner sight distance shall be equal to the stopping sight distance. The final analysis looked at the Accidents per Million Entering Vehicles (MEV), a value of 1.0 or greater is considered a safety issue. For a period beginning January 1, 2008 and ending December 31, 2010, this intersection has a value of 0.07. Therefore, the Stopping Sight Distance is at an allowable standard and the Accidents per Million Entering Vehicles do not substantiate a safety issue at this intersection.

II. Project Access Green Valley location (figure 2)- Eastbound Green Valley approaching proposed access needs deceleration lane with appropriate taper length per traffic engineer. Will Right of Way be needed to be acquired for this widening?

DOT Response: The deceleration lane is a Condition of Approval for the Project. Adequate right-of-way exists along Green Valley Road for this improvement.

III. *M6 El Dorado Hills @ Francisco Drive – this same mitigations given in Mitigation #2 & #3 it fails to address significant constructability, right of way and design issues as they relate to the traffic analysis. This does not address the two lane road capacity on southbound El Dorado Hills Blvd is this assumed to be 4 lanes in this analysis?*

DOT Response: The DOT Capital Improvement Program (CIP) Project #72332 for Francisco Drive/El Dorado Hills Blvd is currently included within the future CIP projects, but not fully funded. The DOT has determined that the recommended Project mitigation improvements are consistent with components in the proposed future CIP improvements. The various Figures for El Dorado Hills @ Francisco Drive (Intersection #6 in the TIA) show the existing lane configuration of a two-lane road. The DOT has reviewed the Project application planning level documents and has determined that the proposed mitigation improvements, with DOT conditions at this intersection, are constructible and feasible. Therefore, DOT has determined that this analysis is correct and consistent with DOT's guidelines and will not be requiring additional planning studies.

IV. *Site Distance Evaluation pg 24 – Was only evaluated at Intersections #7 & #8 proposed site access driveway only! The site distance at intersection #5 is completely deficient. The Study graphically terminates the geometrics immediately south of Cambria. There are significant site distance issues relative to horizontal and vertical curve for traffic making left turn movement out of Cambria on northbound Francisco nearly impossible. Due to southbound Francisco at Cambria, the distance that cars exiting Cambria would need to cross over to merge into northbound Francisco requires much greater site distance than exists. Site distance to the west is not adequate. There would have to be significant alignment improvements and geometric changes to improve site distance.*

DOT Response: In accordance with the TIS Policy and Procedures a project evaluates the sight distance at the project entrances only. The intersection of Francisco/Cambria would have been analyzed when the Francisco Oaks subdivision plans were submitted. However, DOT did have Traffic Operations Staff investigate the intersection, see response to comment "11, i".

V. *Plan Access and On Site Circulation pg 25 – Study should state "Right in and Right out" only and include signing and median delineation called out to affect this. Northbound right turn movements from project access will be blocked by eastbound approaching traffic, it already backs up. Signal timing changes are not thought out adequately in this analysis: there will be significant carry over to other legs of intersections and other intersections that will adversely affect delays and circulation. A simulation needs to be done for all improvement and signal timing proposals.*

DOT Response: All proposed signal timing mitigations are modeled/simulated using industry standard traffic analysis software (Synchro). Specific to the comment pertaining to the project access being blocked by eastbound approaching traffic, please see the January 6, 2012, supplemental traffic evaluation letter report in which the eastbound approach operations and queuing are documented. Therefore, DOT has determined that this analysis is correct and consistent with DOT's guidelines.

VI. *Bicycle and Pedestrian Facilities pg 27 – The Study only specifies on-site requirements. Please provide all pedestrian/ ADA offsite for review. No analysis was provided for offsite in this study. Off-site pedestrian improvements are critical to safety and circulation resulting in the development of this corner.*

DOT Response: Both Green Valley Road and Francisco Drive along the property frontage have existing striping for Class 2 bike lanes as per the El Dorado County Transportation Commission 2010 Bicycle Plan. CIP project 72303 was completed in 1999 and provided the pedestrian/ADA improvements for three legs of the intersection with existing improvements. This Project will be required to complete the pedestrians/ADA improvements along their frontage as conditioned.

VII. *Onsite traffic circulation (figure 2) shows 90 degree at access from Green Valley. This design is not to County Design Standards and will not meet fire safe truck turning radius requirements. Please show actual onsite geometrics.*

DOT Response: Turning radius geometrics have been submitted under separate cover by the developer. The DOT has determined from this submittal that adequate turning radiuses have been substantiated.

VIII. *Traffic Plan to Scale-The Subcommittee would like an existing offsite traffic layout and improvements sheet for review. Include full width lanes and intersection inclusive of entire study area for this project and include pedestrian / American Disabilities Act Improvements (ADA) as required.*

DOT Response: The DOT can provide the Record Drawings of the Green Valley Road/Francisco Drive Intersection Improvements (Construction completed in 1999) for APAC's review.

If you have any further inquiries from APAC, please refer them to Natalie Porter at 621-5442 or me at 621-6077

Thanks,

Eileen Crawford, P.E.

CC: Steve Kooyman, P.E.
George Carpenter
Natalie Porter, P.E., T.E.